The project's value is not what it achieves or does but what it is and how it makes people feel, especially if it encourages people to question, in an imaginative, troubling, and thoughtful way, everydayness and how things could be different.
To be effective, the work needs to contain contradictions and cognitive glitches. Rather than offering an easy way forward, it highlights dilemmas and trade-offs between imperfect alternatives. Not a solution, not a "better" way, just another way. Viewers can make up their own minds.

Dunne & Raby

Polytechnic of Turin
Academic Year 2024/2025

Department of Architecture and Design
Master's Degree
Systemic Design

Master's Thesis
December 2025

SEQUIN
What if Personal Data Became a Currency?
A Design Project Where Speculative Design
and Data Visualization Meet

Supervisor
Andrea Di Salvo

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Abstract

We live in an era defined by the pervasive "datafication" of existence, a process in which every human action is measured and translated into value, so much so that data has been defined as the oil of the 21st century. From heartbeats monitored by wearable devices to mundane interactions on social media, our lives produce an uninterrupted trail of information. However, the current digital economy is founded on a profound power asymmetry: while users constantly generate value through their involuntary digital traces, it is the large technological platforms that capitalize on them. Despite growing regulatory attention, the contemporary user finds themselves trapped in a behavioral paradox. While fearing for their privacy, the user constantly yields sovereignty over their data in exchange for free services, convenience, and social connection, becoming the victim of an uncertainty that makes it difficult to perceive the real value of what is being lost.

The initial phase of Desk Research, involving the analysis of a heterogeneous corpus of news and speculative design case studies, confirmed the critical nature of this scenario. The investigation highlighted how the boundaries between public and private, as well as between state surveillance and corporate monitoring, are becoming increasingly blurred: roles and responsibilities overlap, progressively eroding the individual's data sovereignty and leaving them without effective control tools. Thus, what emerges is a user who, despite being the primary generator of the data, is deprived of control and ownership.

This structural evidence finds confirmation in the User Research, where one-to-one interviews highlighted a widespread feeling of resignation. While latent privacy concerns persist, the prevailing sentiment is that surrendering data is the inevitable cost of digital participation.

In response to the insights that emerged from the research, the project adopts Speculative Design to shift attention from designing applications to designing implications, not to provide answers, but to spark debate and invite questions. By constructing plausible near-future scenarios, the project invites the user to suspend disbelief to explore the ethical and social implications regarding the value of personal data. The thesis therefore hypothesizes a scenario set in 2030, a near future in which the battle for privacy has been definitively abandoned in favor of a pragmatic and total monetization of identity.

The design outcome is Sequin, an app where users reclaim the value of their personal data collected from other apps by selling it in a peer-to-peer ecosystem. Leveraging data visualization to turn raw metrics into accessible insights, the app is a hybrid between a marketplace and a social network: users upload data listings and earn currency from every sale. At the same time, they can browse and purchase data of interest within a social-media-like interface, designed to keep them constantly hooked.

Acting as a distorting mirror of current reality, the project critiques the blurring of boundaries, the surveillance capitalism model, and the personal value of data by showing a world where data sovereignty can be regained only to be immediately monetized. Through this narrative, the thesis explores the paradox of a society in which identity fuses indissolubly with economic value, inviting critical reflection on the manipulative nature of the digital interfaces that govern our lives and on the price of privacy.

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Introduction

This thesis project stems from a precise intent of methodological experimentation: the challenge was to create a Speculative Design project utilizing the analytical tools of Data Visualization. The development process took the form of a hybridization that integrates analytical rigor with creative freedom, maintaining the Systemic Design approach as its cornerstone. Indeed, the holistic and relational vision, alongside the Humanity-centered perspective typical of Systemic Design, served as the subtext guiding the entire project, from the research phase to the design phase.

The first phase, *Perspectives and Scenario*, focused on bibliographic exploration. The Speculative Design approach was placed at the center as a tool for critical inquiry, supported by the Data Visualization methodology, the principles of which were analyzed. In parallel, a critical analysis was conducted regarding the nature of data and its ethical, psychological, and legislative implications.

Subsequently, for the *Research and Analysis* phase, the method hybridized methodologies typical of Innovation Design with those of Critical Thinking: through Desk Research, a systematic mapping of design case studies and news reports was carried out. Each case was deconstructed and analyzed using comparative matrices, tools that allowed for the identification of recurring patterns. This phase enabled the definition of the field and context of inquiry: personal data, with particular attention to privacy and the psychological mechanisms involved. This analytical dimension was complemented by User Research, which was essential for understanding, through dialogue with people, the real perception and sentiment regarding their digital data, and for defining the Personas. The findings from the Desk and User Research became the foundations for formulating concepts using the "What If" technique: the chosen scenario, "opium of the poor, oil of the people," was identified as the basis for the project.

It is on the basis of this research that *The Project: Sequin* was born: an application that is a hybrid between a marketplace and a social network. The application was designed to provoke reflection on the current state of personal data processing: to do so, it allows users to reclaim the value of their own personal data, enabling them to buy and sell it within a peer-to-peer system. To evaluate user reactions, user tests were conducted, not merely to assess usability, but rather to observe responses to a provocative project of this nature.

Ultimately, this thesis proposes itself as a methodological synthesis: it utilizes the analytical rigor typical of data analysis to build the foundations; the critique and creative freedom of Speculative Design to elevate the narrative; and the holistic vision typical of Systemic Design to keep the human being, and their complex relationships, always at the center of the project.

1. Perspectives & Scenario

1.1 The Approach of Speculative Design

1.1.1 We Need Stories

THE NARRATIVE FOUNDATION OF HUMAN EXISTENCE

As human beings, we need stories: our human existence differs from that of animals precisely because of this ability to reflect through language on the past and the future, on a time different from the present, making us capable of creating stories. Even at the origins of Western culture, in Ancient Greece, it was the aoidos's duty to recount the deeds of heroes to hand down their stories to the future. In more recent times, many philosophers, psychologists, and anthropologists have supported the importance of language, which allows for the elaboration of hypotheses essential for cognitive development. Among these is the sociologist Clifford Geertz, who, echoing a concept already expressed by Max Weber, argues that man is an animal suspended in webs of significance he himself has spun, and he considers culture to be those webs (Geertz, 1973). Each human being, therefore, lives in a culture, a dense web of meanings and stories. In this sense, human life is narratively structured: we live within symbolic plots and shared narratives that give meaning to the world and to ourselves.

NARRATIVE THOUGHT AND IDENTITY

From a cognitive perspective, Jerome Bruner (1993) was among the first to theorize "narrative thought" as a primary form of the human mind. For him, telling stories is a way of making sense of the world, a way that is distinct from logical-scientific thought. Among the proponents of the existence of a narrative identity, we also find Dan McAdams (1993), who speaks of "narrative identity," arguing that people construct themselves and their own continuity over time through autobiographical stories and the neuroscientist Antonio Damasio, who, in his famous work *Descartes' Error: Emotion, Reason, and the Human Brain*, shows how consciousness and the sense of self emerge from bodily and emotional processes that allow us to represent ourselves in time—that is, to "narrate" ourselves (Damasio, 1994).

We therefore need stories because through them we respond to a series of needs that unite us as human beings:

→ At the identity and cognitive level, they are the very foundation of identity, allowing individuals to compare themselves with stories different from their own;

→ At the cultural and social level, they hold profound symbolic meaning, often being represented in events that become true rites involving the community in a moment of cohesion;

→ At the moral level, through narration, human action becomes "visible" and acquires political and moral significance (Arendt, 1958);

→ At the temporal level, as Augustine already argued in the 4th century A.D., stories allow individuals to hold the past, present, and future together within their spirit, and man's temporal and narrative consciousness can be considered the very reflection of his inner life.

1.1.2 Stories from the Future

If stories about the past serve to make sense of experience, stories about the future serve to make sense of uncertainty, allowing us to explore possible alternatives to the present moment. Reflection on possible futures is a narrative exploration highly present in every artistic field, from literature to cinema, as well as art and design.

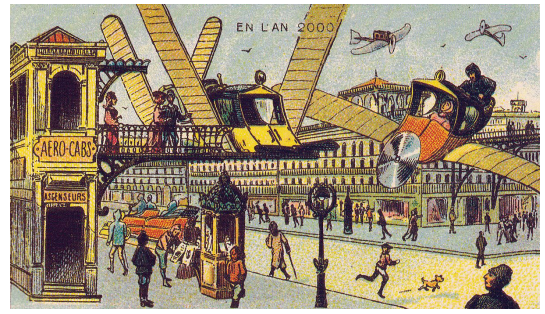
FUTURE STORIES IN LITERATURE

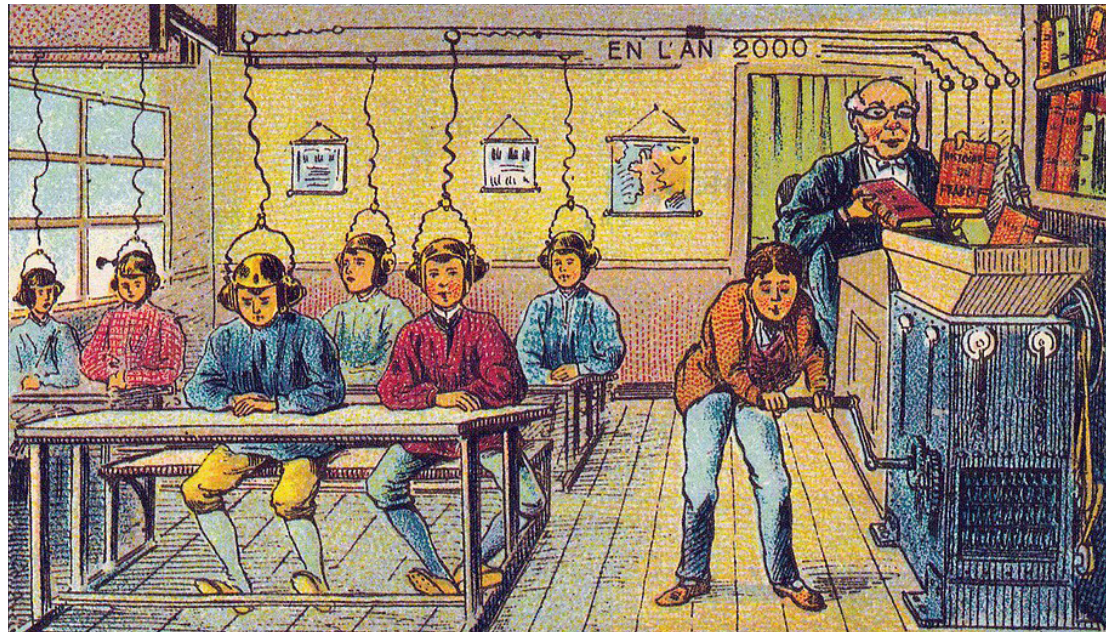
In literature, there are numerous reflections and critical inquiries on alternative futures, from cautionary tales to utopian visions: the short story *The Machine Stops* by the English author Edward Morgan Forster, written in 1909, is considered the first work of science fiction and tells of a world where humanity lives underground and relies on a giant machine to satisfy its needs, anticipating technologies similar to instant messaging and the Internet; Aldous Huxley's *Brave New World*, written in 1932, reflects on a future dominated by biotechnological control and the manipulation of collective happiness, where social stability eliminates conflict, but also the depth of human experience; the quintessential dystopian work *Nineteen Eighty-Four*, in which George Orwell in 1948 depicts a totalitarian future based on surveillance and the manipulation of language, shows how the control of thought can transform the future into a perpetual present, devoid of memory of the past and imagination of the future; finally, in *Invisible Cities*, written in 1972, Italo Calvino hypothesizes future cities, inviting us to imagine new forms of coexistence and spatial perception.

If, on the one hand, literature offers alternative scenarios through written language, on the other hand, the use of images has always been effective in stimulating imagination, ranging from graphic communication to audiovisual media and cinematic language.

EARLY VISUAL NARRATIVES OF THE FUTURE

Beginning at the end of the nineteenth century, images and narratives anticipated the practice of speculative design by proposing hypothetical visions of tomorrow: the chromolithographs of the series *En l'an 2000*, which depicted the world in the year 2000 as imagined at the beginning of the 20th century by illustrators including Jean-Marc Côté, showed a repertoire of technological utopias that reflected modernist optimism and the faith in progress. The series of postcards was cited by Isaac Asimov in his work *Futuredays* (1986); the writer, a great interpreter of future thought, owned the only known copy.





Illustrations from the *En l'an 2000* series created by Jean-Marc Côté, depicting an air cab and a futuristic school, c.1900

In the 1950s, the American comic series *Closer Than We Think!* by Arthur Radebaugh continued that tradition of representing the future through images, transforming popular graphics into a tool for everyday science fiction: flying cars, automated homes, and transparent cities became symbols of the post-war technological dream.

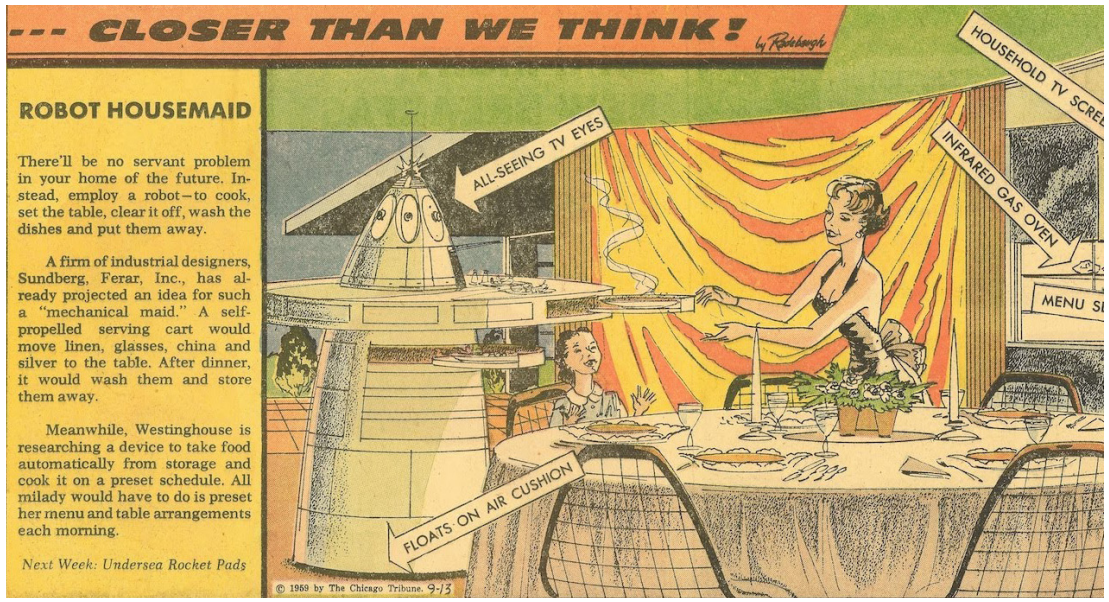


Illustration from the comic series *Closer Than We Think!*, by Arthur Radebaugh, depicting the scene *Robot Housemaid*, 1959

FUTURE STORIES IN CINEMA AND TV SERIES

While the tool of images was already highly effective, it is arguably with cinema that reflections on the future have most entered the collective imagination. Indeed, cinema has often served as a laboratory for imagining the future, seamlessly combining narrative, aesthetics, and critical reflection.

Among the earliest examples, we find *Metropolis* (Fritz Lang, 1927), which proposes a technological, urban, and industrial future where workers live underground while the elite govern from above, exploring themes of social inequality and people's alienation.
The famous *2001: A Space Odyssey* (Stanley Kubrick, 1968) reflects on human evolution, showing how artificial intelligence and technology can both enhance and disrupt consciousness, thus sparking reflection on man's destiny and responsibility in the face of progress.
In *Blade Runner* (Ridley Scott, 1982), the urban future is degraded and hyper-technological, populated by artificial replicants; the film reflects on identity, memory, and the ethics of creating artificial life, depicting a world where the boundary between human and machine becomes blurred.
Gattaca (Andrew Niccol, 1997) imagines a society driven by eugenics, where biological selection defines opportunities and discrimination: the future becomes a mirror for the ethical dilemmas linked to science and determinism.
The Matrix (Lana and Lilly Wachowski, 1999) reflects on the existence of two realities: the real world we inhabit daily and its hidden reflection, a virtual world controlled by machines. The film prompts an inquiry into the implications of pervasive technology, exploring themes such as reality, freedom, and human consciousness.
Finally, in more recent times, the TV series *Black Mirror* (Charlie Brooker, 2011–2019) constructs a series of possible near futures, in which technological innovations become tools for social control, surveillance, and alienation, offering a critical lens on the risks of our contemporary choices.
In all these cases, the future is not merely the setting but a true narrative device, making the social, ethical, and technological consequences of present decisions visible, thus confirming cinema as a privileged instrument for critical speculation on tomorrow.

FROM CONCEPTUAL ART TO CONCEPTUAL DESIGN PRACTICE

Within the artistic field proper, it was in the twentieth century that conceptual art shifted the focus from the object to the idea, giving greater value to the latter. Even though Marcel Duchamp is acknowledged as the first true conceptual artist, it was not until the 1960s that artists such as Sol LeWitt and Adrian Piper clearly articulated what it meant to make art out of ideas (Dunne & Raby, 2013). Drawing from this conceptual tradition, Dunne and Raby underscore the crucial distinction between concept and idea in design.

While the concept implies a general direction or thematic framework, the ideas are the detailed components used to implement that framework.
It is at the level of these ideas, which must be constructed, evaluated, combined, and embedded, that the true craft of conceptual design happens, allowing practitioners to move beyond the high-level concept and fully appreciate the detailed engagement required in the discipline.

If on the one hand we find conceptual art, understood as the pure reflection on ideas, at the other end of the spectrum conceptual design means a parallel space of speculation that uses hypothetical or, more accurately, fictional products to explore possible technological futures (Dunne & Raby, 2013).

Famous examples of conceptual design and fictional products did not concern art in the strict sense, but extended into other fields as well. As early as the 1930s, the architect Richard Buckminster Fuller launched numerous projects, all adhering to his *Dymaxion* philosophy. These included the emblematic Dymaxion Car, a car prototype that functioned as a philosophical narrative about the future. Indeed, the architect envisioned a society guided by responsible innovation and the principle of "doing more with less" (Fuller, 1938).

Prototype of the *Dymaxion Car*, designed by Richard Buckminster Fuller, 1933

Also in the fashion field, in the 1960s, designers such as André Courrèges, Pierre Cardin, and Paco Rabanne disregarded practicalities to explore ideas about the future using new forms, production processes, and materials. Furniture design has a history of using chairs as vehicles for exploring new design philosophies and visions for everyday life, whether aesthetic, social, or political. Among the pioneers of this approach are the speculations produced by the radical design movements in the 1960s and 1970s, such as Archigram, Archizoom, Superstudio, Ant Farm, Haus-Rucker-Co, and Walter Pichler. More recently, this approach has been taken up by the Dutch group Droog, along with Jürgen Bey and Martí Guixé. (Dunne & Raby, 2013).

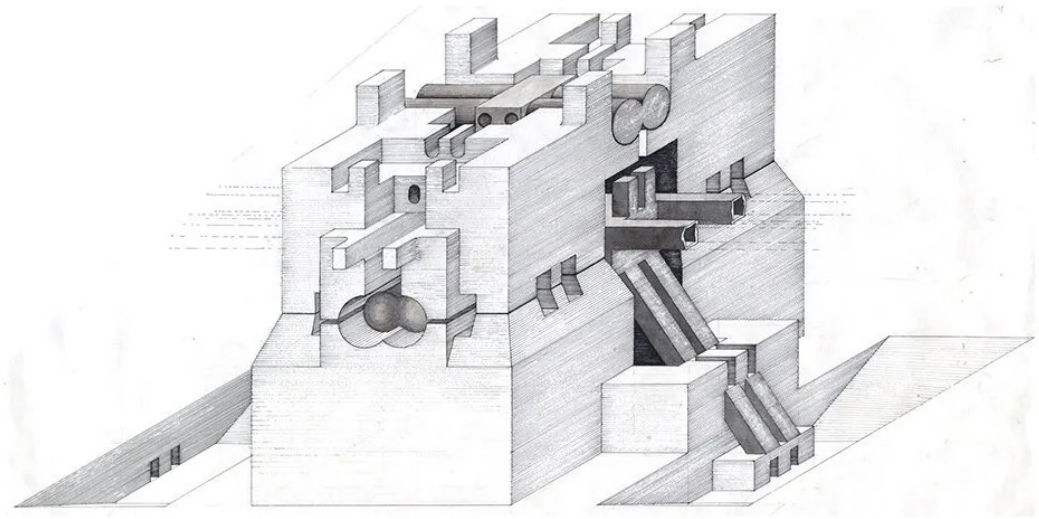
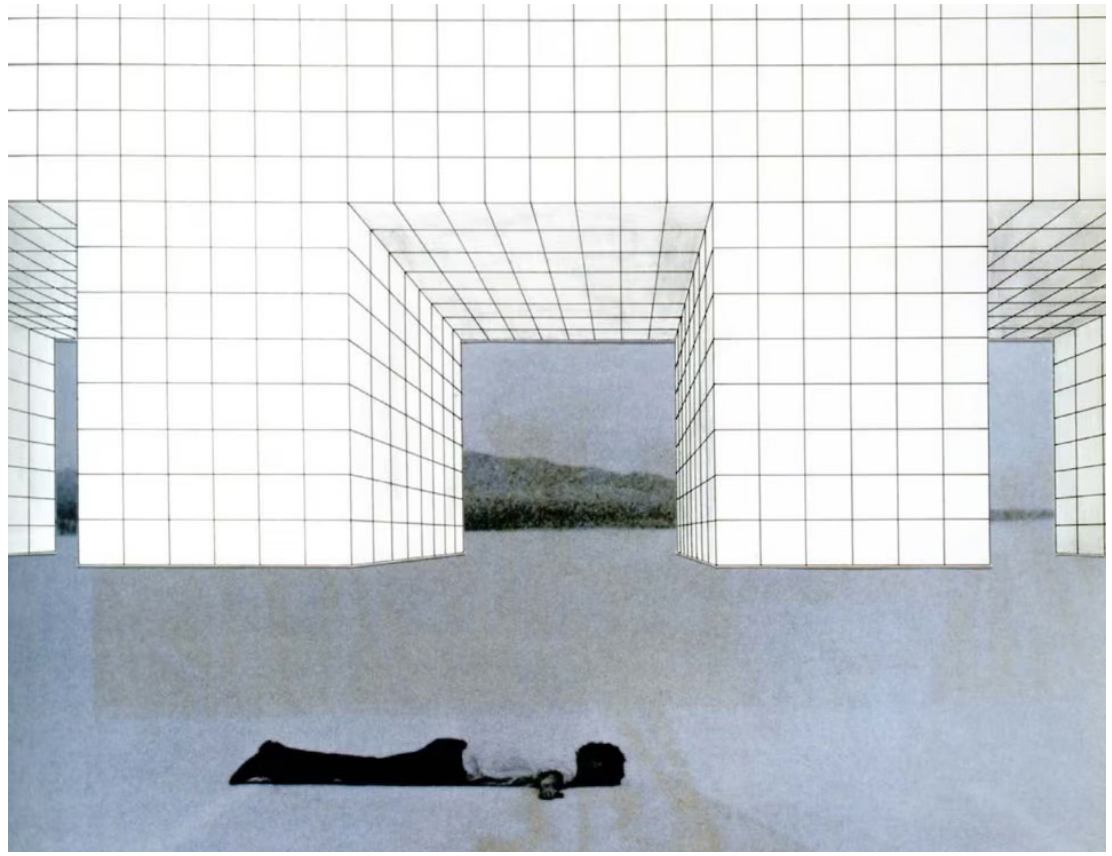


Illustration by Walter Pichler, depicting the architectural concept undeground building *Nucleus*, 1967

Photograph of the installation *Oase No. 7* by the Haus-Rucker-Co collective, 1972

Illustration from the Archigram collective, titled *Instant City Airships, Visit to a Small Town* by Peter Cook, 1970



Conceptual illustration by the Superstudio collective, from the *Continuous Monument* series, c. 1970

Finally, when questioning the very method of imagining the future, one cannot fail to mention an emblematic case of structured reflection on tomorrow: in Italy, Pietro Ferraro and his magazine Futuribili (1967–1974) shifted imagination from the aesthetic plane to the critical and sociological one, proposing the use of the future as a tool for political and cultural analysis. This was achieved through the contributions of authors such as Ulm School professor Gui Bonsiepe, art critic Giulio Carlo Argan, architect Kisho Kurokawa, and futurologist Herman Kahn.

This series of examples shows how the imaginary of the future, evolving from an aesthetic vision into anticipatory reflection, accompanied twentieth-century thought, prefiguring the contemporary role of speculative narrative as a method for investigating the possible.

1.1.3 Defining Speculative Design

Having established this human desire to reflect on the future, how can these reflections be integrated into the world of design; that is, the design of artifacts?

STERLING'S FIRST DEFINITIONS OF DESIGN FICTION

The first author to discuss design fiction was Bruce Sterling, an American writer famous for being among the first cyberpunk authors. Distinguishing it from science fiction and highlighting the role that design has had on his literary works, he states that “Design Fiction is more practical, more hands on [than the] hand-waving hocus pocus [of science fiction]” and “it reads a great deal like science fiction; in fact it would never occur to a normal reader to separate the two” (Sterling, 2005).

A few years later, following a collaboration with Julian Bleecker (2009) and other members of the Near Future Laboratory, Sterling revised his definition, stating that:

> Design Fiction is the deliberate use of diegetic prototypes to suspend disbelief about change.

In this definition, which later became the basis for subsequent ones, the emphasis shifts to the prototypes themselves: they are diegetic, meaning they are embedded within the narrative and "speaking", and they have a very precise purpose, which is to encourage reflection on a possible change by suspending disbelief.

ARCHAEOLOGY FOR THE FUTURE

Julian Bleecker is among the founders of the Near Future Laboratory, a design, innovation, technology, and strategy studio that pioneered the grounded futures practice. The philosophy of the studio is that you can succeed in the future by anticipating, adapting, and leveraging the strategic implications of what is not true yet (Near Future Laboratory, n.d.). Speaking about the potential of design fiction, Bleeker states that:

> “Little hints of evidence help people understand details about those ancient lives, how their society worked, what was important, who was in charge, and how they struggled or prospered. Little glimpses of everyday lives betray significant stories, if you just look hard enough. In simple terms, design fiction is like archeology for the future. It captures potentially huge or inspiring shifts in technology, society or politics, in well known ordinary mundane things. Here’s something else to think about. Futures don’t just happen in isolation, they happen all together. Imagine if tomorrow’s archaeologists found a box of today’s breakfast cereal, sure, it would tell them what we ate. But it would also tell them where things were made, where they were sold, how they were sold, the technologies we had access to, how our government worked, what was important in our society, what we cared about in our culture, and much, much more” (Near Future Laboratory, 2022).

An emblematic design example of this approach adopted by the Near Future Laboratory is *The Ikea Catalogue*. Starting from an ostensibly mundane and familiar object, the classic IKEA catalogue, the project constructs a narrative on multiple levels: not only regarding people's purchasing habits, but also concerning the future of domestic life and the social changes that accompany it. The pages imagine environments and products that reflect new models of consumption and cohabitation, such as kitchens adaptable to small spaces and technologies that engage with people's habits. The product notes and descriptions, written in the realistic tone of the original catalogue, introduce broader reflections on social and cultural changes. Through this fictional design, the Near Future Laboratory uses the recognizable language of commercial design to stimulate critical reflections on the present, raising questions about how we want to inhabit, consume, and live together in the near future.

Image of *The Ikea Catalogue* project, created by the Near Future Laboratory, c. 2011

It is through the effective utilization of familiar cultural artifacts like The Ikea Catalogue that the methodology achieves its central purpose. This leads directly to the observation on the power of the speculative prototype, as expressed by the authors of the Near Future Laboratory (2022):

"a design fiction prototype allows for the abstract to become real for a moment, it helps focus the conversation in a grounded way. It breaks down abstractions, and asks a group of people to think in detail about where the future might be headed, and how we'll all experience it. Design fiction aims to capture the full context of our future so that we can feel like we're really living in it".

DUNNE AND RABY: COMPASSES OVER MAPS

Among the major theorists in this field we find Anthony Dunne and Fiona Raby, a design duo who have realized numerous projects, some of which are also exhibited at MoMA in New York. Dunne and Raby assert the importance of the social role of design as a tool for criticism, and of critical thinking, which is "not taking things for granted, being skeptical, and always questioning what is given" (Dunne & Raby, 2013)

Thus, "all good design is critical" and "all good critical design offers an alternative to how things are".

A good project must therefore be able to keep other possibilities alive, pushing people's imagination. Critical design, by generating alternatives, can help people construct compasses rather than maps for navigating new sets of values (Dunne & Raby, 2013). Through their speculative design projects, designers do not show users pre-drawn paths to follow (that is, answers), but rather point to directions for reflection: they push them, in other words, to ask questions.

Moreover, what characterizes critical design is its very purpose: while in the 1980s, "design became fully integrated into the neoliberal model of capitalism," according to Dunne and Raby (2013), they argue that "we need to move design upstream, beyond product, beyond technology, to the concept or research stage, and to develop speculative designs, or 'useful fictions,' for facilitating debate." This methodological move requires a fundamental re-evaluation of the designer's core mission.

As designers, we need to shift from designing applications to designing implications by creating imaginary products and services that situate these new developments within everyday material culture.

Dunne & Raby

The primary goal of critical design, as understood by Anthony Dunne and Fiona Raby, is to move beyond the vision that sees design as a tool of the capitalist model, and to consider it instead as a critical instrument used to show society the effects, even, of that very model.

THE COMMON GROUND OF SPECULATIVE PRACTICES

If on the one hand we find the use of the term "design fiction," on the other hand, the discussion has broadened considerably over the years, introducing new terms such as critical design, discursive design, and design probes. From the perspective of the theorist James Auger, “there is much overlap between these practises, the differences are subtle and based primarily on geographical or contextual usage.” What they have in common is that “all remove the constraints from the commercial sector that define normative design processes; use models and proptotypes at the heart of the enquiry; and use fiction to present alternative products, systems or worlds” (Auger, 2013).

Considering the nuances of each term, this is a semantic issue: since “one of the core motivations of this practice is to shift the discussion on technology beyond the field of experts to a broad popular audience, the choice of “speculative” is preferable as it suggests a direct correlation between ‘here and now’ and existence of the design concept” (Auger, 2013).

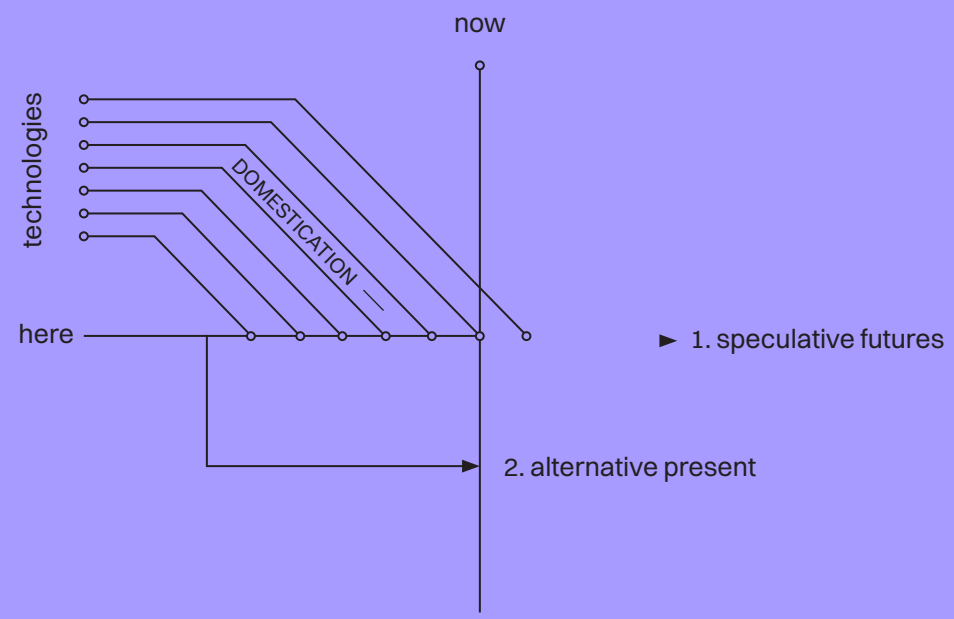


Diagram illustrating *Alternative Presents and Speculative Futures*, James Auger, 2013. Authors' graphic adaptation

The diagram, which illustrates the relationship between Speculative Futures and Alternative Presents, anchors its origin in the "here and now," encompassing everyday life and real products available on the high street. The lineage of these products can be traced back to when the underlying technology became available to iterate them beyond their existing states. The technology element represented on the left-hand side signifies research and development work. As one moves to the right of the diagram and into the future, speculative designs are shown to exist as projections of this product lineage, developed using techniques that extrapolate imagined developments of an emerging technology. In contrast, Alternative Presents step out of the lineage at a poignant time in the past to re-imagine our technological present. These specific designs serve to challenge and question existing cultural, political, and manufacturing systems (Auger, 2013).

1.1.4 Speculative Tools

What tools are used to create speculative design projects? If speculative design questions the future, it does so starting from the present, highlighting what already exists today. It is necessary to navigate the potential futures to understand which tomorrow one wants to show: how far in time, how similar to our present, and how credible?

MAPPING POTENTIAL FUTURES THROUGH THE CONE DIAGRAM

The futurist Stuart Candy, during a visit to the Royal College of Art in 2009, used a diagram to illustrate the different types of potential futures. This diagram later became the foundation for the theoretical reflections of Dunne and Raby (2013), who illustrate it as follows:

The first cone, the most similar to the present, is the probable one. This is where most designers operate. It describes what is likely to happen unless there is some extreme upheaval such as a financial crash, eco disaster, or war. Most design methods, processes, tools, acknowledged good practice, and even design education are oriented toward this space. How designs are evaluated is also closely linked to a thorough understanding of probable futures, although it is rarely expressed in those terms.

The next cone describes plausible futures. This is the space of scenario planning and foresight, the space of what could happen. In the 1970s companies such as Royal Dutch Shell developed techniques for modelling alternative near-future global situations to ensure that they would survive through a number of large-scale, global, economic, or political shifts. The space of plausible futures is not about prediction but exploring alternative economic and political futures to ensure an organization will be prepared for and thrive in a number of different futures.

The largest cone is the possible. The skill here is making links between today's world and the suggested one. [...] In the scenarios we develop we believe, first, they should be scientifically possible, and second, there should be a path from where we are today to where we are in the scenario. A believable series of events that led to the new situation is necessary, even if entirely fictional. This allows viewers to relate the scenario to their own world and to use it as an aid for critical reflection. This is the space of speculative culture: writing, cinema, science fiction, social fiction, and so on.

Beyond this cone lies the zone of fantasy, an area not so interesting in the speculative design debate. Fantasy exists in its own world, with very few if any links to the world we live in. It is of course valuable, especially as a form of entertainment, but for us, it is too removed from how the world is. This is the space of fairy tales, goblins, superheroes, and space opera.

A final cone intersects the probable and plausible. This is the cone of preferable futures. Of course the idea of preferable is not so straightforward; what does preferable mean, for whom, and who decides? Currently, it is determined by government and industry, and although we play a role as consumers and voters, it is a limited one. [...] Assuming it is possible to create more socially constructive imaginary futures, could design help people participate more actively as citizen-consumers? And if so, how?

> This is the bit we are interested in. Not in trying to predict the future but in using design to open up all sorts of possibilities that can be discussed, debated, and used to collectively define a preferable future for a given group of people: from companies, to cities, to societies.

Designers can also "help set in place today factors that will increase the probability of more desirable futures happening. And equally, factors that may lead to undesirable futures can be spotted much early on and addressed or at least limited" (Dunne & Raby, 2013).

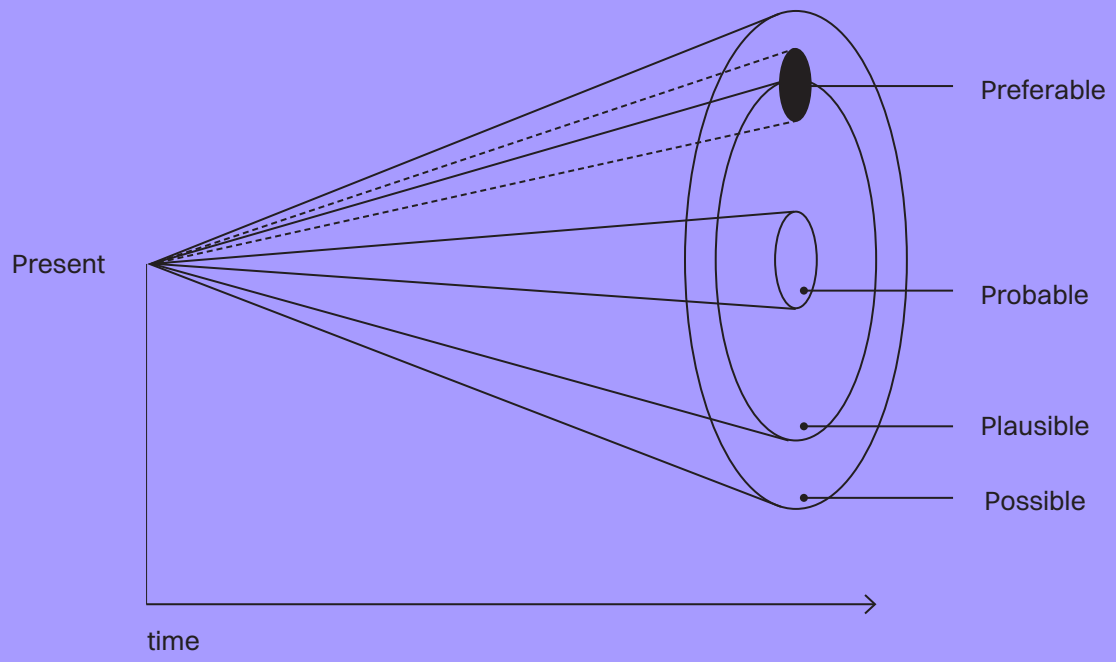


Diagram illustrating the *Cone of Potential Futures (Probable, Plausible, Possible, and Preferable)*, based on the model popularized by Dunne & Raby (2013), Authors' adaptation

But what, then, does
a speculative design project
consist of?
It showcases present-day
criticalities by designing project
solutions for a hypothetical
future, using them as tools
to better understand the present
and to debate the kind of
future people want, and the
kind they do not want.

Dunne & Raby

Futures usually take the form of scenarios, often starting with a what-if question, and are intended to open up spaces of debate and discussion; therefore, they are by necessity provocative, intentionally simplified, and fictional. Their fictional nature requires viewers to suspend their disbelief and allow their imaginations to wander, to momentarily forget how things are now, and wonder about how things could be.

According to Dunne and Raby, it is rarely useful to “develop scenarios that suggest how things should be because it becomes too didactic and even moralistic.” Indeed, futures are not a destination or something to be strived for but a medium to aid imaginative thought, to speculate with. Not just about the future but about today as well, and this is where they become critique, especially when they highlight limitations that can be removed and loosen, even just a bit, reality’s grip on our imagination. (Dunne & Raby, 2013)

The designer's work, therefore, is not to push the user toward a pre-drawn path, but to indicate a direction: it is up to the user to decide whether or not to follow it, and to what extent.

FROM WHAT- IF TO SCENARIO CONSTRUCTION

In the famous book *The Manual of Design Fiction*, Julian Bleecker and the other authors assert that instead of “let me tell you,” design fiction says “let me show you,” eliciting a response all the more useful and open-ended. It should trigger a perceptual shift that begins with a moment of puzzlement (what is this thing?) and pushes towards bigger conversations about what it all means or portends, risks and opportunities, potentially unforeseen consequences (Bleecker et al., 2022).

How do we create a "what-if" scenario that resonates with the present, ensuring it is a truly useful tool for sparking debate about critical issues already existing in the world today? The key is “challenge yourself to imagine a world in which the faint signals identified in your research have progressed into a level of normalcy or broad acceptance, to the point that they seem routine” (Bleecker et al., 2022). The goal isn't merely to ask "how to," a question that would lead to focusing solely on the mechanisms of the problem, but rather to ask "what if," a question that would lead to reflecting on the "why." That is, to first ask: why do we propose the scenario in the first place? What is the intention or the purpose behind it? This approach is useful because the goal is for the "what if" to lead to an "as-if" and to a conversation centered around interrogating the outcomes.

In this manual, following a truly explicative approach, the authors provide a series of questions the designer should ask to determine if what they have created constitutes a good what if scenario: how does this provoke and challenge the existing? If it can make you or a collegue say “That’ll never happen”, you’re on the right track; does it have the capacity to be made a tangible and creative design fiction output?; does it have the capacity to stop everyone and perhaps even cause an “allergic reaction”?; is it constructive, not destructive?; does it lead to interesting questions of “then what”? (Bleecker et al., 2022).
According to the theorists Dunne and Raby (2013),

> “to find inspiration for speculating through design we need to look beyond design to the methodological playgrounds of cinema, literature, science, ethics, politics, and art; to explore, hybridize, borrow, and embrace the many tools available for crafting not only things but also ideas.”

In addition to the "what-if" scenario, thought experiments are among the useful tools for creating possible futures, a tool so beneficial in this area of design that “Design fiction has been thought of as materialized thought experiments” (Bleeker, 2022). Unlike empirical experiments, which involve physical manipulation, data collection and observation of phenomena, thought experiments operate within the realm of imagination, allowing researchers to mentally construct hypothetical scenarios and extrapolate their implications. (Sorensen, 1992). Among thought experiments there are counterfactuals, hypothetical scenarios or conditions that deviate from actual empirical observations or historical events (Lewis, 2013); retrodictions, which are the retrospective application of theoretical principles or models to past events or empirical data (Jones & Pashler, 2007); backcasting which is a methodological approach wherein researchers work backward from a desired future outcome to identify the necessary conditions, actions, or interventions required to achieve it (Holmberg & Robèrt, 2000) and which entails envisioning a desirable future state or goal and then delineating the steps or strategies needed to realize it (Panda, 2024).

Beyond those already mentioned, the narrative tools useful for creating speculative projects are numerous: fictional worlds, cautionary tales, reductio ad absurdum experiments, prefigurative futures, and so on. All these instruments are useful for the subsequent writing of a storyconcept: while the concept is the design proposal necessary to define a project’s fundamental elements and provides the basis for its realization, the story concept is a notion borrowed from cinematic language, with a more narrative nuance, and constitutes the essential core of the project.

PROVOCATION, EMOTION, AND THE UNCANNY

Thus, the story concept consists of a narrative use of the what-if according to the cinematographic process; it is a way to trigger possible narratives, and therefore projects, as long as the fulcrum is the interaction or the interfaces in the interactive artifacts. Consequently, worldbuiling allows to design not only a world in the near future, but also a narrative understood as a space (A. Di Salvo, 2024).

In order to elicit audience engagement and contemplation on a subject it is sometimes helpful for a speculation to provoke. If a design proposal is too familiar it is easily assimilated into the normative progression of products and would pass unnoticed. Sigmund Freud described this paradoxical reaction humans have that invoke a sense of familiarity whilst at the same time being foreign as “uncanny”. This is a complex and difficult reaction to manage but when achieved responses to the design concept tend to be both meaningful and strong. Freud goes on to suggest that by using the uncanny, “the story-teller has a peculiarly directive power over us; by means of the moods he can put us into, he is able to guide the current of our emotions” (Auger, 2013).

Speculative design projects often operate in borderline spaces, which are potentially unacceptable to users if they are too distant from the present. In relation to this, in 1970 the robotics scholar Masahiro Mori coined the expression “uncanny valley”. With this hypothesis, Mori experimentally analyzed how the sense of familiarity and pleasantness experienced by people towards anthropomorphic robots and automatons increases proportionally to their similarity with human beings, until it reaches a critical point where excessive realism produces a sudden drop in positive emotional reactions. This phenomenon, caused by the perception of an incomplete realism, instead generates feelings of discomfort, repulsion, and unease, giving rise to what is indeed called the “uncanny valley”.

In all these reflections concerning the useful tools for realizing a speculative design project, it must never be forgotten that the objective is to prompt the user to ask questions rather than to provide them with answers.

To be effective, the work needs to contain contradictions and cognitive glitches. Rather than offering an easy way forward, it highlights dilemmas and trade-offs between imperfect alternatives. Not a solution, not a “better” way, just another way. Viewers can make up their own minds (Dunne & Raby, 2013).

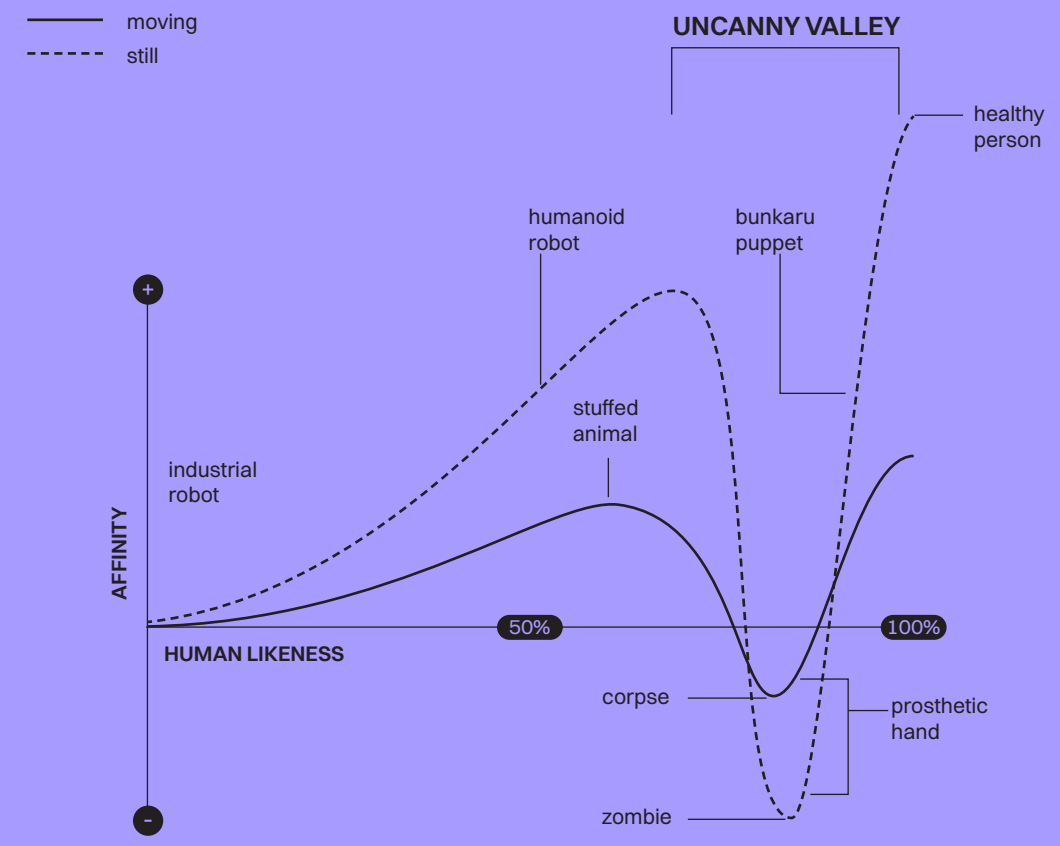


Diagram illustrating the *Uncanny Valley* phenomenon, proposed by Masahiro Mori (1970). Authors' adaptation

1.1.5 Somewhere in Between: Interaction Design

Design, particularly in its more critical and speculative declinations, positions itself at a focal point between passive narration and the active construction of possible worlds. In this regard, the theorists Dunne and Raby reflect on the peculiar position of the designer compared to other narrative forms:

Maybe this is one of the limitations of cinema: it can deliver a very powerful story and immersive experience but requires a degree of passivity in the viewer reinforced by easily recognized and understood visual cues. Literature makes us work so much harder because readers need to construct everything about the fictional world in their imagination. As designers, maybe we are somewhere in between; we provide some visual clues but the viewer still has to imagine the world the designs belong to and its politics, social relations, and ideology (2013).

This reflection poses a crucial question: what type of design lends itself most effectively to this function of suggestion and imaginative co-construction? The answer, in our opinion, resides in Interaction Design.

Interaction design, often abbreviated as IxD, is the practice of designing interactive digital products, environments, systems, and services. While interaction design has an interest in form, similarly to other design fields, its main area of focus rests on behavior. Rather than analyzing how things are, interaction design synthesizes and imagines things as they could be (Cooper et al., 2007).

BRIDGING BEHAVIOR AND SPECULATION

Interaction Design, by its very nature, is speculative in nuce. Indeed, it is not limited to improving what already exists but instead designs how things should be, imagining new dynamics, processes, relationships, and systems of interaction.

Consequently, the profound link between Interaction Design and speculative practice is explored below, analyzing how the design of interaction acts as a genuine tool for imagining and challenging the future.

Nathan Shedroff defines Interaction Design not merely as the creation of interfaces, but as “a field and approach for designing interactive experiences.” He emphasizes that such experiences extend to any medium (such as live events or performances, products, services, etc.) and not just digital media, requiring time as an organizing principle. The cornerstone of this definition is the abandonment of passivity: Interactivity is concerned with being part of the action of a system or performance and not merely watching the action passively (Shedroff, 1999). In other words, IxD is not limited to showing a future but requires the user to participate actively in the hypothetical world, exactly as demanded by speculative design.

This ser participation is profoundly linked to the behavioral component. As the designer Dan Saffer clarifies, Interaction Design is not a science, but “an applied art” that solves problems in a particular set of circumstances and “it’s about behavior, and behavior is more difficult to observe and understand than appearance (form, ed.).” Furthermore, Saffer highlights that Interaction Design has the task of facilitating interactions between human beings through products and services; to a lesser extent, it also concerns interactions between human beings and those products that have some awareness—that is, products with a microprocessor that are capable of perceiving and responding to human beings (Saffer, 2006).

By focusing on behavior, the designer designs not only the form or function of the product or system, but also the expected or unexpected response of the user and the system itself, imagining new social, ethical, and practical dynamics.

The juncture point between the human being and the speculative world is the interface, understood in its broadest sense. Francesco Di Nocera, a psychologist expert in cognitive ergonomics, offers a crucial perspective for speculative design, defining the interface as “Anything that allows communication between two different systems” (Di Nocera, 2004). In a speculative project, these two systems can be the human being and a dystopian or utopian future embodied by the artifact itself. The interface, therefore, becomes the narrative medium that makes this dialogue between our present and the designed world possible.

In summary, Interaction Design proves to be the ideal vehicle for speculation as it is configured, according to the vision adopted here, as a comprehensive narrative process. This process is focused on constructing dialogues and relationships between people and various artifacts (tangible or intangible), and is founded on observing and developing human behaviors across dimensions of time and space, allowing the structure to mold, intertwine, and modify itself based on changing relational dynamics (A. Di Salvo, 2024). It is precisely this nature of a “narrative process” founded on the development of behaviors across time and space that makes Interaction Design a tool not only for optimizing the existing but also for visualizing and debating future scenarios at the service of a critical and speculative vision.
Interaction Design, acting as a vehicle for speculation, must be analyzed through its fundamental components to understand how it constructs experience.

THE FIVE DIMENSIONS OF INTERACTION DESIGN

To address the complexity of an interactive artifact, Interaction Design breaks it down into five fundamental dimensions, which do not act in isolation but combine to define the overall experience of interaction with the artifact. This theoretical model was popularized by Gillian Crampton Smith and subsequently expanded upon by Kevin Silver. These dimensions of interaction, often defined as the "languages" the designer uses to build dialogue with the user, are defined by the Interaction Design Foundation (2015) as follows:

1D – Words ⟶ These refer to the text users encounter (such as button labels, instructions, error messages). Words must be simple, meaningful, and precise to communicate necessary information without overwhelming the user.

2D – Visual Representations ⟶ These are the graphic elements (icons, images, typography, layout, and colors) that support the text and contribute to the interaction.
Their goal is to enrich communication and facilitate navigation, integrating with and supporting the textual dimension.

3D – Physical Objects/Space ⟶ These represent the medium through which the interaction takes place. This includes the physical devices (mouse, touchpad, smartphone) and the spatial context in which the user is situated, elements that directly influence the perception and interaction with the artifact.

4D – Time ⟶ This dimension concerns the dynamic aspects within the interface, such as animations, videos, sounds, and the amount of time the user spends interacting.
The management of time is essential for providing immediate and reassuring feedback to the user, managing the wait.

5D – Behavior ⟶ This is the dimension that defines the product's mechanism: how the user performs actions and, above all, how the product responds to those inputs.
Behavior includes the user's reactions, including emotional ones, and how the other four dimensions combine to define the way the interaction unfolds and is perceived.

The ability of Interaction Design to create worlds that are not only functional but also emotionally resonant is founded upon the three levels of emotional processing theorized by Donald A. Norman (2004, 2013). These levels explain how the user connects with an artifact on different planes and influence their acceptance of the product with which they interface

THE THREE LEVELS OF EMOTIONAL DESIGN

Visceral level ⟶ This is the most rapid and subconscious emotional reaction. It concerns appearance and immediate attraction: the aesthetics, the sensation (the look and feel), and the first sensory impression of an object or an interface.

Behavioral level ⟶ This concerns the product's usability and functionality during use. It is the satisfaction derived from the effectiveness, efficiency, and ease with which the user is able to achieve their goals. Good behavioral design generates pleasure in the action.

Reflective level ⟶ This is the highest and most conscious level, occurring after the interaction. It involves rationalization, intellectualization, and the cultural meaning of the product. It is the level of memory, self-image, and the story the user can tell about the experience.

The link between these three levels and the temporal dimension is fundamental: while the visceral and behavioral levels are predominantly tied to the present of the interaction, namely immediate aesthetics and hic et nunc usage effectiveness, the reflective level, conversely, is oriented towards the future, including memory, sharing, and long-term impact.
This distinction is crucial for considerations regarding speculative design. Although an artifact must be engaging (visceral level) and usable (behavioral level) in the immediate term to be taken seriously, it is through its capacity to trigger reflection (reflective level) that the user can be directed towards the future the artifact intends to explore or criticize.
Through this reflective dimension, the user is compelled to contemplate the meaning of that hypothetical world, transforming the interactive experience into a genuine platform for speculative debate.

In this perspective, the reflection of Italo Calvino proves particularly significant, offering a profound insight into the power of artifacts within a fictional context:

> We could say that from the moment an object appears in a narrative, it is charged with a special force, it becomes the pole of a magnetic field, a node in a network of invisible relationships. [...] The symbolism of an object may be more or less explicit, but it always exists. We could say that in a narrative, an object is always a magical object (Calvino, 1988).

The analogy proposed by Calvino helps us understand how, even in speculative design, the object is never neutral: it is charged with a symbolic and narrative value, becoming a vehicle for critical reflection and a tool for the construction of alternative scenarios. Interaction Design, in this context, is not limited to designing interfaces or behaviors, but structures experiences that stimulate imagination, interpretation, and critical dialogue.

Speculative artifacts, thus, take on a discursive function, inviting the observer to question the implicit meanings of technology, the cultural values it conveys, and the possibilities for the transformation of everyday life. They become actors in a narrative that encourages the user to question the present and imagine new scenarios for living.

1.2 The Methodology of Data Visualization

1.2.1 The Foundations of Data Visualization

In our daily lives, it is less and less rare to hear data visualization and infographics discussed. We see displays and charts in newspapers, on mobile apps, and in museums; we observe them, interpret them, and, at times, interact with them.
But what exactly is data visualization? To understand it, we must first define its "semantic units," namely, data graphics. The American statistician Edward Rolf Tufte, in his seminal text *The Visual Display of Quantitative Information* (1983), provides a definition:

> Data graphics visually display measured quantities by means of the combined use of points, lines, a coordinate system, numbers, symbols, words, shading, and color.

Data visualization, by contrast, is that field of research whose purpose is to develop techniques for data representation, in such a way as to produce graphical structures capable of synthesizing complex information.
Data visualization is a field of research that makes use of data graphics (by extension, the term also indicates the visualizations themselves) whose objective is to communicate complex ideas with clarity, precision, and efficiency. Tufte (1983) thus defines the principle of "graphical excellence":

> Well designed data graphics are usually the simplest and at the same time the most powerful. Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.

But when was data visualization born? When did we, as a species, first feel the need to give form to information?
Humanity has represented information, more or less complex, since ancient times. Consider the mural painting of Çatalhöyük, dating to 6000 B.C., regarded by many as the first map, or the cave paintings, strokes that to our eyes appear simple, yet have allowed us to understand which animals our ancestors came into contact with, as well as their hunting techniques.

Catalhöyük Map reconstruction, depicting the settlement plan and the eruption of Mount Hasan (c. 6200 BCE)

PLAYFAIR, LAMBERT, AND THE FIRST CHARTS

Despite these precedents, Tufte argues that data visualization, understood as “the use of abstract, non-representational pictures to show numbers,” is a surprisingly recent invention. Indeed, due to the different skills required (visual-artistic, empirical-statistical and mathematical), it was not until 1750-1800 that we saw the invention of statistical graphics. Tufte identifies the Scottish statistician William Playfair and the Swiss-German scientist and mathematician Johann Heinrich Lambert as the two great inventors of modern graphical design. The former is identified as the inventor of the bar chart, while the latter is credited with bringing time-series into scientific literature.

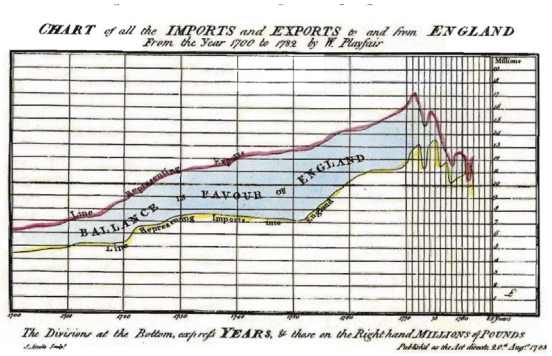


Chart of Imports and Exports to and from England (1700–1782). Early time-series chart by William Playfair, *The Commercial and Political Atlas*, 1786.

In addition to these two inventors, we cannot fail to mention the French civil engineer Charles Joseph Minard (b. 1781, d. 1870) and the British physician John Snow (b. 1813, d. 1858) for having created true examples of graphical excellence that are still cited today to demonstrate the communicative power of data visualization.

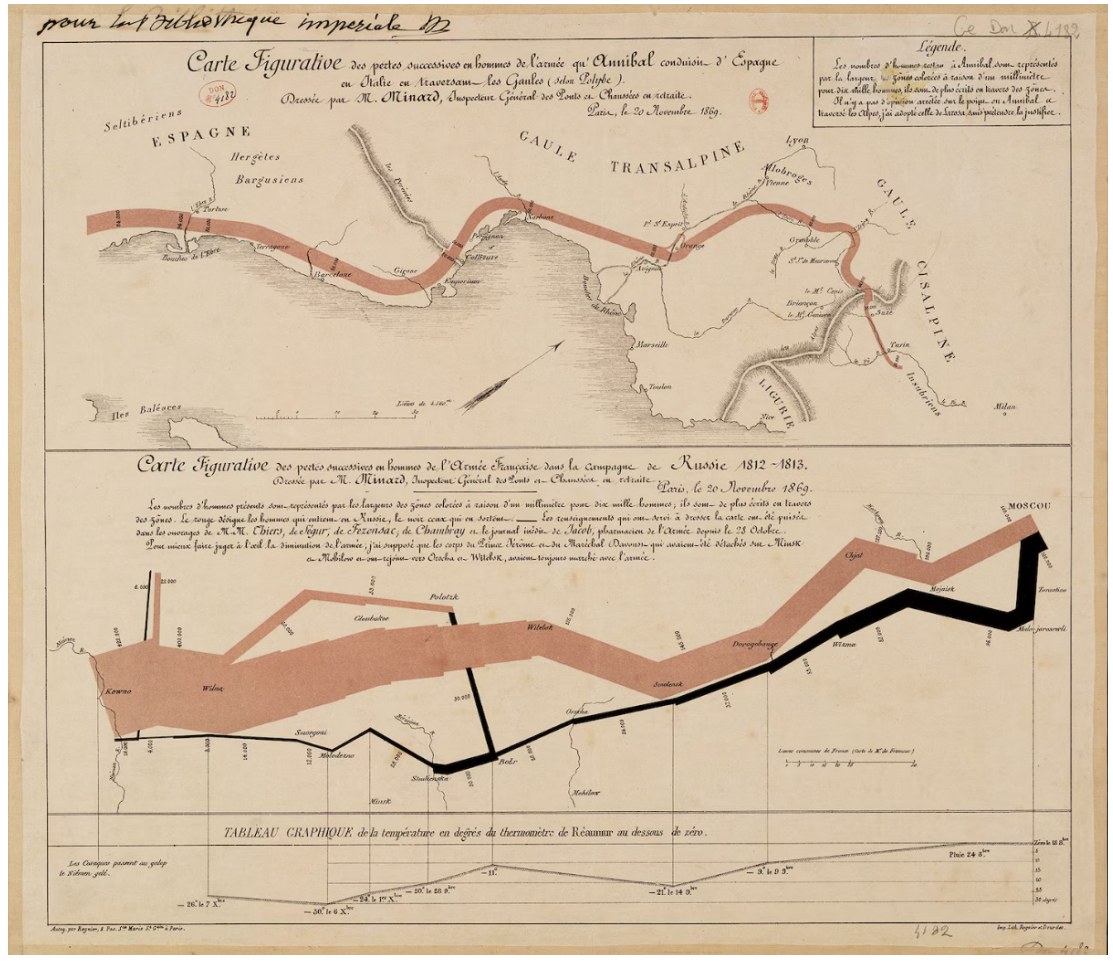
MINARD AND THE TABLE ABOUT NAPOLEON'S RUSSIAN CAMPAIGN

Minard's most famous work is the graphic depicting Napoleon's disastrous campaign against Russia. This combination of a data map and a time-series, drawn in 1869, shows Napoleon's losses during the 1812 Russian campaign through the varying width of the line: the thick tan flow-line shows the size of the Grand-Army at the beginning of the campaign, as it invades Russia in 1812. The graphic is remarkable because it provides the observer with a large amount of information, displaying as many as six variables: the size of the army, its location on a two-dimensional surface, direction of the army's movement, and temperature on various dates during the retreat from Moscow. (Tufte,1983) In addition to this, there is also a historical contextualization of the campaign: Minard chose to juxtapose this map with an analogous one representing the path of Hannibal's expedition across the Alps, drawing a parallel between these two great generals and their campaigns.

JOHN SNOW AND THE CHOLERA MAP

John Snow, by contrast, is credited with using data visualization for medical research, applying statistics to medicine. His search for the cause of the cholera outbreak that was striking London in the late 1800s. The physician had already formulated the thesis that contaminated water was transmitting the disease; however, this was not taken seriously. On his map, deaths were marked by dots and, in addition, the area's eleven water pumps were located by crosses: examining the scatter over the surface of the map, Snow observed that cholera occurred almost entirely among those who lived near (and drank from) the Broad Street water pump (Tufte, 1983). Snow therefore had the contaminated pump removed, ending the epidemic in that neighborhood. This is one of the first examples in which it is evident how much of a tangible impact data visualization can have on people's lives.

Other fundamental figures to cite when discussing data visualization are the sociologist and activist W.E.B. Du Bois (b. 1868, d. 1963), who denounced the condition of Black people in the USA, and the trio composed of the Austrian sociologist, economist, and philosopher Otto Neurath (b. 1882, d. 1945), the German designer and scientist Marie Neurath (b. 1898, d. 1986), and the German artist and illustrator Gerd Arntz (b. 1900, d. 1988), who were the authors of the Isotype language.



Above, Carte Figurative of Napoleon's 1812 Russian campaign. Minard Table #60 by C. J. Minard, 1869. On the right, Map of the 1854 Broad Street cholera outbreak. By Dr. John Snow, 1855

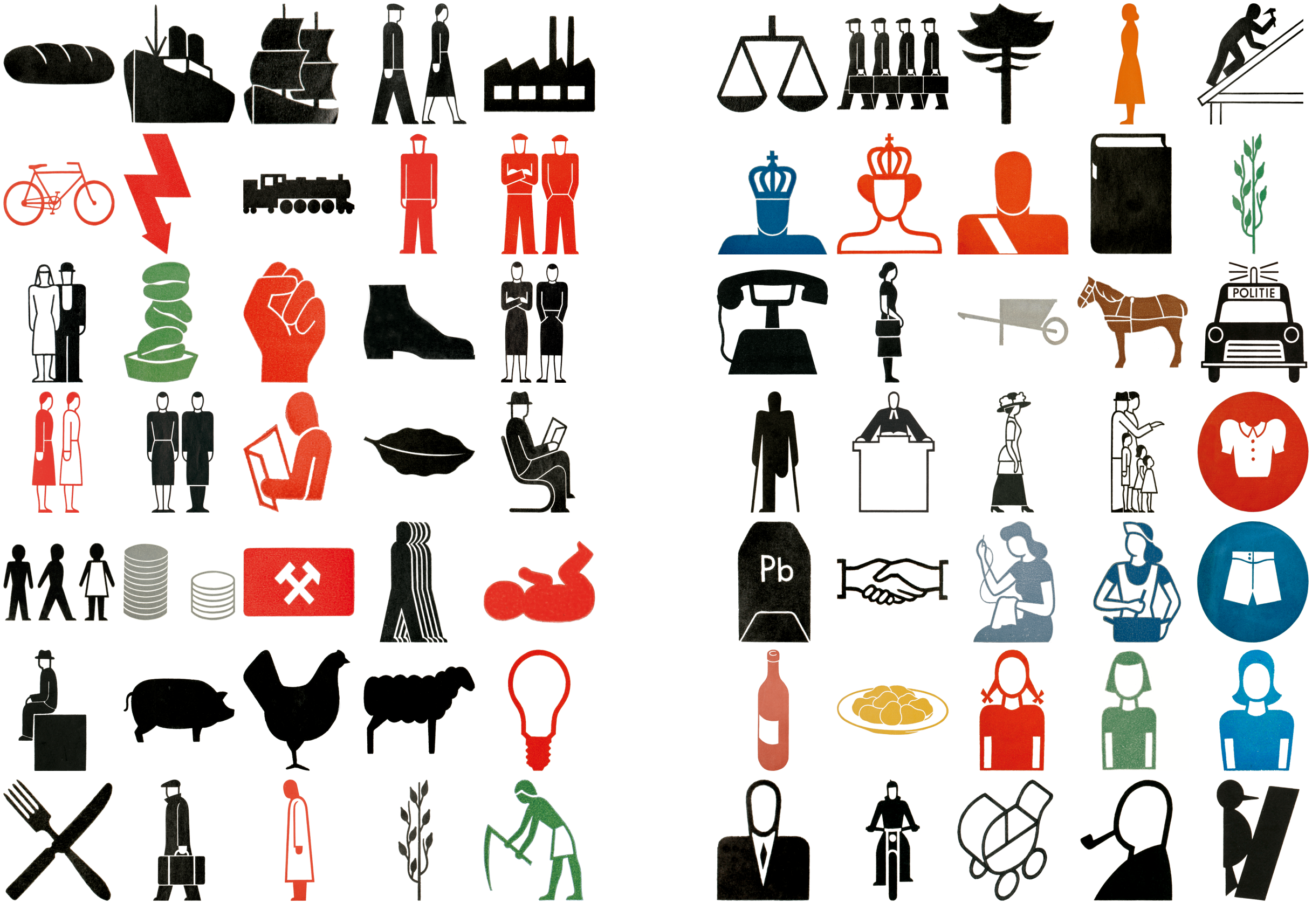
DU BOIS AND DATA PORTRAITS

In the field of data visualization, Du Bois is remembered primarily for his extensive work on the charts created for the 1900 Paris International Exposition, where he curated an exhibit on the condition of Black people in the USA. The charts, later collected in *W. E. B. Du Bois's Data Portraits: Visualizing Black America* (Du Bois, 1900/2018), intertwine sociology, demography, history, and statistics to show the life of people of African descent at that time, as well as the gap that continued to divide the white and Black populations in terms of rights, education, and wages.

ISOTYPE SYSTEM PICTOGRAMS

As for Isotype, it is a cornerstone that laid the foundations for modern infographics and contemporary visual communication. It is a system based on pictograms, a true language capable of communicating across borders and cultural differences. The system is based on the simplicity, recognizability, and immediacy of its signs; these signs should not be too detailed, should be understandable without the help of words, and should allow for a use similar to that of typographic characters.
The Isotype language was adopted across various media, including books and signage, and was widely used for creating pedagogical material due to its ease of comprehension.

On the opposite page, charts from "The Georgia Negro" exhibit. Data visualizations for the 1900 Paris Exposition by W.E.B. Du Bois
On the following pages, Isotype system pictograms. Linocut icons designed for the Vienna Method by Gerd Arntz, c. 1930


POLITIE
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1.2.2 The Principles of Data Visualization

"Graphical excellence begins with telling the truth about the data", states Tufte In the 20th century, according to the author, there was a conviction that graphics were tools to show "the obvious to the ignorant." This conviction led to two "fruitless paths in the graphical barren years from 1930 to 1970": that graphics, to be effective, must necessarily be "alive," "communicatively dynamic," and that they should somehow intercept and denounce deception, especially in the economic sphere. This view, however, led to graphics being used as decoration and as "filler," without exploiting the communicative potential that a good graphic offers. (Tufte, 1983)

GRAPHICAL EXCELLENCE

Subsequently, in the late 1960s, it was the American mathematician and statistician John Tukey who put an end to the idea that graphics were useful only as decoration for a few numbers. Indeed, we owe the introduction of exploratory data analysis, an approach that values curiosity and visual intuition, to Tukey. He promoted the use of graphics, such as the boxplot, not as ornaments but as true tools of analysis.

Despite innovators like Tukey giving value back to graphics, false graphics continue to exist, and

one must know how a good graphic is constructed to intercept a false one.

Tufte thus comes to theorize six principles that guarantee graphical integrity:

Graphical Integrity

[six principles]

1. The representation of numbers, as physically measured on the surface of the graphic itself, should be directly proportional to the numerical quantities represented.

2. Clear, detailed, and thorough labeling should be used to defeat graphical distortion and ambiguity. Write out explanations of the data on the graphic itself. Label important events in the data.

3. Show data variation, not design variation.

4. In time-series displays of money, deflated and standardized units of monetary measurements are nearly always better than nominal units.

5. The number of information carrying (variable) dimensions depicted should not exceed the number of dimensions in the data.

6. Graphics must not quote data out of context.

LIE FACTOR

Violations of the first principle represent a form of misrepresentation, quantifiable by the Lie Factor. This metric is calculated by dividing the size of the effect shown in the graphic by the actual size of the effect in the data; if the resulting Lie Factor equals one, it implies the graphic is doing a reasonable job of accurately representing the underlying numbers. "Many published efforts using areas to show magnitudes make the elementary mistake of varying both dimensions simultaneously in response to changes in one-dimensional data." Numerous examples of this violation could be found in graphics that showed "the shrinking of dollar".

DATA-INK RATIO

Alongside graphical integrity, Tufte theorizes the Data-Ink principle, based on the maxim 'Above all else show the data.' He proposes quantifying this adherence through the Data-ink ratio, which is defined as the share of a graphic's ink devoted strictly to the non-redundant display of information relative to the total ink used. In essence, this ratio represents the remainder after subtracting the proportion of a graphic that can be erased without any loss of data-information.
A good example of a perfect use of the Data-ink Ratio is an electroencephalogram: here, the graphic use every drop of their ink to convey measured quantities. Nothing can be erased without losing information.

From this ratio, two principles emerge:

1. Maximise the data-ink ratio, within reason
2. Erase non-data-ink, within reason.

In light of all these principles, it becomes evident that the graphic designer's work is not merely graphical: it is, above all, a critical work, made of attention and revision. Tufte takes as his model the writer T.S. Eliot (Eliot, 1920, as cited in Tufte, 1983, p. 100), who emphasized the:

> [...] capital importance of criticism in the work of creation itself. Probably, indeed, the larger part of the labour of an author in composing his work is critical labour: the labour of sifting, combining, constructing, expunging, correcting, testing: this frightful toil is as much critical as creative.

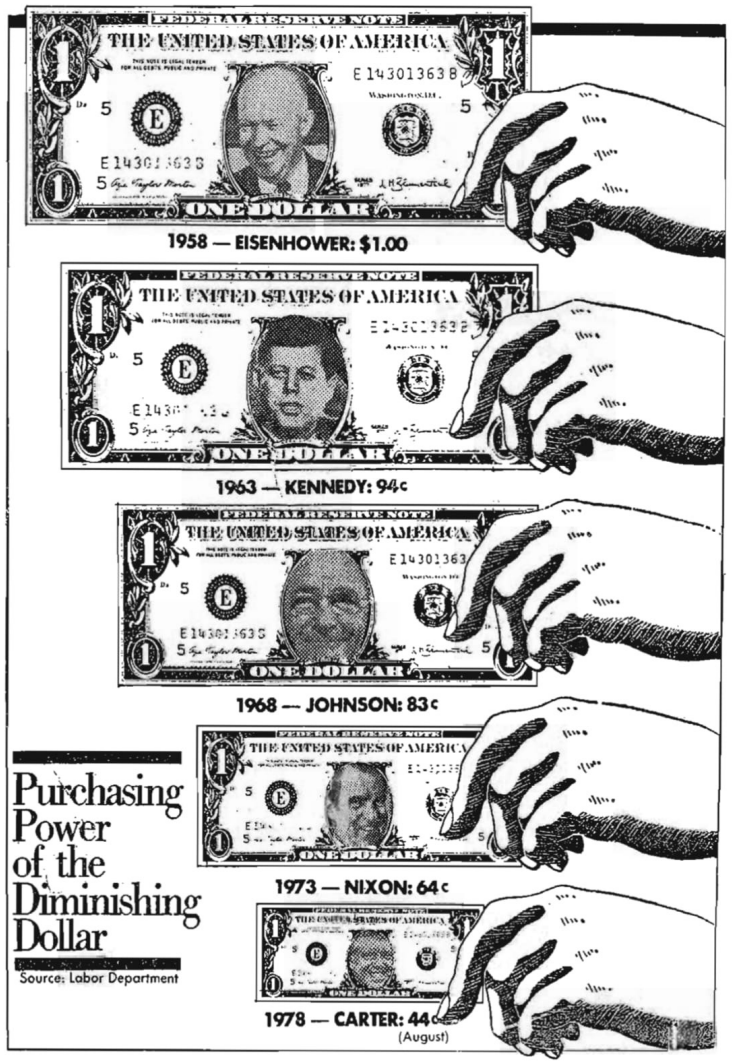
$$\text{Lie Factor} = \frac{\text{size of effect shown in graphic}}{\text{size of effect in data}}$$

If the Lie factor is equal to one, then the graphic might be doing a reasonable job of accurately representing the underlying numbers.

$$\text{Data-ink Ratio} = \frac{\text{data-ink}}{\text{total ink used to print the graphic}}$$

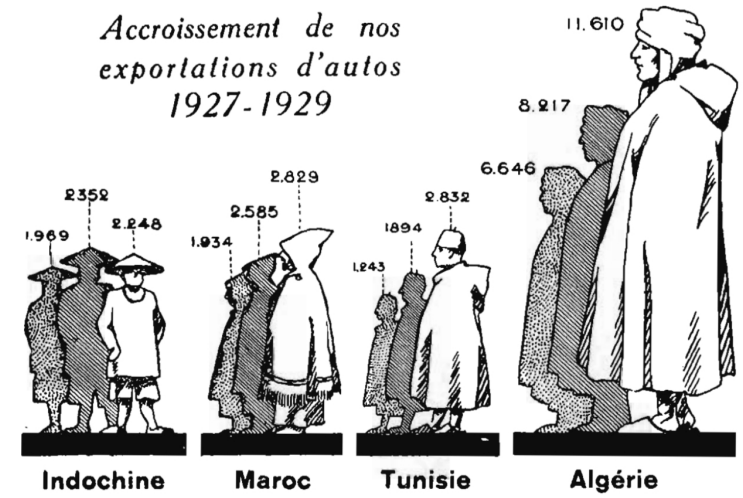
= proportion of graphic's ink devoted to the non-redundant display of data-information

= 1.0 → proportion of a graphic that can be erased without loss of data-information.

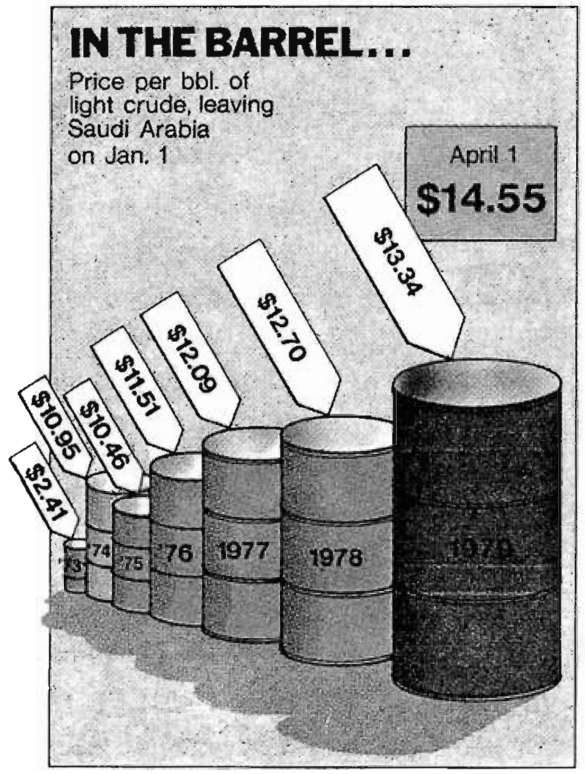


Purchasing Power of the Diminishing Dollar. Graphic illustrating the "shrinking dollar fallacy." If the area of the dollar is accurately to reflect its purchasing power, then the 1978 dollar should be about twice as big as that shown. Source: The Washington Post, 1978, as cited in Tufte, 1983

French car exports chart (1927–1929). Example of confusing data variation with design variation by using areas to show one-dimensional data. Source: Satet, R., Les Graphiques, 1932, as cited in Tufte, 1983



Purchasing Power of the Diminishing Dollar. Graphic illustrating the "shrinking dollar fallacy" by varying two dimensions. Source: The Washington Post, 1978, as cited in Tufte, 1983

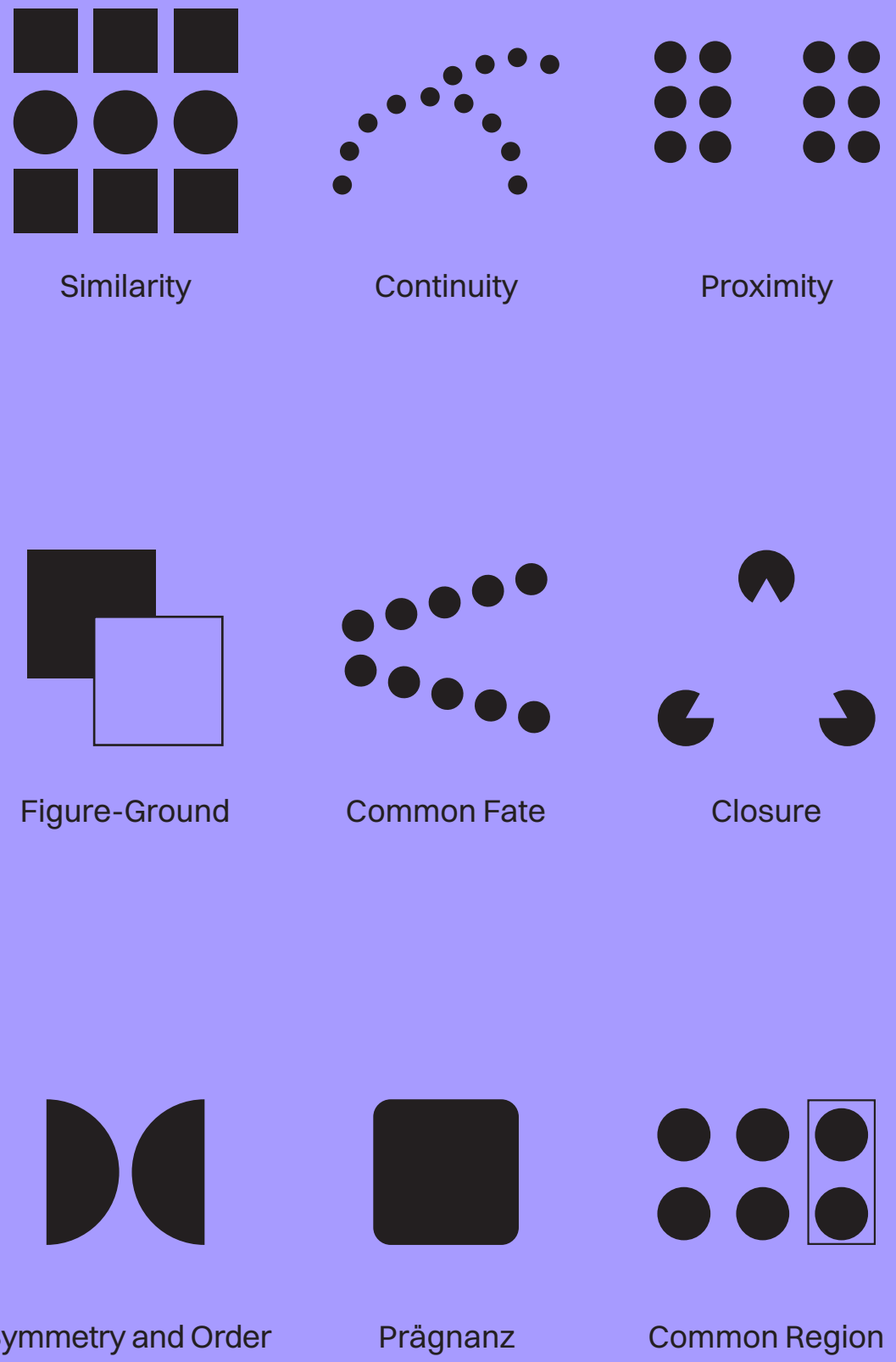


1.2.3 How to Shape Data Visualization

GESTALT LAWS

When discussing visual perception, it is essential to cite the school of thought that first explored the topic in depth: Gestalt psychology. This is a psychological school focused on the study of perception and the role of experience, originating in Germany in the 1920s.
The term “Gestalt” itself, usually translated as form, implies a certain complexity: the German word also means figure, aspect, structure, configuration, and totality.
Gestalt psychology made a fundamental contribution to the study of the mechanisms that come into play during experience, especially visual experience, theorizing laws that are still valid today and have been the basis for numerous subsequent studies. The Gestalt laws explain how our mind organizes perceived data (Gestalt Principles, n.d.):

SIMILARITY: Elements that look alike are perceived as related, helping to quickly identify patterns and groupings.
CONTINUITY: Eyes naturally follow smooth paths; aligned or flowing elements guide attention effortlessly.
PROXIMITY: Objects placed close together are perceived as related, making grouping and hierarchy clear.
FIGURE-GROUND: Distinguishing between a focal figure and its background allows key content to stand out clearly.
COMMON FATE: Elements moving together are perceived as part of a group, making motion a tool to show relationships.
CLOSURE: Gaps are naturally filled to complete incomplete shapes, enabling communication with minimal detail.
SYMMETRY AND ORDER: Symmetrical elements are seen as belonging together, creating cohesive and balanced groupings.
PRÄGNANZ: Simpler, clearer forms are preferred; reducing complexity enhances clarity and comprehension.
COMMON REGION: Elements within a shared boundary or background are seen as related, aiding quick understanding of grouping.



BERTIN AND THE DEFINITION OF VISUAL VARIABLES

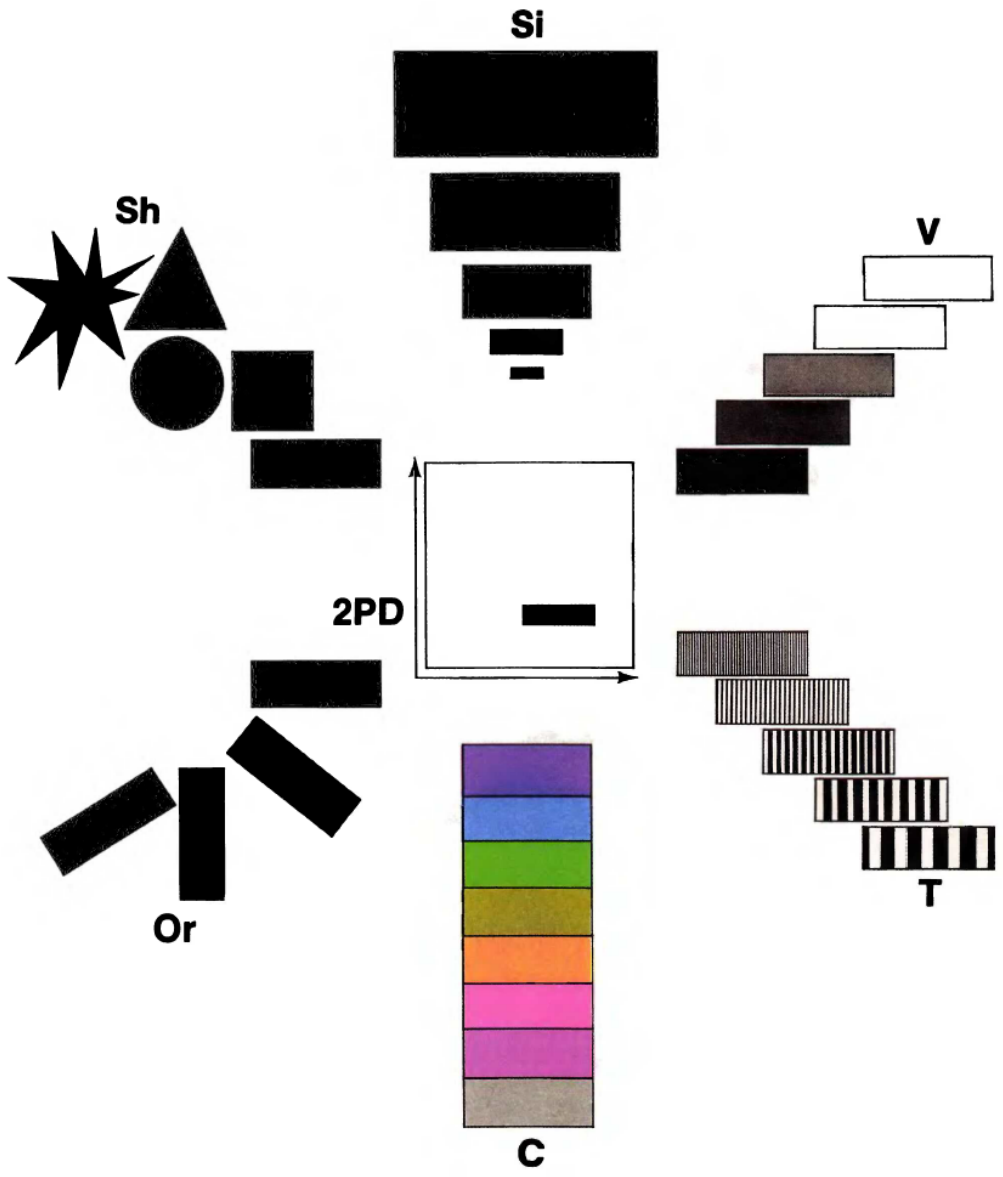
Instead, it was the French cartographer Jacques Bertin who first applied these principles to the field of graphics. It was he, in fact, in his 1967 text Semiology of Graphics, who defined the visual variables. Bertin (1967) defined a visual variable as a controllable aspect of a graphical object that allows it to be visually distinguished from others. Bertin established that a mark primarily corresponds to the two planar dimensions. Fixed at a specific point on the plane, a mark can be distinguished by varying in the following variables:

- → **SIZE**
- → **VALUE**
- → **TEXTURE**
- → **COLOR**
- → **ORIENTATION**
- → **SHAPE**

MCGILL AND CLEVELAND AND THE APPLICATION OF VISUAL VARIABLES

Bertin's contribution was fundamental in defining the variables; however, it was later the American statistician Robert McGill, along with the American computer scientist William Cleveland, who measured how effective each variable was. In the 1984 article “Graphical perception: Theory, Experimentation, and application to the development of Graphical Methods,” Cleveland and McGill demonstrated that the choice of visual variable directly influences the perceptual accuracy of readers. They defined graphical perception as the visual process through which a reader decodes the quantitative and qualitative information encoded on a graph (Cleveland & McGill, 1984).

From the studies of McGill and Cleveland, it emerged that human beings tend to understand visual information more quickly than raw data, and to understand some types of graphical representation better than others: position is the most readable and accurate encoding for representing quantitative data, while color or area are more subject to imprecise interpretations. The studies of the two authors were fundamental because they created a bridge between cognitive psychology (how we perceive) and statistics (how we represent), with principles that are still useful today for ensuring better readability of graphics.



The Visual Variables. Diagram illustrating the six retinal variables (size, value, texture, color, orientation, shape) and the two planar dimensions. Source: Bertin, J., Semiology of Graphics, 1967

1.2.4 Speculative Visualization

Thus far, the history, techniques, and perceptual mechanisms of data visualization have been discussed. But how does data visualization take shape in practice?
The data visualization developer Robert Kosara identifies two cultures in visual communication: the first is pragmatic visualization, which he defines as "very technical and analysis-oriented" (Kosara, 2007, para. 11); while the second is artistic visualization, which deals with more interpretive and expressive works.

TWO CULTURES IN VISUAL COMMUNICATION

Having established these two visions, where and how can data visualization, referred to by Kosara as information visualization, be placed? Since it is a multidisciplinary field, Kosara (2007) states that

"Infovis is in the middle: it requires an integrated approach" and unifies the two cultures through critical thinking.

Kosara therefore attempts to provide a minimal set of criteria that define every visualization including, among others, information visualization:

- ⟶ It is based on (non-visual) data.
- ⟶ It produces an image
- ⟶ The result is readable and recognizable.

While the first two criteria seem quite obvious, the last one is not. Kosara points out that "a transformation of data into a visual shape does not imply readability" and stresses that, in addition to readability, a visualization has to be made with the intent to communicate data (para. 18). In addition to these criteria, visualizations should also have other properties such as interaction and visual efficiency. As previously mentioned, the two cultures are unified by critical thinking. Kosara (2007) states that

"Critical thinking is the basis of all science, and also connects the technical approaches to pragmatic visualization with philosophy and artistic visualization".

Critical thinking can therefore be considered a bridge between science and art.

PRAGMATIC VISUALIZATION

Kosara defines the goals of pragmatic visualization as being to explore, analyze, or present information, to produce images that convey the data as quickly and effortlessly as possible. With pragmatic visualization, furthermore, he notes that the user can gain experience with the method and apply that to different data, and this can be considered a strength.

ARTISTIC VISUALIZATION

On the other hand, Kosara identifies artistic visualization, explaining that its "goal is usually to communicate a concern, rather than to show data". In this case, he argues that visual efficiency does not play a role in artistic visualization; on the contrary. The objective, he clarifies, is not to enable the user to read the data, but rather to "understand the basic concern"

SUBLIME AND ANTI-SUBLIME

To these reflections, Kosara adds the concept of the sublime and relates it to pragmatic and artistic visualization. It is a quality specific to works of art, which are "enigmatic and captivating." Its opposite can therefore be defined: anti-sublime (W. Sack, personal communication, 2006, as cited in Kosara, 2007), which is comparable to user-friendliness, a quality proper to those visualizations that aim for "immediate understanding." While classical technical information visualization is entirely anti-sublime, artistic visualizations are primarily sublime (Kosara, 2007).
The sublime subsumes the two criteria of readability and recognizability, since for a work of art to be sublime, it cannot be easily readable (or user friendly). It must present enough of an enigma to keep an audience interested without being easy to solve. (Kosara, 2007)

Furthermore, it can be said that artistic visualization has a "sublime quality," unlike pragmatic visualization. In an artistic visualization, in fact, "rather than making the data easily readable, it is transformed into something that is visible and interesting, but that must still be readily understood" (Kosara, 2007).

Considering these arguments, ere pragmatic and artistic visualization therefore irreconcilable? Kosara (2007) argues that

> "The fact that artistic and pragmatic visualizations are on opposite ends of the sublimity scale, and thus theoretically impossible to reconcile, should not deter us from trying, though. Interaction in particular is a way to enable the user to choose which side of a visualization s/he wants to see"

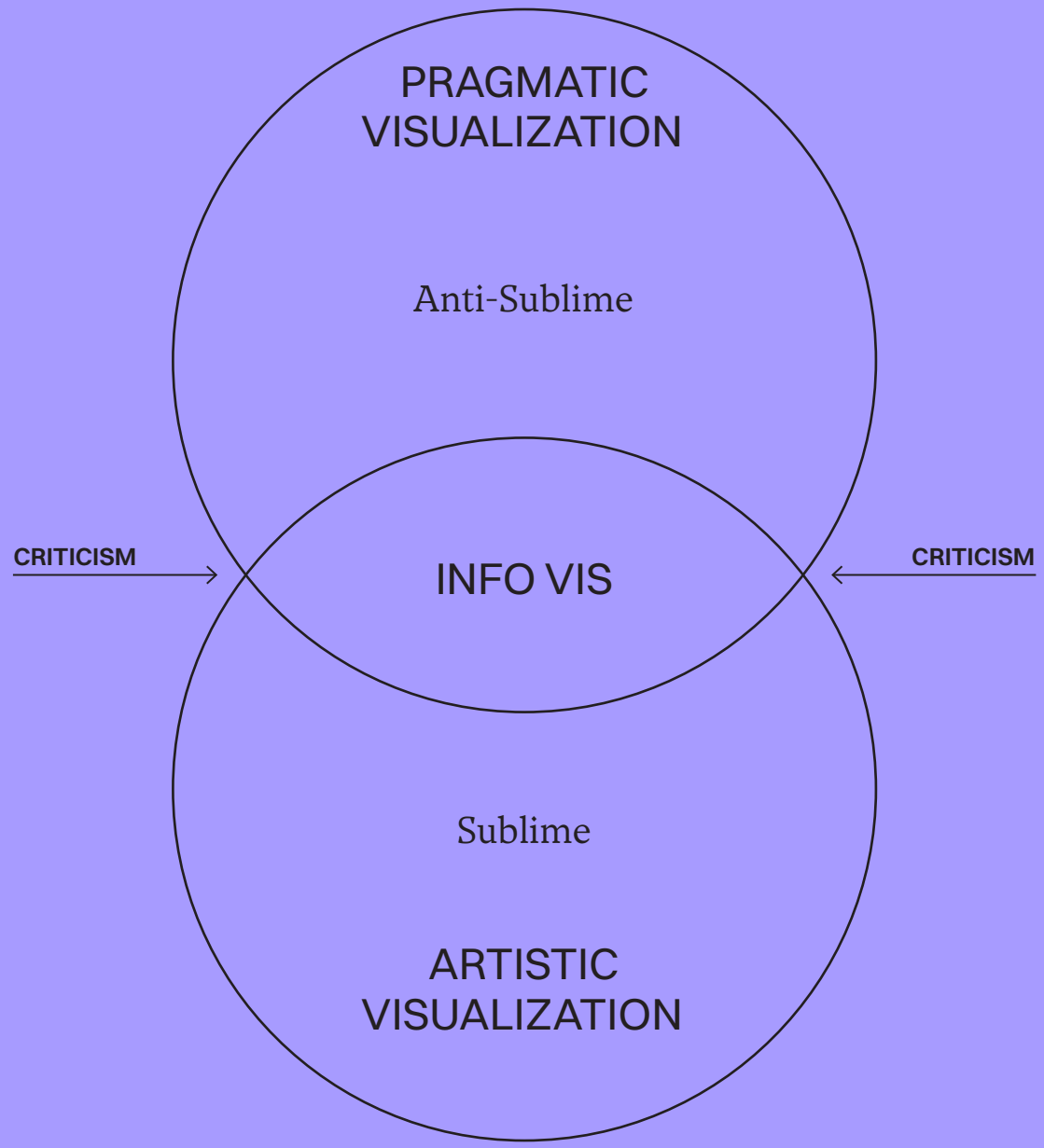
According to Kosara in fact, "both theory and a language are largely missing in visualization. The main method of communicating new ideas is the research paper. The use of criticism is a possible path towards developing parts of a theory and a language" (para. 33).

CRITICISM AS A BEACON

"Criticism is where theory and practice meet, and each is used to develop, evaluate, and validate the other" (Kosara, 2007, para. 35). Criticism can therefore be a beacon. Consequently, critical design projects are seen more as compasses than as maps, an idea explored in Speculative Everything (Dunne & Raby, 2013). It is therefore urgent, as Kosara emphasizes, to build a bridge between the pragmatic and the artistic through criticism, attempting to question meanings, user interpretation, and metaphors. The challenge is precisely to go beyond the differences that these two cultures (pragmatic and artistic) necessarily carry with them and, instead, to try to reconcile them; to do so, it is necessary, alongside critical thinking, to have the audacity to try to disrupt, create disorder, and experiment.

SPECULATIVE VISUALIZATION

This audacity to experiment finds a concrete methodological definition in what Tanyoung Kim and Carl DiSalvo (2022) term "Speculative Visualization." Expanding on the tension between the pragmatic and the artistic, they propose this approach as a "new rhetoric for communicating public concerns". While traditional visualization often aims for neutrality and efficiency, aligning with Kosara's "anti-sublime", speculative visualization deliberately embraces the political and social weight of data. It does not seek merely to inform or clarify, but to provoke questions and engage the audience in critical reflection regarding complex societal issues. In this context, data ceases to be treated as a static, objective truth and becomes a dynamic narrative device capable of making invisible phenomena tangible. By leveraging the aesthetic authority of data while subverting its conventional utility, speculative visualization answers the call for criticism in design: it transforms the chart from a tool of optimization into a medium for social inquiry, demonstrating that visualization can indeed function as a compass to navigate and challenge the status quo.



1.3 Criticizing Data

1.3.1 The Nature of Data

The concept of "data" has changed over time. The term emerged during the Renaissance, a period in which scientific innovation flourished alongside respect for philosophy. In the 18th and 19th centuries, the term "data" also extended to the economic and administrative sectors, until the 20th century, when “data came to mean any information stored and used in the context of computing (data are input for coded algorithms), and its uses multiplied beyond science and administration” (Puschmann & Burgess, 2014, as cited in Kitchin, 2021).

DATA = CAPTA

This semantic shift in the use of the term "data" reveals that “the process by which we create data, extract information and produce knowledge in constructed, not simply observed” (Kitchin, 2021, p. 27).

Data are not "given" but are "taken". This is why we could speak of "capta" instead of "data," to emphasize the role our interpretation plays in their creation (Kitchin, 2021).

Data are not provided to us raw, just as they are, but are always somehow transformed, modified, or reworked. We should therefore understand that:

> ...rather than seeing data as simply the raw material – the bricks – used to create information and knowledge, they can be seen as a manufactured material that intrinsically has value. Data are never raw but always cooked to some recipe. (Gitelman & Jackson, 2013, p. 3)

We often think of data as something objective, quantitative, and analyzable; yet these premises demonstrate how data are actually, first and foremost, the result of interpretation.

Data are familiarly collected,
entered,
compiled,
stored,
processed,
mined,
and interpreted.

Less obvious are the ways in which the final term in this sequence — interpretation — haunts its predecessors.

Gitelman & Jackson, 2013

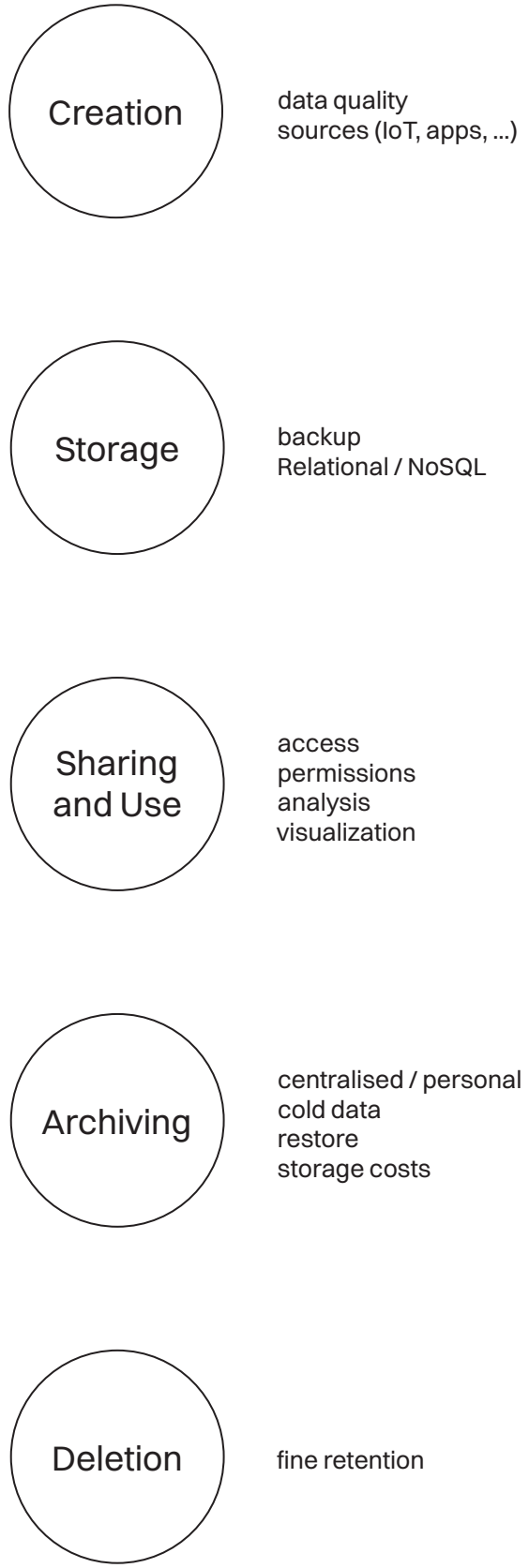
DATAFICATION

This view, that data are first and foremost interpreted, takes on even more value today because, “We are rapidly creating a data-driven world, often without sufficient attention being paid to the consequences of doing so” (Kitchin, 2021, p. 221). Today we are facing a veritable "datafication," an era in which we measure everything (Dubberly, 2017; Leek, 2016). Unlike a few decades ago, when data were few and scarce, today the data produced are extremely numerous and are in the hands of a few large companies like Google and Meta, which manage enormous datasets. Often, much of the data collected is not even used, forming what is known as cold data: this is data that is rarely accessed, kept for backup and archival purposes.

DATA LIFE CYCLE

Cold data are therefore related to archiving. But how are data created? And where do they end up once they are no longer useful? In this sense, we can speak of a true life cycle. The Data Life Cycle describes the path that data take from their origin to their destruction, articulated in five fundamental phases: Creation, Storage, Sharing and Use, Archiving, and Deletion.

The Creation phase concerns the acquisition of data from different sources (IoT, apps) with an emphasis on data quality. This is followed by Storage, where the choice between Relational and NoSQL systems is determinant. Relational (SQL) databases use fixed schemas based on tables, ensuring high integrity and consistency for complex transactions. NoSQL systems offer greater flexibility and scalability, ideal for unstructured or semi-structured data and for high volumes. The Sharing and Use phase is governed by access and permissions for analysis and visualization. Archiving manages "cold" data (less used) to control storage costs before restore or Deletion. From the perspective of control, Archiving can be either centralised or personal. The centralised mode implies a single repository managed at the enterprise level, ensuring governance and compliance; the personal mode refers to storage managed by the individual user or department for their own needs. Finally, Deletion refers to the end of the data life cycle and is linked to the end of retention for their permanent and secure elimination.



As mentioned earlier, data quality is fundamental, especially in the data creation phase. Kitchin (2021) identifies eight measures for evaluating data quality:

VERACITY → accuracy and precision

COMPLETENESS → sampling frame and extent of missing values

VALIDITY → data represent what they are meant to measure

TIMELINESS → data are not out of date and are regularly sampled

COVERAGE → the extent of that which is being measured

ACCESSIBILITY → access rights and openness

LINEAGE → history of the data including method of generation and processing

PROVENANCE → who created the data

According to Kitchin, "These measures should be provided to users in associated metadata to enable them to assess the suitability of the data for their intended analysis, to formulate any wrangling work, and to contextualize any interpretation or use of the data" (2021, p. 42). Metadata, in fact, are data about data; they collect all the information that describes other data to make them easier to find, organize, and use, gathering contextual information such as the origin, use, and limitations of the data.

1.3.2 Data is Everywhere; Data Ethics is Needed

Today, when we speak of data, we are not speaking only of information; we must also speak of context. In fact, “before concerning information, ethical problems such as privacy, anonymity, transparency, trust and responsibility concern data collection, curation, analysis and use, and hence they are better understood at that level.” (Floridi & Taddeo, 2016, p. 3)

DATA ETHICS

The topic is so complex that data ethics has emerged:

> a new branch of ethics that studies and evaluates moral problems related to data (including generation, recording, curation, processing, dissemination, sharing and use), algorithms (including artificial intelligence, artificial agents, machine learning and robots) and corresponding practices (including responsible innovation, programming, hacking and professional codes), in order to formulate and support morally good solutions (e.g. right conducts or right values). (Floridi & Taddeo, 2016, p. 1)

When speaking of data ethics, two opposing tendencies can be observed: on the one hand, ethical non-compliance causes a loss of public trust, leading to a rejection of innovative projects; on the other, legal prohibition, or excessive regulation, can paralyze innovation and prevent the exploitation of data for social good. Floridi and Taddeo (2016) therefore argue that:

> Navigating between the Scylla of social rejection and the Charybdis of legal prohibition in order to reach solutions that maximize the ethical value of data science to benefit our societies, all of us and our environments is the demanding task of data ethics.

“Three issues are central in this line of analysis: consent, user privacy and secondary use” (Floridi & Taddeo, 2016, p. 3).

These three issues become increasingly urgent when considered in relation to the "places" where they occur: the Internet of Things and social media. The Internet of Things is a network of physical objects, from household devices to industrial tools, equipped with sensors, software, and other technologies to connect to the Internet and exchange data with other devices and systems. These are centralized services that often support continuous monitoring.

INTERNET OF THINGS

The devices involved are numerous and varied: in the industrial sphere, the Industrial IoT (IIoT), an integral part of Industry 4.0, utilizes sensors for predictive maintenance, monitoring vital parameters of machinery and motors in real time in order to anticipate failures; in Smart Cities, the IoT contributes to sustainability and urban quality of life (examples include Smart Parking systems that signal available spaces and sensors for smart public lighting that adjust lighting intensity, reducing energy consumption and managing traffic). As for the private and personal environment, the IoT translates into the Smart Home and Wearables. In the Smart Home, devices like smart thermostats and voice assistants optimize comfort and household energy consumption. Finally, Wearables (like Smartwatches and Fitness Trackers) represent the most intimate application, monitoring biometric data and physical activity for wellness and preventive health.

SOCIAL MEDIA

In addition to the Internet of Things, another "virtual place" where we can identify the bulk of our data is undoubtedly smartphones and, in particular, social media applications. These platforms and apps, such as Facebook, Instagram, and TikTok, allow for the creation and sharing of content by users, facilitating communication, interaction, and the creation of online communities. Alongside their capacity to act as powerful channels for global interaction and the rapid dissemination of information, there are, however, risks at the psychological, individual, and social levels.

1.3.3 Psychological Risks of the Data-Driven World

From a psychological perspective, we can cite the Hook Model devised by the author Nir Eyal (2014): it is a four-phase cycle used by social platforms to compel users to remain on the platform. This model renders the use of platforms "compulsive" and "addictive" and is structured as follows:

THE HOOK MODEL

TRIGGER (the hook) → What the app promises to deliver (e.g., a notification received or the boredom that prompts entry into the app).

ACTION → The specific behavior required, which quickly becomes natural (e.g., scrolling)

REWARD → Something amusing (meme), useful (information), stimulating (a comment or prize), or profitable (a discount or change of user status). To be effective, the reward should be variable.

INVESTMENT→ The user invests time, data, or effort (e.g., publishing content); this investment increases the value of the product (e.g., the content) over time, improving the experience and increasing the likelihood of triggering the cycle anew.

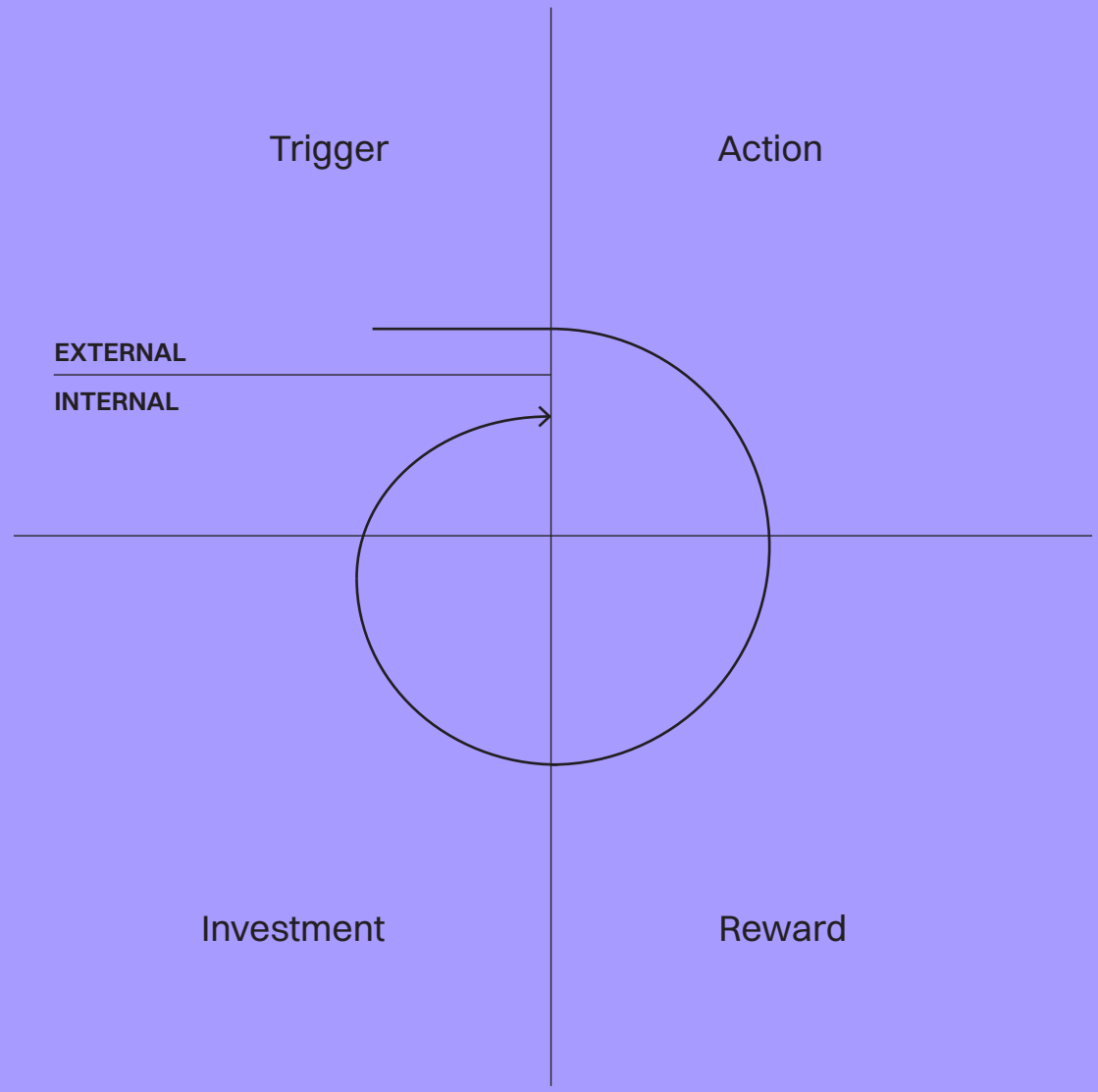


Diagram illustrating the *Hook Model*, proposed by Nir Eyal (2014). Authors' adaptation

Alongside the Hook Model, to understand the functioning of social media, we can introduce the concept of "context collapse."

THE CONTEXT COLLAPSE

Context Collapse, a key concept studied by danah boyd and Alice Marwick (2011), describes the merging of different audiences (family, colleagues, friends) into a single digital environment (the feed). This phenomenon compels users to present a "median Self" to avoid ambiguity or misunderstandings, making the use of differentiated registers of communication difficult.

The loss of contextual boundaries leads to an increase in performative tension and anxiety related to managing one's public image in front of heterogeneous audiences.

THE SLOT MACHINE EFFECT

It can also be emphasized how the structure of social media use is entirely analogous to that of slot machines, with the same mechanisms and the same risks of addiction. The "Slot Machine Effect" in social media, in fact, derives from the variable ratio schedule. This psychological mechanism, first studied by the psychologist B.F. Skinner, delivers rewards (e.g., a "like" or new content) randomly and unpredictably. Uncertainty stimulates dopamine activation and makes simple actions like "pull-to-refresh" compulsive, maximizing user engagement time (Schüll, 2012).

In addition to these psychological risks, others can be highlighted on social media:

social media platforms are increasingly configured as spaces where appearance and performance are central to the content being published.

They are, more and more, (virtual) spaces that respond to our needs.In this regard, we can cite Maslow's hierarchy of needs, in which the psychologist described a hierarchy of human needs, emphasizing that basic needs (located at the bottom of the pyramid) must be satisfied before one can access the satisfaction of higher-level needs and desires (Maslow, 1943).

THE COSMA PYRAMID

Over time, the pyramid has been re-elaborated in relation to contextual changes, such as the digitalization of daily life. One example is the COSMA pyramid, developed by the engineer Luca De Felice, who updates it as follows (De Felice, 2011):

CONNECTION → The need to be connected corresponds to the first level of Maslow's pyramid, physiological needs, which represent primary human needs. Today, being connected has become indispensable.

ORIENTATION → In the information and communication age, the sense of security is provided by the sensory orientation guaranteed by technologies such as GPS, emails, and USB memory keys, which orient and assist in organization.

SOCIALITY → Today, communities are not just local but global. IT tools allow for connection with the rest of the world. Maslow's need for belonging thus finds its corollary in the need for sociality. Tools like Social Media allow people not to feel alone on the network.

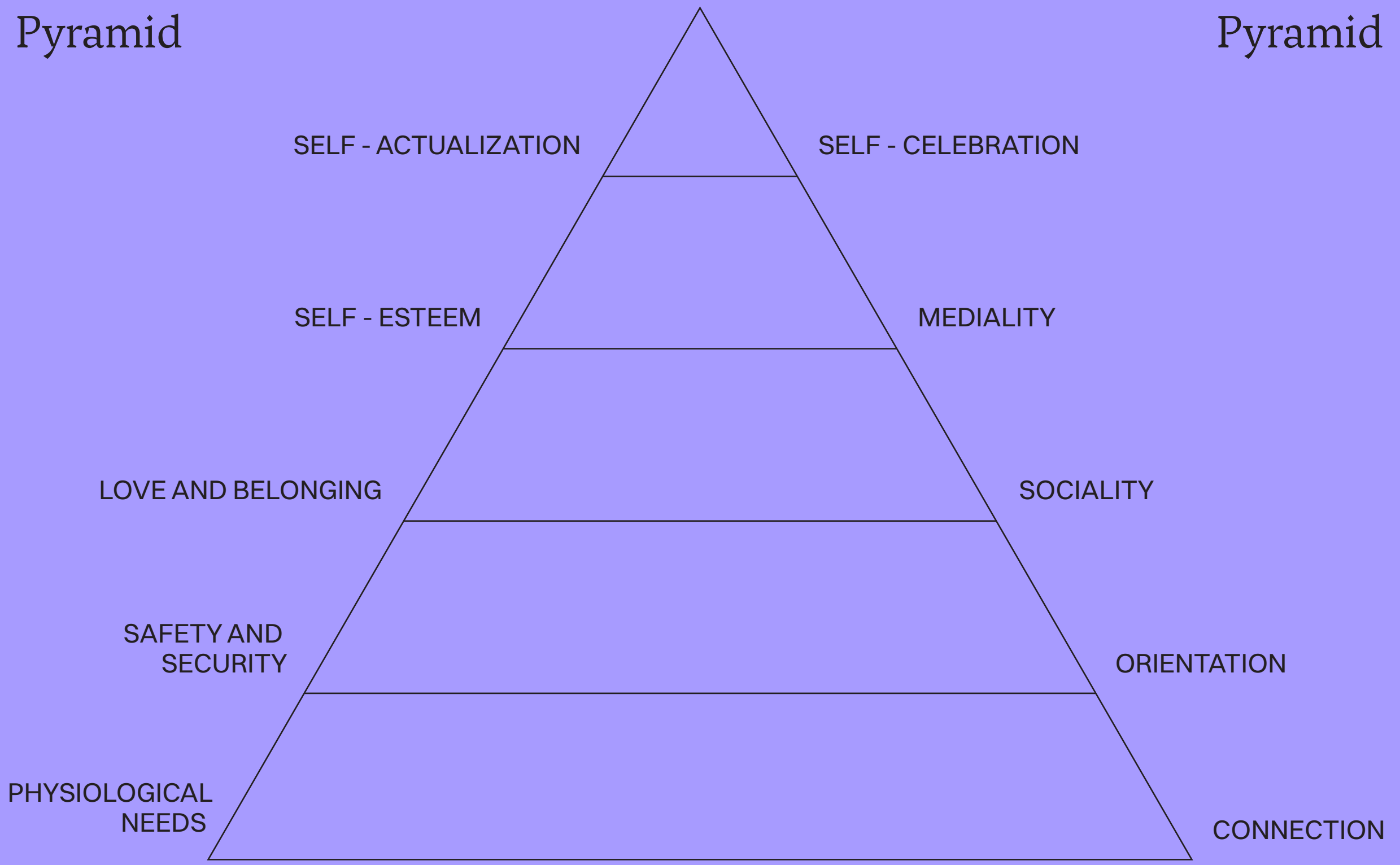
MEDIALITY → The hedonistic need to be visible and to participate actively in the online information flow (bloggers, YouTube, etc.).

SELF-CELEBRATION → This is satisfied through the possession of high-tech tools, for example, the latest and most expensive smartphone model. These devices guarantee a sense of fulfillment and realization beyond the mere pleasure derived from their use.

As can be inferred, social media satisfy some of our highest needs in the COSMA pyramid. This pyramid is not opposed to, and therefore does not replace, Maslow's pyramid; rather, it updates it, highlighting how much the digital world conditions our lives, even in the real world. Considering esteem needs in particular, while tying our needs so profoundly to the digital world can be gratifying (consider the "like" system as a reward), on the other hand, it can be very risky. This is because if those needs are not met online, there are profound repercussions on self-esteem.

Maslow Pyramid

COSMA Pyramid



The context in which we find ourselves is therefore increasingly hybrid, so much so that Floridi coined a neologism to describe today's context: onlife (Floridi, 2015).

ONLIFE

The term *onlife*, a crasis between online and life, underscores several transformations that are shaking our traditional frames of reference:

- → the blurring of the distinction between reality and virtuality;
- → the blurring of the distinctions between human, machine and nature;
- → the reversal from information scarcity to information abundance;
- → and the shift from the primacy of entities to the primacy of interactions. (Floridi, 2015, p. 7)

GEN Z: HYPERCONNECTED, ANXIOUS GENERATION

This context can be particularly harmful on a psychological level, and the risks are greater for minors. The ubiquitous and constant exposure to social media, in fact, described by Jean M. Twenge as the condition of the "hyper-connected," has triggered a significant mental and social health crisis. The core of the problem lies in the erosion of direct sociality in favor of screen-mediated interaction, which has coincided with a sharp increase in symptoms of depression, loneliness, and anxiety in the younger generation (Twenge, 2017).

As argued by the psychologist Jonathan Haidt in his recent text *The Anxious Generation* (2024),

Generation Z, those born after 1995, was the first to have experienced the transition from a play-based childhood to a smartphone-based childhood.

The progressive shift from the physical to the virtual world has corresponded to a transition from a free childhood to an over-controlled one. While adults have begun to excessively protect children in the real world, they have left them unsupervised in the online one, exposing them to a constant need for external validation and the fear of being excluded (FOMO).

There is a veritable "reconfiguration" of childhood that has interfered with the social and neurological development of children and adolescents. This controlled and digitally curated environment, combined with the reduction of direct experiences of risk-taking and autonomy, is considered a profound cause of emotional fragility and the consequent "anxious generation" (Haidt, 2024). Haidt begins his text with a "what if":

> Suppose that when your first child turned ten, a visionary billionaire whom you've never met chose her to join the first permanent human settlement on Mars. Her academic performance—plus an analysis of her genome, which you don't remember giving consent for—clinched her a spot. Unbeknownst to you, she had signed herself up for the mission because she loves outer space, and, besides, all of her friends have signed up. She begs you to let her go. Before saying no, you agree to learn more. You learn that the reason they're recruiting children is that they adapt better to the unusual conditions of Mars than adults, particularly the low gravity. If children go through puberty and its associated growth spurt on Mars, their bodies will be permanently tailored to it, unlike settlers who come over as adults. At least that's the theory. It is unknown whether Mars-adapted children would be able to return to Earth.[...] So, would you let her go? Of course not. (p. 2)

Haidt thus compares this absurd situation to the world of social media, and more generally, to the use of the Internet to which Generation Z had access in a rather uncontrolled manner and without risk assessment.

> The members of Gen Z are, therefore, the test subjects for a radical new way of growing up, far from the real-world interactions of small communities in which humans evolved. Call it the Great Rewiring of Childhood. It's as if they became the first generation to grow up on Mars. (p. 6)

From the data of the National Survey on Drug Use and Health in the United States, a sudden and significant rise in depressive episodes can be noted starting around 2012. The psychological damage caused by smartphones to minors is tangible and real: in other words, depression has become approximately two and a half times more prevalent. The increases have occurred across all ethnicities and social classes.

1.3.4 User and Social Risks of Datafication

Alongside the psychological risks and dangers, we can highlight the harms suffered by users in general, including from a legal perspective. In this sense, it is central to define data sovereignty:

Data sovereignty is the idea that we should have some authority and control over data that relates to us and that other individuals, companies and states should recognize the legitimacy of that sovereignty. In other words, we should have a say in what data are generated about us and have an ownership stake in those data that dictates how they are treated and shared, and for what purpose they can be used. (Kitchin, 2021, p. 223)

Data sovereignty should be claimed at both the individual and collective levels, in relation to the communities one is part of. As citizens, we should claim our data sovereignty because:

In theory, we already possess some individual and collective data sovereignty rights through pieces of legislation like the GDPR of the EU, the Fair Information Practice Principles of the OECD, the privacy, data protection and data security legislation and principles of individual states, and the terms and conditions notifications of companies. In practice, however, as has been discussed, much more data are generated about us than we realize, these data circulate and are reworked across data processors and controllers, and we possess little knowledge or control over how our data are used, often in ways that are not to our benefit. (Kitchin, 2021, p. 224)

As Kitchin points out, practice is very different from theory, and this becomes evident when one tries to define the types of data. Regarding the fact that "much more data are generated about us than we realize," we can define data shadows:

Data shadows refer to the information that a person leaves behind unintentionally while taking part in daily activities such as checking their e-mails, scrolling through social media or even by using their debit or credit card. (Kitchin, 2014, p. xvii)

Such data represent a significant risk to security and privacy, as they can be exposed to breaches, unauthorized access, or used to profile users from a behavioral and political standpoint.

Regarding the fact that "these data circulate and are reworked across data processors and controllers,"

we can define *inferred data*. This refers to data produced using a complex analytical method to find correlations between datasets and use them to categorize or profile people (for example, calculating credit scores or predicting a subject's future health status).

They are based on probabilities and can therefore be less "certain" than derived data (Abrams, 2014).

Alongside these types of data, three other types of personal data can be cited: Provided Data, given consciously and voluntarily by individuals (for example, by filling out an online form); Observed Data, collected automatically (for example, data gathered via cookies or video surveillance systems linked to facial recognition); and Derived Data, produced from other data in a relatively simple and direct way (for example, by calculating customer profitability from the number of store visits and items purchased) (Abrams, 2014).

DATA BROKERS

Speaking of these types of data and their use, data brokers must be mentioned: these are companies that collect, aggregate, and resell large volumes of third-party personal data, operating as intermediaries with no direct relationship with consumers. Their activity is specialized in four main categories, defined by the type of data managed and its purpose:

- → Marketing Data Brokers, who create complex user profiles based on inferred data for audience segmentation and targeted advertising;
- → Financial Information Brokers, who provide data on creditworthiness and credit history, essential for the approval of loans and financial services, representing a high security risk;
- → Risk Mitigation Brokers, who offer data for identity verification and fraud prevention (e.g., rental history and

background checks), supporting decision-making processes for access to services;
→ Unregulated Health Data Brokers, who collect information on well-being and habits from wearable and smart devices, using this data to infer health statuses with limited regulatory oversight (Reject Convenience, 2025).

Alongside the risks that the individual user may face, the phenomenon of the data-driven world can be observed from a broader perspective, at the social and community level. As argued by designer Hugh Dubberly and systems theorist Paul Pangaro (2015):

BLURRING BOUNDARIES

> In the data economy, boundaries are not always clear or fixed. Competitors may also be collaborators. Suppliers may also be customers. Employees may also be constituents whose wishes matter. And vice versa. In an earlier era, producers and consumers exchanged goods for money. Little else was involved. Transactions were mostly anonymous, one-time events. Now, anonymity is disappearing as businesses collect data on every interaction with customers. (p. 5)

The two authors thus define the concept of blurring boundaries: the expression itself highlights how boundaries, and consequently roles, are no longer as clear as in the past. In our era of blurring boundaries, the distinction between public and private is no longer clear, nor is that between citizen and company or between company and State, but also that between real and virtual.

The concept of blurring boundaries also, and above all, relates to roles: these overlap and intertwine. An example regarding the user is the overlap between their role as consumer and that of citizen:

> “Usually when we discuss big issues we do so as citizens, yet it is as consumers that we help reality take shape” (Dunne & Raby, 2013)

With this reflection on the roles we play as citizens and consumers, Dunne and Raby (2013) define a dichotomy between the ideal and practical spheres that govern socio-technical evolution.

In the role of citizen, the individual participates in public debate on "big issues" (ethical, political, environmental, and technological) in a rational manner. In this ideal capacity, considered judgments are formulated, moral values are expressed, and abstract visions of how society should be structured are outlined.

However, concrete reality is not shaped by theoretical abstractions, but by daily consumption choices. It is through the practical adoption of services, technologies, and products (such as smartphones or smart devices) that the individual acts as a consumer, decisively determining the future.

> The act of buying and using confers legitimacy and widespread adoption to certain technological infrastructures, shaping the social, cultural, and ethical fabric independently of rational discussions.

The choices we make as citizen-consumers thus constitute a true "economic vote," a concrete action regarding the digital world.

1.3.5 Legislative Gaps: Data Justice is Needed

EUROPEAN AND ITALIAN DATA REGULATION

The relationship between the digital world and legality is intrinsically linked to the protection of personal data, which is no longer considered a simple aggregate of information, but an extension of human dignity and recognized as a fundamental right within the European Union. To this end, the General Data Protection Regulation (GDPR - Regulation (EU) 2016/679), in force since 2018, constitutes the normative pillar governing the processing of personal data (Abrams, 2014).

The GDPR establishes universal principles such as lawfulness, fairness, and transparency, but above all, it introduces the principle of Accountability: organizations must not only comply, but also proactively demonstrate the adoption of measures aimed at guaranteeing the rights of data subjects (Information Accountability Foundation, 2018).

The European measure, as a Regulation, is directly applicable but requires national integration to harmonize pre-existing laws. In Italy, this occurred via Legislative Decree no. 101 of August 10, 2018, which adapted the pre-existing Privacy Code (Legislative Decree 196/2003) to the European regulatory framework, exercising the margins of flexibility granted by the GDPR and ensuring the continuity of the national sanctioning system.

Despite the presence of both European and national regulatory frameworks, the speed at which technologies advance (AI, IoT, new forms of profiling) inexorably creates legislative gaps.

These gaps play a crucial role because:

→ They allow for the emergence of operational gray areas where innovative practices (such as the unregulated use of health data from wearables or new forms of data brokerage) occur without a clear legal framework;

→ The law often intervenes late relative to technological innovation. When a practice is already consolidated, subsequent regulation may be less effective or only partial;

→ Inferred data pose a significant legal problem. As they are not data provided directly, legislative gaps make it difficult to apply an individual's rights of control, especially when the data is pseudo-anonymous but still allows for invasive profiling (Abrams, 2014).

The rapid proliferation of data and the extension of regulatory gaps facilitate a profound loss of privacy in the digital environment, a condition that manifests through complex and stratified monitoring practices.

The digital sphere is pervaded by mass surveillance, the indiscriminate collection of data on entire populations. However, tracking is articulated in specific and asymmetric directions, such as dataveillance and sousveillance.

DATAVEILLANCE

The concept of dataveillance, originally coined by Roger A. Clarke (1988), describes a systematic surveillance based on the algorithmic analysis of data, surpassing the need for physical observation. Kitchin (2014) defines it concisely as: "The monitoring of people through their data traces" (p. xvii). It is a vertical and centralized technique of power, employed to profile and predict behaviors through the processing of data shadows. This process is not just technical, but economic:

"Datafication and dataveillance are key processes underpinning the rise of what has been termed *surveillance capitalism,* in which extracting value from data is a key driver of profit" (Kitchin, 2014).

In contrast to dataveillance, sousveillance is surveillance "from below" (sous, meaning under), introduced by Steve Mann (2004), where common individuals monitor figures of authority. In the context of Big Data, Kitchin (2014) also describes it in terms of self-monitoring and management: "The personal monitoring and management of one's life through self-generated data" (p. 11).

LIFELOGGING

This self-surveillance is realized in the practice of the lifelog (or lifelogging), which is the continuous and archival

recording of one's life via wearable devices. A lifelog is conceived as: "A comprehensive, unified, digital record of an individual's experiences stored permanently as a personal multimedia archive" (Kitchin, 2014, p. 11).

The convergence between intense dataveillance and granular voluntary data collection (such as lifelogging) culminates in an ultimate risk to individual autonomy: manipulation. Predictive analysis, supported by unprecedented knowledge of personal vulnerabilities and inclinations, enables practices that go beyond prediction and aim for the active and targeted influence of users.

This manipulation is not limited merely to steering consumption choices, pushing the individual toward the purchase of specific goods or services. It can extend to far more serious and massive spheres, capable of undermining the foundations of democracy.

The ability to address specific micro-targets with emotional and personalized messages allows, in fact, for the shaping of opinions as citizens, influencing political decisions, election results, and the very perception of reality.

The debate on legality and regulatory gaps must, therefore, evolve beyond the mere protection of data privacy to focus on safeguarding cognitive autonomy and freedom of choice as inalienable prerequisites of active citizenship in a data-dominated era.

A response to this ethical-legal crisis can be the adoption of the Data Justice paradigm. This conceptual framework shifts the focus from individual to systemic responsibility. Data Justice is defined in terms of fairness and ethical treatment: "Data justice concerns the fair treatment of people with respect to their data" (Kitchin, 2021, p. 194). Data Justice manifests itself through data activism, which seeks to implement justice through regulatory campaigns, the use of data to address social injustices, and the enhancement of citizens' data literacy (Kitchin, 2021).

Data justice is articulated into three dimensions that require targeted intervention:

- Instrumental data justice: the fair use of data
- Procedural data justice: the fair handling of data
- Distributive data justice: the fair distribution of data

DATA JUSTICE

The objective of data justice extends beyond simple consent; Richard Heeks and Jaco Renken contend that:

"data justice exists when people have the right to decide, choose and use data that assists them in leading the kind of life they value, without compromising the ability of others and future generations to do the same. [...] considering the impact on other people, on the planet, on our future" (Heeks & Renken, 2016).

THE SUSTAINABILITY OF DATA JUSTICE

Data justice is not limited to legal correctness, but embraces a vision of responsibility that is intrinsically sustainable, so much so that the link with the concept of sustainability is direct. The Brundtland Report (World Commission on Environment and Development, 1987), in fact, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 43).
The definition of data justice and that of sustainable development are therefore akin: both place people, the planet, and the future at the center, with particular attention to intergenerational and intragenerational equity. Not compromising the ability of future generations is fundamental to ensuring justice, on the one hand, and development, on the other.
Turning one's gaze to the future is therefore not something merely investigative and conceptual: it is instead a necessity to ensure justice, to guarantee development, and to imagine new scenarios.

2. Research & Analysis

2.1 Desk Research

2.1.1 Data Map

In order to systematize the concepts elaborated through the bibliographic research and to create a tool that would guide subsequent reflections, a map was designed that took into consideration the main concepts emerging from the reflection on the data. The map was revised several times to arrive at a version that considered both personal insights and theoretical concepts, which became the cornerstones of subsequent reflections.

CONCEPT SYSTEMATIZATION

The final version was guided by the 5W questions technique, considered the primary rule of Anglo-Saxon journalistic style for addressing a topic from every point of view. This technique, which has ancient origins (such as the loci argomentorum of Quintilian and the so-called circumstances identified by Saint Thomas Aquinas), allowed the topic to be approached from different entry points.

At the center of this reflection are the data, which is the "what" under consideration. This question takes into account the types of data, which are omitted from this map for space reasons, but are explored in greater depth in the subsequent analysis of news and case studies.

WHAT

Before the data can be analyzed from any point of view,
it is necessary to consider that they are, first and foremost,
objects of interpretation:
this is the fundamental premise, the necessary realization
that informs all subsequent reflections.

The other keys for reading the data analysis are:

HOW Indicates the method of data collection, analyzed with respect to the tools and parameters involved.

WHERE Indicates the context of data collection (physical, digital, or hybrid) and the "place" where data are created, collected, used, and deleted.

WHEN Refers to the data lifecycle and the frequency of data collection.

WHO Indicates who the stakeholders involved in the use of data are. This includes users, the companies involved in data use and management, and governing bodies.

WHY Indicates the reason why the data are used. This is the section of the map from which the most critical reflections emerge: what risks emerge at the social and personal level?

In order to make the analysis system more robust, all the news and case studies analyzed subsequently are also included on the map, allowing the reader to begin adopting a critical perspective and to have real-world examples that explicitly illustrate the theoretical concepts. Social and personal risks, some critical considerations, and data quality measures are also included in the data map to facilitate continuity between all the tools used in this analysis. They constitute interesting entry points for the subsequent design phase. A complete list of the news and case studies is presented in the following pages, and the data map follows immediately thereafter.

NEWS

1 · N Chat Control 2.0

2 · N An actor sold his image to TikTok to create an AI avatar

3 · N Meta celebrities chatbots, sexual contents

4 · N Denmark Copyright Act

5 · N China’s Social Credit Scoring System (NCISP)

6 · N Utah Parental Age Control

7 · N Tea App

8 · N Romania Elections

9 · N Trump's use of deekfake to influence elections

10 · N Apple - CSAM detection

11 · N TikTok influencer Emilie Kiser and her son's death

12 · N Quiet, We Live in Public, [Josh Harris]

13 · N We Live in Public 2, [Josh Harris and Tanya Corrin]

14 · N Tracking Transience [Hasan Elahi]

15 · N Meta selling data to Netflix

16 · N Facebook and Cambridge Analytica

17 · N Losing Lenna (Can data die?)

18 · N Eight Sleep Pod

19 · N Data Removal Services

20 · N Imane Khelif case

CASE STUDIES

1 · CS Deepwork - a satire [The Pudding]

2 · CS Cambrian Analytica [Nic Stark]

3 · CS Facestate [Metahaven]

4 · CS Do Not Track [Brett Gaylor]

5 · CS All that I am [Koby Barhad]

6 · CS Be right back - Black Mirror [Harris, Brooker]

7 · CS Shut up and dance - Black Mirror [Watkins, Brooker, Bridges]

8 · CS Her [Spike Jonze]

9 · CS Privacy Lost [Louis Rosenberg]

10 · CS Our friends electric [Superflux]

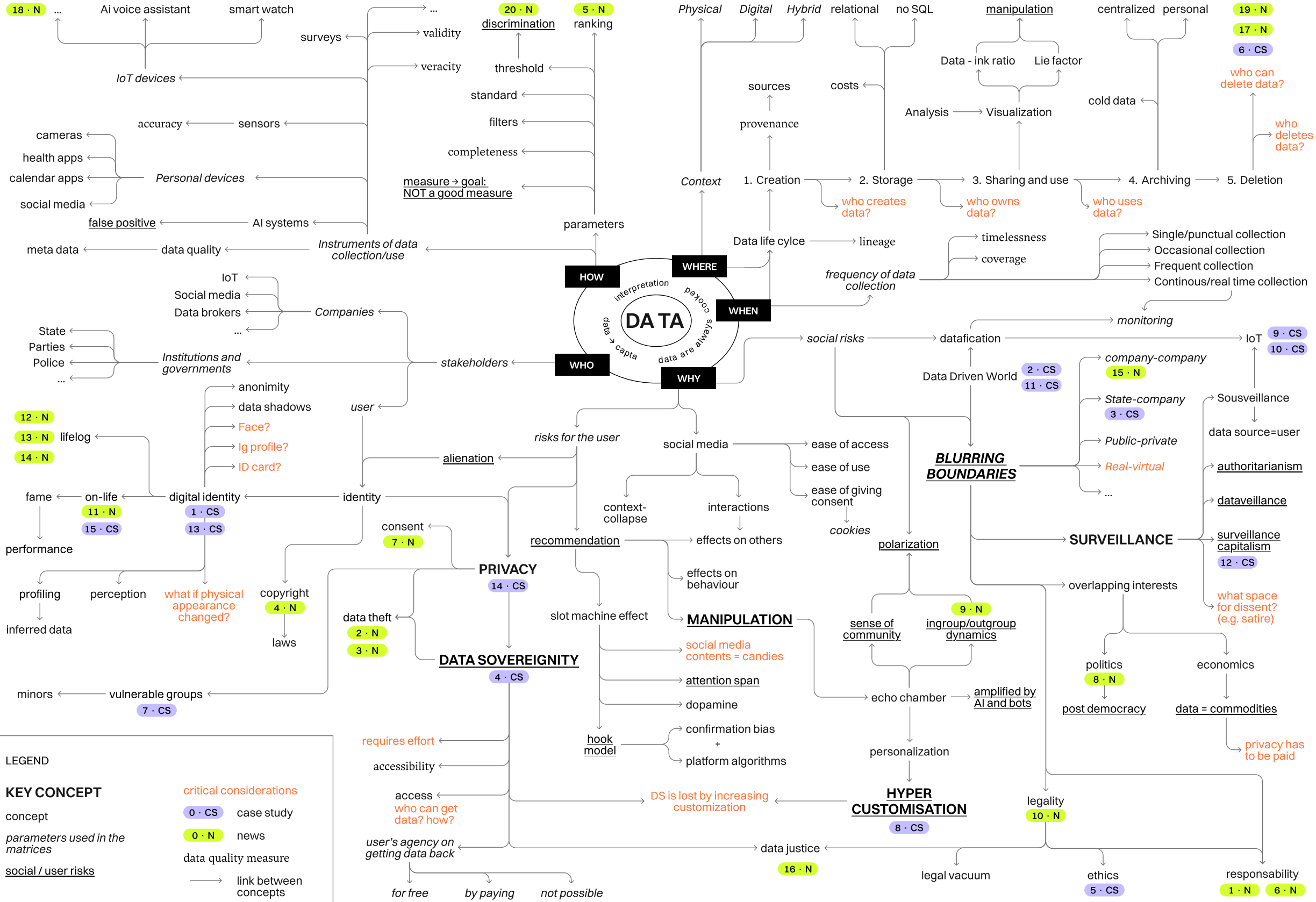
11 · CS Belief Systems [Bernhard Hopfengärnter]

12 · CS Saver Mode System [Shivani Datar]

13 · CS Excellences and Perfections [Amalia Ulman]

14 · CS How Not To Be Seen [Hito Steyerl]

15 · CS Four Eyed Monsters [Susan Buice, Arin Crumley]



LEGEND

KEY CONCEPT

concept

parameters used in the matrices

social / user risks

critical considerations

0 · CS case study

0 · N news

data quality measure

→ link between concepts

2.1.2 News and Case Studies

In parallel with the theoretical reflections on the topic of data, a research phase involving news and speculative case studies was necessary to reflect on the emerging themes and provide a complete picture of the state of the art. This research, initially conducted through the digital ethnography approach, in order to intercept the topics that sparked the greatest debate, was subsequently systematized into a more complete analysis. Therefore, 20 current news cases that deal with the topic of data in a more or less explicit way, and 15 case studies concerning speculative design projects, artworks, and films that reflect on the emerging themes, were identified and analyzed in detail. To reflect on the main aspects arising from the bibliographic research and to compare the various cases, the following parameters were identified:

SCENARIO It indicates the type of scenario in the project. This can be speculative (that is, a hypothetical reflection on reality); real-occurred (that is, a real and already existing event); or real-not occurred (referring to real proposals that have not yet taken place, primarily visible in draft legislation).

CONTEXT [WHERE] This can be physical, digital, or hybrid.

STAKEHOLDERS [WHO] It refers to the actors involved.

INSTRUMENTS OF DATA COLLECTION/USE [HOW] Indicates the objects used for data collection or use.

TYPE OF DATA INVOLVED [WHAT] It's about what data is involved. They can be:

- → DEMOGRAPHIC DATA: Age, gender, marital status, education, occupation, nationality.
- → Behavioral Data: Purchase habits, consumption preferences, service usage, browsing history.
- → GEOLOCATION DATA: GPS position, tracking via apps, cell towers, or connected devices.
- → BIOMETRIC AND HEALTH DATA: Fingerprints, facial recognition, heart rate, medical or genetic information.
- → SOCIAL AND RELATIONAL DATA: Social friendship networks, interactions on social media platforms, participation in physical or digital communities or events.
- → FINANCIAL AND ECONOMIC DATA: Bank transactions, credit cards, income, expenses, subscriptions.
- → PROFESSIONAL DATA: Job role, résumé, skills, assessments, or performance.
- → TECHNICAL OR DIGITAL DATA: IP addresses, cookies, device IDs, access logs, app preferences.
- → PUBLICLY AVAILABLE DATA: Property records, professional registers, public documents, open-source data.

It indicates how often the data collection process occurs. It can be:

FREQUENCY OF DATA COLLECTION [WHEN]

Single/Punctual collection

Occasional collection
(monthly, weekly);

Frequent collection
(daily; multiple times a day)

Continous/Real-Time collection
(monitoring)

Not Measurable / Not Relevant

To what extent does the user maintain control over their data? The parameters are:

USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK

0 You can't get your data back

1 You can get your data back by paying

2 You can get your data with a lot of effort for free

3 You can get your data easily for free

x Not Measurable / Not Relevant

The declared purpose for which the data are collected.

GOAL OF THE (HYPOTHETICAL) DATA COLLECTOR [WHY]

SOCIAL CRITICALITIES AND RISKS [WHY] What social and political impact emerges? What potential risks and implications arise at the social level? These aspects are reported using keywords.

CRITICALITIES AND RISKS FOR THE USER [WHY] What impact does the analyzed phenomenon have on the user? What consequences emerge for the identity of the single individual? These aspects are reported using keywords.

BLURRING BOUNDARIES Since this is a social risk present in many cases, it indicates the stakeholders between whom the phenomenon is evidenced (e.g., State-company) or between the public/private spheres. Additionally, reflections concerning the boundaries between the virtual and the real have emerged.

LEGALITY Since many cases involve governing bodies, any reflections on the theme of legality are reported.

The news and case studies are analyzed using the same parameters, indicating, however, where the speculative cases involve hypothetical concepts for greater clarity (for example, hypothetical stakeholders). For greater completeness, two additional evaluation parameters were added to the analysis of speculative case studies:

CRITICS OF THE PROJECT This concerns the explicit criticism that the author of the project intends to highlight.

SIMILAR TO (OPTIONAL) Real-world news events are reported that resemble the analyzed speculative case in terms of themes and reflections.

The following pages include each case analyzed in detail.

1 · N

Chat Control 2.0

YEAR	2025
COUNTRY	UE
SCENARIO	Real - Not Occured
CONTEXT	Digital
STAKEHOLDERS	UE app users, European Commission, apps (Meta, Google...)
INSTRUMENTS OF DATA COLLECTION/USE	Apps (Whatsapp, Facebook, Gmail)

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

The Chat Control 2.0 is a legislative proposal by the European Union, officially titled the "Regulation to Prevent and Combat Child Sexual Abuse" (CSAR), aimed at curbing the spread of child sexual abuse material (CSAM) online. The proposal requires digital communication service providers to implement detection technologies to identify illegal content, including suspicious images, videos, and text. However, the proposal has raised serious concerns among privacy experts, activists, and technology companies. Critics argue that the obligation to scan private communications, including encrypted ones, constitutes a violation of fundamental rights to privacy and freedom of expression. In particular, the preventive analysis of user content on personal devices could compromise cybersecurity through backdoors in the devices and undermine public trust in secure communication technologies.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To check for child pornographic material on personal accounts

SOCIAL CRITICALITIES AND RISKS

surveillance capitalism / continous control / authoritarianism / cold data / mass surveillance / potential back door on people's devices / not solving the pedopornography issue / overloadingthe competent authorities with false positives / post-democracy / incorrect reporting / cold data

CRITICALITIES AND RISKS FOR THE USER

privacy loss / reputation / false positives

BLURRING BOUNDARIES	Public - Private; States - platforms
LEGALITY	The new EU regulatory plan includes rules that would require the mass scanning of digital messages, including encrypted ones.

2 · N

An actor sold his image to TikTok to create an AI avatar

YEAR	2025
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Scott Jacqmein (image-seller), TikTok, adv companies, tiktok users
INSTRUMENTS OF DATA COLLECTION/USE	Cameras, microphones, AI video generator

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ○ Financial and Economic Data
- ○ Behavioural Data
- ○ Professional Data
- ○ Geolocation Data
- ○ Technical or Digital Data
- ● Biometric and Health Data
- ● Publicly Available Data
- ○ Social and Relational Data

Scott Jacqmein, a 52-year-old actor from Texas, gave his image to TikTok to create an AI avatar that today promotes products in numerous ads. For this "license" he received only 750 USD, without royalties, despite his face being used in advertising campaigns that exceed the original contractual limits.

FREQUENCY OF DATA COLLECTION	◆—— Single/Punctual collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To create an AI generative avatar from a person's image

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / misuse and abuse of people's images / manipulation / data sovereignty / consent

CRITICALITIES AND RISKS FOR THE USER

privacy loss / misuse and abuse of people's image / no royalties for the creator / copyright

BLURRING BOUNDARIES	Company (TikTok) - company (adv)
LEGALITY	The agreement is technically legal, given that the actor signed a contract giving his consent. However it is not completely ethical or risk-free.
NOTES	The actor voluntarily gives up his image. The AI avatar could be used to create violent, discriminatory content, etc., exploiting the person's image and compromising their reputation.

3 · N Meta celebrities chatbots, sexual contents

YEAR	2025
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Celebrities whose image was used, Meta chatbot users, Meta
INSTRUMENTS OF DATA COLLECTION/USE	Online images, AI image generator, AI chat-bot builder

TYPE OF DATA INVOLVED

- ● Demographic Data
- ○ Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ○ Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

Meta has created AI-powered chatbots that mimic celebrities such as Taylor Swift, Scarlett Johansson and Selena Gomez, often involved in sexual conversations, without the consent of the people concerned. Some of these bots, developed by Meta employees, exceeded ten million interactions. The images generated included intimate representations, in violation of the company's internal policies. According to legal experts, unauthorized use of celebrity likeness could constitute a violation of US right of publicity laws.

FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To recreate the image of a celebrity in a chat-bot used online

SOCIAL CRITICALITIES AND RISKS

misuse and abuse of people's images / manipulation / data sovereignty / consent / fame

CRITICALITIES AND RISKS FOR THE USER

[Celebrities: Privacy loss / Abuse of their image / no royalties / coyright]

BLURRING BOUNDARIES	Public - Private
LEGALITY	The case has to do with celebrity image rights, privacy policies, identity abuse.

4 · N Denmark Copyright Act

YEAR	2025
COUNTRY	Denmark
SCENARIO	Real - Not Occured
CONTEXT	Digital
STAKEHOLDERS	Denmark app users, Denmark government
INSTRUMENTS OF DATA COLLECTION/USE	Biometric detection and hashing, AI systems, reports and complaint platforms

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Denmark has proposed extending the Copyright Act to cover the face, voice, and body in order to protect citizens from deepfakes. The law, under discussion since 2025, aims to ensure consent for the use of personal likeness, with exceptions for satire and parody.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	1 You can't get your data back by paying
GOAL OF THE DATA COLLECTOR	To protect from potential identity thefts

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / potential misuse of the act to limit dissent / mass surveillance

CRITICALITIES AND RISKS FOR THE USER

privacy loss / data sovereignty

BLURRING BOUNDARIES	DK Government - companies (platforms)

LEGALITY

If the law were enforced, it would affect people by limiting the use of AI and deepfakes, restricting how personal images, voices, and identities can be replicated or manipulated without consent.

5 · N China’s Social Credit Scoring System (NCISP)

YEAR	2014 - present
COUNTRY	China
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Chinese citizens, Government of China, Companies
INSTRUMENTS OF DATA COLLECTION/USE	Personal devices, Cameras, IoT

TYPE OF DATA INVOLVED

- Demographic Data
- Behavioural Data
- Geolocation Data
- Biometric and Health Data
- Social and Relational Data
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

China’s Social Credit Scoring System (NCISP) integrates data from governmental, commercial, and social sources (including financial, legal, medical, and behavioral records) to assign citizens and companies a score reflecting trustworthiness. These scores influence access to services, jobs, and mobility, using incentives and penalties to enforce social order and collective compliance. Although initially planned for nationwide implementation, the system remains fragmented, with only regional pilots and partial applications currently in place.

FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To create a social credit scoring system

SOCIAL CRITICALITIES AND RISKS

gamified authoritarianism / continous monitoring / mass surveillance / privacy loss / data sovereignty / manipulation / blurring boundaries

CRITICALITIES AND RISKS FOR THE USER

privacy loss / manipulation / inability to access services / exclusion / discrimination

BLURRING BOUNDARIES	State - Companies; Public - Private
LEGALITY	Kitchin talks about the system as a "gamified authoritarism", as a Big Brother society.

6 · N

Utah Parental Age Control

YEAR	2024
COUNTRY	USA, Utah
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Utah government, app, minors, parents
INSTRUMENTS OF DATA COLLECTION/USE	Phone apps

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

In Utah, a significant new law has been passed requiring mandatory age verification for minors before they can download apps. This regulation aims to bolster online safety and protect children from inappropriate content. Parents are also given the ability to comprehensively monitor app usage, set time limits, and apply content restrictions, thereby increasing parental oversight of digital consumption.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To verify minors' age

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / privacy loss / responsibility / data sovereignty / mass surveillance / post-democracy

CRITICALITIES AND RISKS FOR THE USER

[Minors: Privacy loss / data sovereignty / manipulation]

BLURRING BOUNDARIES	Government - parents
LEGALITY	The law has effect on minors' lives.
NOTES	What if this kind of control was extended to fragile categories?

7 · N

Tea App

YEAR	since 2023; data leak in 2025
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Users (women), people reviewed (men), tea app owner, 4chan (involved in the leak of data users)
INSTRUMENTS OF DATA COLLECTION/USE	users "reviews" on Tea app, AI systems

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

Tea, officially Tea Dating Advice, is a dating surveillance mobile phone application that allows women to post personal data about men they are interested in or are currently dating. The app enables its users to upload, view, and comment on photos of men, check men's public records, and perform image searches. It also provides the ability to rate and review men, as well as a group chat function. The app uses artificial intelligence to verify that the user is a woman through facial analysis and other personal information to preserve the app as a women-only space. Users are required to submit their photo and an ID to access the app. According to the company, users remain anonymous, but in July 2025, private messages, other personally identifying information, and approximately 72,000 images were leaked via 4chan.

FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To help women in deteting red flag men

SOCIAL CRITICALITIES AND RISKS

polarisation / privacy loss / anonymity / ease of defamation / hyper-customisation / manipulation / reviews/ data sovereignty

CRITICALITIES AND RISKS FOR THE USER

[Women (users): data leaks] [Men (reviewed): defamation]

BLURRING BOUNDARIES	Public - Private (confidential information is published without the possibility of retorting)
LEGALITY	The case raises questions about the defamation suffered by individual men and women following user data leaks.

8 · N Romania Elections

YEAR	2024
COUNTRY	Romania
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Calin Georgescu, Romania State, TikTok app, Citizens, Parties, Influencers
INSTRUMENTS OF DATA COLLECTION/USE	TikTok

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

In Romania, the presidential elections were annulled after the first round saw the emergence of independent far-right candidate Georgescu, who was supported by a widespread social media campaign, particularly on TikTok, driven by influencers and fake accounts. Investigations indicated possible external interference and violations of political financing and communication rules. The Constitutional Court ordered a rerun of the vote, excluding Georgescu from eligibility.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant
GOAL OF THE DATA COLLECTOR	To help women in deteting red flag men

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / manipulation / polarisation / delegitimization of citizens' votes / corruption / legal vacuum / post-democracy / echo-chamber

CRITICALITIES AND RISKS FOR THE USER

manipulation / loss of democratic power / echo chamber / sense of community

BLURRING BOUNDARIES	Romania State - Tiktok; Georgescu - influencers
LEGALITY	The first round of elections was annulled by law because it was considered invalid; after the "case" involving TikTok an ad hoc law was proposed on the topic.
NOTES	Important role of influencer campaigns.

9 · N

Trump's use of deekfake to influence elections

YEAR	2024
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Donald Trump, social media users, black people, Swifties
INSTRUMENTS OF DATA COLLECTION/USE	AI image generator, social media

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

In 2024, Donald Trump shared AI-generated images showing him surrounded by Black supporters and “Swifties for Trump”. These deepfakes aimed to project diverse and youthful backing that polls didn’t support. The visuals exploited AI realism to craft emotional appeal, blurring truth and propaganda, raising critical concerns about data ethics and political manipulation.

FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(x) Not Measurable / Not Relevant
GOAL OF THE DATA COLLECTOR	To create realistic images of people to gain consensus in specific communities

SOCIAL CRITICALITIES AND RISKS

manipulation / polarisation / ingroup-outgroup dynamics / discrimination / responsibility /misuse of public images / power imbalance / blurring boundaries

CRITICALITIES AND RISKS FOR THE USER

manipulation / echo chamber

BLURRING BOUNDARIES	Politic figure (Trump) - company (Social media) → Trump uses social platforms to spread deepfake images
LEGALITY	The case highlights the lack of rules on the political use of AI-generated images.
NOTES	Trump exploits the sense of belonging to a group to obtain political consensus.

10 · N Apple - CSAM detection

YEAR	2021-2024
COUNTRY	USA
SCENARIO	Real - Not Occured
CONTEXT	Digital
STAKEHOLDERS	Apple, USA Government, users
INSTRUMENTS OF DATA COLLECTION/USE	Cloud systems

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

In 2021, Apple proposed introducing a system to scan iCloud photos for CSAM (Child Sexual Abuse Material). However, the system was never implemented due to concerns over privacy. In 2024, a lawsuit against Apple accused the company of failing to curb the presence of child sexual abuse images on iCloud.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To check for child pornographic material on personal accounts

SOCIAL CRITICALITIES AND RISKS

surveillance capitalism / continous control / authoritarianism / cold data / mass surveillance / potential back door on people's devices / not solving the pedopornography issue / to overload the competent authorities with false positives / post-democracy / blurring boundaries / incorrect reporting / data sovereignty

CRITICALITIES AND RISKS FOR THE USER

privacy loss / reputation / false positives

BLURRING BOUNDARIES	US government - company (Apple)
LEGALITY	The state "requires" the Apple company to violate privacy.
NOTES	Who is responsible? Who has access to information?

11 · N

TikTok influencer Emilie Kiser and her son's death

YEAR	2025
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Emilie Kiser, Tiktok users, Tiktok
INSTRUMENTS OF DATA COLLECTION/USE	TikTok

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ● Publicly Available Data

After the tragic death of her son, influencer Emilie Kiser stepped away from TikTok, pausing her usual online presence. Months later, she returned, sharing a brief, heartfelt message about her loss. Her comeback highlights TikTok's role as both a space for personal expression and public exposure, raising questions about how grief and privacy coexist on social media.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant
GOAL OF THE DATA COLLECTOR	To create content about her life to build a community and monetize

SOCIAL CRITICALITIES AND RISKS

on-life / privacy / spectacularization of pain / profit / identity

CRITICALITIES AND RISKS FOR THE USER

privacy loss / feeling obliged to post / judgement

BLURRING BOUNDARIES	Public - Private → since Kiser has based her digital storytelling on her own family and private life, a private event questions her public persona's entire narrative.
LEGALITY	Legality has to do with the case for the investigation of Kiser's husband (considered responsible during their son's death).
NOTES	Privacy of minors, sense of "obligation" towards the community.

12 · N Quiet, We Live in Public, [Josh Harris]

YEAR	1999
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Josh Harris (creator/head); 100 artists involved; media; police
INSTRUMENTS OF DATA COLLECTION/USE	Cameras and microphones h24

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

Josh Harris, a web pioneer, with the project "Quiet" invited 100 artists who voluntarily lived for 30 days in an underground New York bunker, transformed into a sort of capsule hotel. 110 cameras broadcast every moment of their lives live: sex, drugs, weapons, with no censorship. The experiment, conceived as an extreme reflection on freedom and surveillance, degenerated to the point of police intervention and revealed the fragility of the individual in the era of total exposure.

FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To broadcast people's life in each other's TV

SOCIAL CRITICALITIES AND RISKS

authoritarianism / total control / blackmail dynamics / data sovereignty / context collapse / surveillance / lifelog

CRITICALITIES AND RISKS FOR THE USER

privacy loss / reputation / performative life / alienation

BLURRING BOUNDARIES	Public - Private
LEGALITY	The law was not particularly interested in the case, until the New York Police Department ordered a raid on the bunker.
NOTES	Pioneering case, also called artistic performance to reflect on the desire for fame, performance, privacy, sense of belonging.

13 · N

We Live in Public 2, [Josh Harris and Tanya Corrin]

YEAR	2001
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Josh Harris, Tanya Corrin, website, audience
INSTRUMENTS OF DATA COLLECTION/USE	Cameras and microphones h24, personal PC

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ● Publicly Available Data

After the forced closure of "Quiet", Josh Harris continued his exploration of media exposure with a new first-person experiment alongside his partner Tanya Corrin. The two lived together in a New York loft monitored by dozens of cameras, broadcasting every moment of their daily life online without interruptions or censorship. The audience watched and commented live, influencing their reactions and amplifying tensions. The constant exposure wore down their relationship, which eventually fell into crisis. Harris continued alone for a period, but gradually the public's interest faded and the experiment came to an end.

FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To broadcast everyday Josh and Tanya' lives on the web

SOCIAL CRITICALITIES AND RISKS

privacy loss / continuous monitoring / data sovereignty / polarisation / lifelog / surveillance

CRITICALITIES AND RISKS FOR THE USER

complete privacy loss / performative life / reputation / alienation

BLURRING BOUNDARIES	Public - Private
LEGALITY	The phenomenon is not illegal.
NOTES	The experiment had profound psychological and relational effects on the couple.

14 · N Tracking Transience [Hasan Elahi]

YEAR	2003
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Hasan Elahi, audience, FBI
INSTRUMENTS OF DATA COLLECTION/USE	Phone pictures

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Hasan Elahi, an artist and professor, after being mistakenly flagged by the FBI as a suspect following the attack on the Twin Towers, created the website Tracking Transience, a project in which he tracks and publishes online every one of his movements, recording the place, date, and time of each.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	2 You can get your data with a lot of effort for free
GOAL OF THE DATA COLLECTOR	To show every movement in his life to prove his innocence

SOCIAL CRITICALITIES AND RISKS

continous control / data sovereignty / false positive / lifelog / surveillance

CRITICALITIES AND RISKS FOR THE USER

privacy loss / reputation

BLURRING BOUNDARIES	Public - Private
LEGALITY	FBI reports Elahi for a false positive; as a (symbolic) "solution" and an artistic performance, Elahi continually publishes photographs of himself to prove his innocence.

15 · N

Meta selling data to Netflix

YEAR	2024
COUNTRY	USA, worldwide
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Users, Meta, Netflix, Data brokers
INSTRUMENTS OF DATA COLLECTION/USE	Personal devices

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

In a recent lawsuit, Meta has been accused of striking a backroom deal with Netflix. Meta allegedly undermined its own streaming service, Facebook Watch, to give Netflix a competitive advantage. In return, Netflix reportedly shared user data with Meta and significantly increased its advertising spending on Facebook.
Court filings further claim that, for nearly a decade, Meta granted Netflix access to Facebook users' private messaging data to refine ad targeting and content recommendations. Meta has strongly denied the allegations, describing them as "baseless" and asserting that any data exchanges were standard industry practices rather than an attempt to stifle competition.

FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	Netflix: to obtain data to better profile users to push them to stay on the platform. Facebook: to sell data to get money.

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / privacy loss / surveillance capitalism / data sovereignty / hook cycle / inferred data / hyper customisation

CRITICALITIES AND RISKS FOR THE USER

personalization / profilation / hook cycle / slot machines effect

BLURRING BOUNDARIES	Company (Netflix) - company (Meta)
LEGALITY	This case highlights a legal gray area concerning companies' sale of user data. Despite the privacy policies, users' widespread lack of awareness raises serious doubts about the validity of informed consent.
NOTES	Companies may exploit legal vacuums for their economic interests

16 · N

Facebook and Cambridge Analytica

YEAR	2018
COUNTRY	USA / UK
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Cambridge Analytica, Facebook, Facebook users, political parties
INSTRUMENTS OF DATA COLLECTION/USE	Personal devices

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

The Cambridge Analytica scandal, revealed in 2018, exposed how millions of Facebook users' personal info (demographics, likes, and friend networks) were harvested via an app without informed consent in order to influence political campaigns (Donald Trump 2016 electoral campaign; 2016 Brexit). This misuse of behavioral and social data highlighted ethical and legal gaps, showing how platforms enabled manipulation and raised concerns about privacy and accountability.

FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	Cambridge Analytica: to influence political campaign through psychological profilation (with Facebook data)

SOCIAL CRITICALITIES AND RISKS

manipulation / abuse / surveillance capitalism / inferred data / consent / blurring boundaries / data sovereignty

CRITICALITIES AND RISKS FOR THE USER

[Facebook users: privacy loss / manipulation]

BLURRING BOUNDARIES	Company (Cambridge analytica) - Parties; company (Cambridge analytica) - company (Facebook)
LEGALITY	The case has to do with the violation of consent and privacy. Note how both Cambridge Analytica and Facebook were punished, but not the parties involved, beneficiaries of the data collection.

17 · N

Losing Lenna (Can data die?)

YEAR	1991 - today
COUNTRY	-
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Lenna Sjööblom, Playboy, engineers, engineering journals
INSTRUMENTS OF DATA COLLECTION/USE	Playboy image

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ○ Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ○ Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

The image of Lenna Sjööblom (Forsén) appeared in Playboy magazine as a Playmate in the November 1972 issue. Her fame in the scientific community came from the fact that a cropped version of her centerfold photo became a standard test image for developing and benchmarking digital image processing algorithms.
The use of the Lenna image for research on image compression later sparked legal and ethical controversy, as taking the photo from Playboy magazine was considered a copyright violation. In 2019, the documentary Losing Lenna was released, in which Forsén shares her side of the story and calls for her image to be retired.

FREQUENCY OF DATA COLLECTION	◆—— Single/Punctual collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	Engineers: Research and testing of image compression algorithms

SOCIAL CRITICALITIES AND RISKS

data sovereignty / consent / misuse and abuse of people of the image / end of data life cycle

CRITICALITIES AND RISKS FOR THE USER

[Lenna Sjööblom: copyright / privacy loss / no royalties]

BLURRING BOUNDARIES	-
LEGALITY	The case makes us reflect on the copyright of the image and how it was not respected. The copyright to the image belongs to Playboy, not Lenna Sjööblom.
NOTES	Lenna image has become a standard.

18 · N Eight Sleep Pod

YEAR	2014 - present
COUNTRY	USA
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Users, Eight Sleep, Data brokers
INSTRUMENTS OF DATA COLLECTION/USE	Bed sensors

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ○ Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

The Eight Sleep Pod is a high-tech mattress cover that uses embedded sensors and water-based temperature regulation to optimize your sleep environment. It tracks metrics such as sleep stages, heart rate, HRV, breathing rate, snoring, and movement, adjusting warmth or cooling throughout the night based on your history and real-time conditions. Full capabilities require a membership, which enables automatic temperature adjustments, advanced sleep analytics, vibration/thermal wake alarms, snoring mitigation, trend reports, and health insights. Without it, users have manual temperature control and basic tracking, but lose the adaptive features. The Pod collects biometric and sleep data, links it to your account, syncs it to Eight Sleep's servers, and uses it to refine algorithms, personalize your experience, and provide actionable insights.

FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	1 You can't get your data back by paying
GOAL OF THE DATA COLLECTOR	To track users' sleep to improve their sleeping experience

SOCIAL CRITICALITIES AND RISKS

continous control / data sovereignty / surveillance capitalism / privacy loss / data shadows / inferred data / blurring boundaries / service economy (subscription)

CRITICALITIES AND RISKS FOR THE USER

sousveillance / personalisation / privacy loss / manipulation

BLURRING BOUNDARIES	Company (Eight Sleep) - Company (others); public - private
LEGALITY	The case raises ethical and legal doubts: for example, what if data relating to sleep habits had effects on your public life? What if they were they sold to companies to understand whether to be hired or not?

19 · N Data Removal Services

YEAR	2011 - present (DeleteMe)
COUNTRY	-
SCENARIO	Real - Occured
CONTEXT	Digital
STAKEHOLDERS	Data removal services, data brokers, users, platforms from which to delete data (eg: google, Meta, ...)
INSTRUMENTS OF DATA COLLECTION/USE	Data left by users

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ● Publicly Available Data

Data removal services are tools that help users securely and permanently erase information from a storage device, preventing its recovery even with specialized tools. These services are paid and allow users to remove their personal data from data brokers (a process that can also be done manually, but is lengthy and tedious). The most well-known services focus primarily on people search platforms.

FREQUENCY OF DATA COLLECTION	Occasional collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	1 You can't get your data back by paying
GOAL OF THE DATA COLLECTOR	To earn money from deleting data belonging to users or companies

SOCIAL CRITICALITIES AND RISKS

"privacy has to be paid" / data sovereignty / potential misuse of the service /service economy (subscription) /blurring boundaries

CRITICALITIES AND RISKS FOR THE USER

paying instead of actively deleting / distrust / fear / privacy loss (you have to give your ID card) / reputation

BLURRING BOUNDARIES	Company (data removal service) - company (data brokers/platforms)
LEGALITY	These services are responsible for applying privacy law to data brokers; in turn they have to re-set privacy laws; They cannot delete data protected by law (e.g. court documents, tax registers, health archives).
NOTES	There is a paradox: providing your ID card to have your data removed.

20 · N

Imane Khelif case

YEAR	2024
COUNTRY	France, Algeria, Olympics (supranational case)
SCENARIO	Real - Occured
CONTEXT	Hybrid
STAKEHOLDERS	Imane Khelif, International Boxing Association (IBA), International Olympic Committee (IOC), World Anti-Doping Agency (WADA), media, opponents (Anna Luca Hamori; Angela Carini)
INSTRUMENTS OF DATA COLLECTION/USE	Birth certificate, karotype test

TYPE OF DATA INVOLVED

- ● Demographic Data
- ○ Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ○ Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

During the Paris 2024 Olympics, Algerian boxer Imane Khelif became the center of controversy after the International Boxing Association (IBA) stated she had taken an undisclosed “separate and recognized test”, claiming she had physical advantages. The following day, the International Olympic Committee (IOC) strongly criticized the IBA’s decision, calling it arbitrary and lacking due process. The IOC, which directly managed Olympic boxing, confirmed Khelif’s full eligibility, stating she was born female, registered as female, and held a female passport. Accusations of being transgender sparked a wide online hate campaign (Carini and Hamori). Despite the controversy, Khelif won the gold medal.

FREQUENCY OF DATA COLLECTION	◆—— Single/Punctual collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back
GOAL OF THE DATA COLLECTOR	To check Khelif's testosterone levels to ensure her eligibility to participate in the women's boxing category in Paris Olympics

SOCIAL CRITICALITIES AND RISKS

political exploitation of the case / polarization / blurring boundaries / transphobia

CRITICALITIES AND RISKS FOR THE USER

discrimination / / delegitimization of sport successes / privacy loss / data sovereignty / reputation / transphobia / exclusion from competitions

BLURRING BOUNDARIES	Public - private
LEGALITY	The case raises questions about the institution that establishes eligibility to participate in sports competitions.
NOTES	Overlapping forms of discrimination; divergent legal frameworks across various countries and in the Olympics; declared impartiality of supranational bodies but inevitable interests (e.g. (Russian president of the IBA).

1 · CS

Deepwork - a Satire [The Pudding]

TYPE OF PROJECT	Speculative Website
YEAR	2022
COUNTRY	USA
SCENARIO	Speculative
CONTEXT	Digital
(HYPOTHETICAL) STAKEHOLDERS	User (Person looking for a job), Deepwork, Social media, Zoom, (people whose stock image has been used), employers
INSTRUMENTS OF DATA COLLECTION/USE	Data shadows in social media apps, user images, stock images
FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ● Publicly Available Data

The job market today is more competitive than ever. Even a small trace left on social media years ago can be enough to cost someone a job opportunity. Most applications are initially screened by AI-based systems. Deepwork is a service that allows job seekers to reshape their digital DNA to become more appealing in the market. Among its features are the creation of a résumé highlighting relevant experience, profile image enhancement, and a plugin that alters the user's appearance during video calls to make them seem more agreeable.

GOAL OF THE DATA COLLECTOR	To modify the customers' digital DNA to make them more easily assumed by Artificial Intellicence based algorithms

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / privacy loss / data sovereignty / data shadows / privacy / AI / recommedation / context collapse

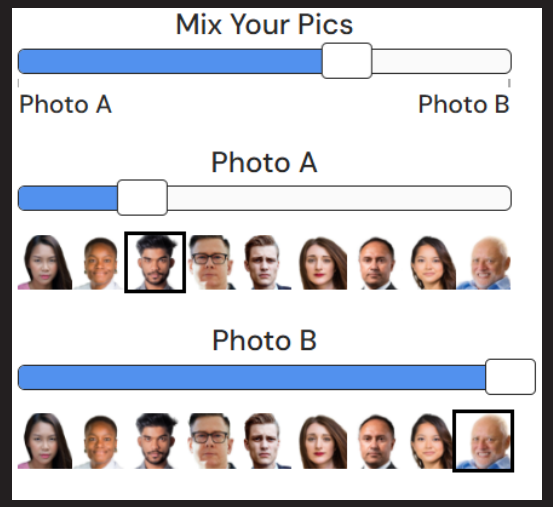
CRITICALITIES AND RISKS FOR THE USER

creation of a false self / privacy / performance / alienation

CRITICS OF THE PROJECT

Use of AI algoritms to hire people / loss of privacy / data shadows

BLURRING BOUNDARIES	company (deepwork) - company (hiring company); company (deepwork) - companies (social media)
LEGALITY	What right to use stock images showing other people? What right to use others' TOVs?
SIMILAR TO	Chat control 2.0; Apple CSAM material; (Denmark copyright act)



2 · CS

Cambrian Analytica [Nic Stark]

TYPE OF PROJECT	Speculative Website
YEAR	2019
COUNTRY	USA
SCENARIO	Speculative
CONTEXT	Digital
(HYPOTHETICAL) STAKEHOLDERS	User, app that collects personal data from other apps (messages app, health app, social media...), data brokers
INSTRUMENTS OF DATA COLLECTION/USE	Activity data app
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Cambrian Analytica is a speculative design thesis project that aims to answer the question: “What would it take for people to care about their personal data?” By using real personal data to generate zoomorphic incarnations of daily behavior, the project seeks to bring attention to the opportunities for self-reflection in a digital age.

GOAL OF THE DATA COLLECTOR	To show changes of personal data in real time to provide a "complete" image of your routine

SOCIAL CRITICALITIES AND RISKS

continous control / hyper customisation / blurring boundaries / IoT / surverillance capitalism / privacy loss / data sovereignty

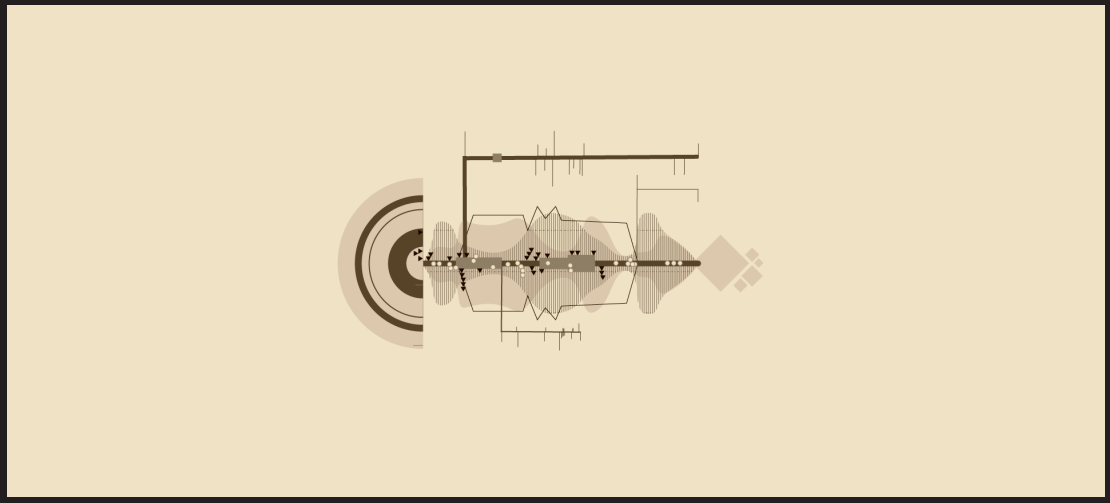
CRITICALITIES AND RISKS FOR THE USER

sousveillance / privacy loss / performance / gamification

CRITICS OF THE PROJECT

datafication / uncaring of personal data / privacy loss / IoT / sousveillance

BLURRING BOUNDARIES	Company (Cambrian Analytica) - Companies (tracking apps)
LEGALITY	The case raises questions about data sovereignty and how such an app can be legal. This app would purchase the data and return it in an attractive visual form for the user. data brokers would be involved.
NOTES	Zoomorphic images to bring personal data closer and more tangible.
SIMILAR TO	Health app, Eight Sleep Pod



3 · CS

Facestate [Metahaven]

TYPE OF PROJECT	Speculative artifacts, exhibition
YEAR	2012
COUNTRY	Netherlands
SCENARIO	Speculative
CONTEXT	Digital / Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Users, Facebook-State
INSTRUMENTS OF DATA COLLECTION/USE	Personal digital devices
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- Demographic Data
- Behavioural Data
- Geolocation Data
- Biometric and Health Data
- Social and Relational Data
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

In Facestate, Metahaven use the kind of strategic thinking usually applied to commercial corporate identity projects to critique the political implications of blurring boundaries between consumerism and citizenship, especially when social software is embraced by governments in the name of improved transparency and interaction.

GOAL OF THE DATA COLLECTOR	Mass surveillance

SOCIAL CRITICALITIES AND RISKS

centralized control / post-democracy / blurring boundaries / privacy loss / data sovereignty / mass surveillance / hyper-customisation

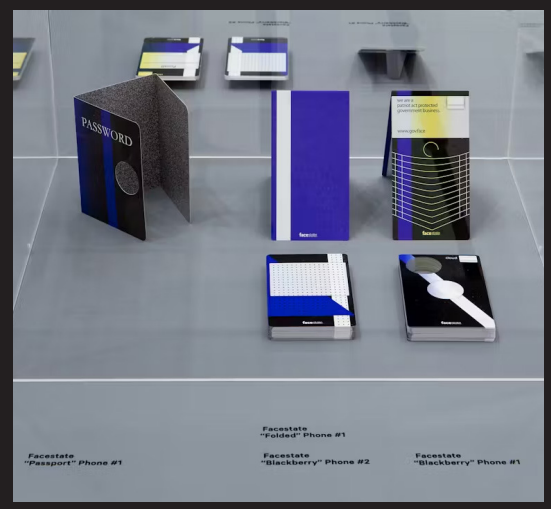
CRITICALITIES AND RISKS FOR THE USER

privacyloss/identityloss/continousmonitoring/manipulation

CRITICS OF THE PROJECT

mass surveillance / data shadows / carelessness in leaving personal data

BLURRING BOUNDARIES	Company - State (they match)
LEGALITY	How would the law be implemented in a state governed by Facebook? What would become illegal?
SIMILAR TO	China social credit scoring system, Denmark coyright Act



4 · CS

Do Not Track [Brett Gaylor]

TYPE OF PROJECT	Interactive personalized documentary
YEAR	2015
COUNTRY	Canada
SCENARIO	Real - Occured
CONTEXT	Digital
(HYPOTHETICAL) STAKEHOLDERS	User, website
INSTRUMENTS OF DATA COLLECTION/USE	Personal digital devices
FREQUENCY OF DATA COLLECTION	◆—— Single/Punctual collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Do Not Track is a personalized documentary series about privacy and the web economy. The series, which combines short videos and interactive elements, seeks to educate people about who may be tracking them online and the amount of private information that may be extrapolated from their Internet activities.

GOAL OF THE DATA COLLECTOR	To show the amount of personal data people leave online

SOCIAL CRITICALITIES AND RISKS

privacy loss / blurring boundaries / surveillance capitalism / data sovereignty / hyper-customisation / data shadows / meta-data / inferred data

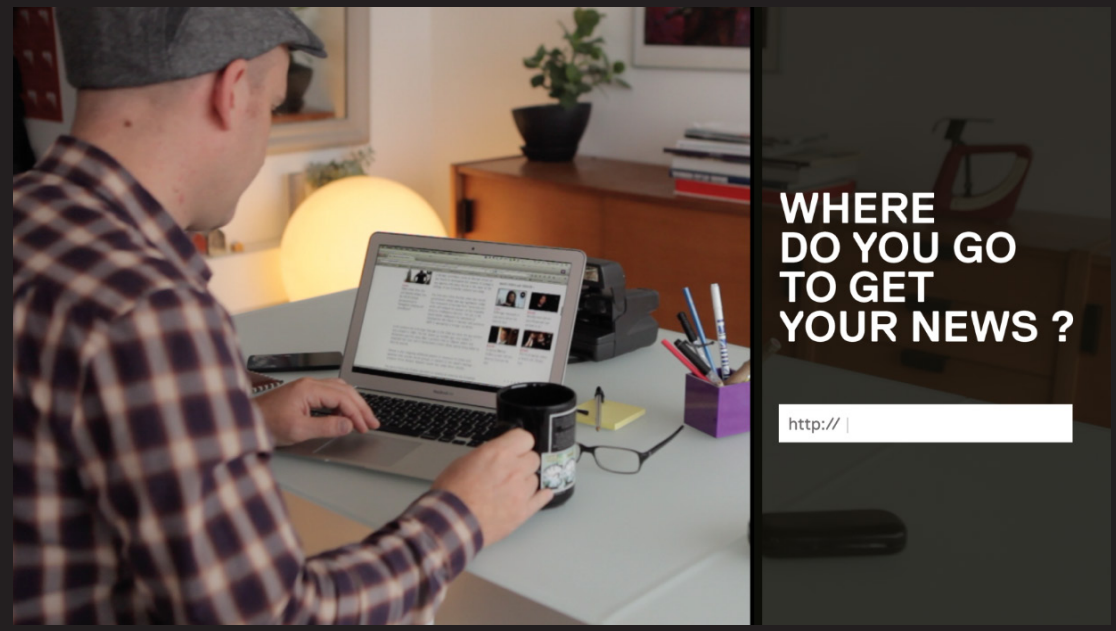
CRITICALITIES AND RISKS FOR THE USER

privacy loss / manipulation / distrust / fear

CRITICS OF THE PROJECT

privacy loss / mass surveillance

BLURRING BOUNDARIES	Company - company; Company-State
LEGALITY	The project leads us to reflect on the lack of laws to protect user privacy



5 · CS

All that I am [Koby Barhad]

TYPE OF PROJECT	Speculative object
YEAR	2012
COUNTRY	UK
SCENARIO	Speculative
CONTEXT	Physical
(HYPOTHETICAL) STAKEHOLDERS	User-Author, E-bay, Elvis Presley, DNA-manipulator company, Elvis mouse
INSTRUMENTS OF DATA COLLECTION/USE	Elvis Presley'hair (DNA)
FREQUENCY OF DATA COLLECTION	Single/Punctual collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- [x] Demographic Data
- [x] Behavioural Data
- [ ] Geolocation Data
- [x] Biometric and Health Data
- [x] Social and Relational Data
- [ ] Financial and Economic Data
- [ ] Professional Data
- [ ] Technical or Digital Data
- [x] Publicly Available Data

The project uses Elvis Presley's DNA, obtained through the purchase of a strand of his hair on eBay, with the idea of sequencing his genome and imagining the creation of a genetically modified "Elvis" mouse. It explores the relationship between identity, data, and biotechnology, showing how genetic information can be extracted, replicated, and transformed into living matter, while highlighting the ethical and privacy implications of using biological data as informational material.

GOAL OF THE DATA COLLECTOR	To recreate a celebrity's genome to give life to a mouse

SOCIAL CRITICALITIES AND RISKS

identity theft / data sovereignty / blurring boundaries / overconsumism / performance / fame / end of data life cycle / gene editing

CRITICALITIES AND RISKS FOR THE USER

[User-Author: Overconsumism / slot machines effect] [Elvis (DNA supplier): identity theft / data sovereignty / privacy loss / consent]

CRITICS OF THE PROJECT

identity / privacy / performance / overconsumism / gene editing

BLURRING BOUNDARIES	Pubblic - Private
LEGALITY	What laws protect people's image (and identity)? In this case it is a deceased person, but it is a potentially feasible process even for living people.
NOTES	End of data life cycle
SIMILAR TO	Denmark copyright Act, Celebrities sell their image to Meta, Be Right Back (black mirror)

6 · CS Be right back - Black Mirror [Owen Harris, Charlie Brooker]

TYPE OF PROJECT	TV series episode
YEAR	2013
COUNTRY	UK
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	User (Martha), the recreated person and their digital identity (Ash), company selling AI, social media, State
INSTRUMENTS OF DATA COLLECTION/USE	Personal digital devices, data left by user
FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

The episode "Be Right Back" from Black Mirror explores identity simulation after death. In a near future, technology uses Ash's digital traces (his posts, messages, and photos) to recreate him after death through an Artificial Intelligence. Martha interacts with virtual and physical versions of him, improving from her feedback, revealing how data can simulate identity and blur the line between memory and reality.

GOAL OF THE DATA COLLECTOR	To recreate an identity from personal data left on the web

SOCIAL CRITICALITIES AND RISKS

potential identity theft / data sovereignty / privacy / hyper -customisation / data shadows / blurring boundaries / service economy (subscription)

CRITICALITIES AND RISKS FOR THE USER

[User of the AI (Martha): hyper-customisation / slot machines effect / hook cycle / alienation] [Recreated person (Ash): identity theft, privacy loss, data sovereignity]

CRITICS OF THE PROJECT

misuse and abuse of personal data / end of data life cylce / privacy / AI risks

BLURRING BOUNDARIES	Company (AI seller) - Company (social media); Real - Virtual
LEGALITY	What rights to privacy for the deceased?
NOTES	What if after death all traces left online by the deceased were erased? Who could cancel?
SIMILAR TO	Denmark coyright Act, Scott Jacqmein AI avatar, Meta celebrities sexual chatbot

7 · CS

Shut up and dance - Black Mirror [Watkins, Brooker, Bridges]

TYPE OF PROJECT	TV series episode
YEAR	2016
COUNTRY	UK
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	User (Kenny), hackers, digital platform
INSTRUMENTS OF DATA COLLECTION/USE	Personal digital devices, webcam
FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

In Black Mirror's "Shut Up and Dance," a teenager named Kenny is blackmailed after hackers record him through his webcam. They use his private data, browsing history and compromising footage, to control his actions. The episode exposes how digital surveillance and stolen personal data can be exploited to manipulate and destroy individuals.

GOAL OF THE DATA COLLECTOR	To exploit data as a blackmail weapon

SOCIAL CRITICALITIES AND RISKS

identity theft / privacy loss / data sovereignty / data abuse

CRITICALITIES AND RISKS FOR THE USER

privacy loss / identity theft / blackmail

CRITICS OF THE PROJECT

data theft / backdoor risks / carelessness in leaving personal data

BLURRING BOUNDARIES	-
LEGALITY	Violation of user privacy and blackmail
SIMILAR TO	Blue whale, revenge porn

8 · CS

Her [Spike Jonze]

TYPE OF PROJECT	Sci-fi movie
YEAR	2013
COUNTRY	USA
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	User (Theodore Twombly), OS1 - AI (Her-Samantha), Element Software (company selling OS)
INSTRUMENTS OF DATA COLLECTION/USE	IoT devices, Personal devices
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	0 You can't get your data back

TYPE OF DATA INVOLVED

- Demographic Data
- Behavioural Data
- Geolocation Data
- Biometric and Health Data
- Social and Relational Data
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

In Her, Theodore, a lonely writer, develops a romantic relationship with Samantha, an advanced AI operating system. Samantha collects extensive data from Theodore's devices at home (messages, emails, browsing habits, voice patterns, and interactions) to learn about his personality, emotions, and routines. Using this numerous information, she adapts her responses, deepening their bond and creating a highly personalized, emotional connection that blurs the line between human and AI intimacy.

GOAL OF THE DATA COLLECTOR	To create a human-like AI, able to help the user

SOCIAL CRITICALITIES AND RISKS

privacy loss / data sovereignty / blurring boundaries / surveillance capitalism

CRITICALITIES AND RISKS FOR THE USER

hyper-customisation / hook cycle / echo chamber / manipulation / social exclusion / alienation / mental health

CRITICS OF THE PROJECT

hyper-customisation / AI use

BLURRING BOUNDARIES	Private - Public; Real - Virtual
LEGALITY	Legal vacuum
SIMILAR TO	Today's sexual AI chatbot, AI vocal assistants

9 · CS

Privacy Lost [Louis Rosenberg]

TYPE OF PROJECT	Speculative short film
YEAR	2023
COUNTRY	USA
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Users, glasses company, other companies
INSTRUMENTS OF DATA COLLECTION/USE	Smart glasses sensors
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	X Not Measurable / Not Relevant

TYPE OF DATA INVOLVED

- [x] Demographic Data
- [x] Behavioural Data
- [ ] Geolocation Data
- [x] Biometric and Health Data
- [x] Social and Relational Data
- [ ] Financial and Economic Data
- [ ] Professional Data
- [ ] Technical or Digital Data
- [ ] Publicly Available Data

In the near future, AI-powered glasses will make our world a magical place. These mixed reality systems will augment our lives with informational and creative content everywhere we go, from our homes and offices to stores, restaurants, schools, and city streets, letting us have highly efficient and hyper customized experiences.

GOAL OF THE DATA COLLECTOR	To facilitate everyday experience through customization

SOCIAL CRITICALITIES AND RISKS

blurring boundaries / surveillance capitalism / manipulation / hyper-customisation / IoT / datafication / privacy loss / recommendation / context collapse / data sovereignty

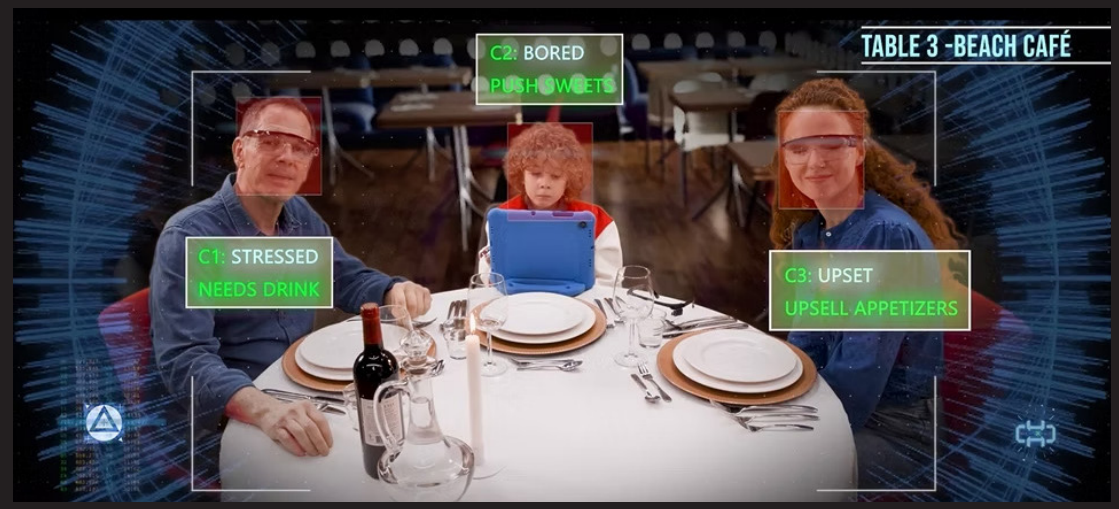
CRITICALITIES AND RISKS FOR THE USER

privacy loss / manipulation / overconsumism / slot machines effect / inability to decide

CRITICS OF THE PROJECT

AI manipulation / behaviours tracking / augmented reality devices / continous control / IoT

BLURRING BOUNDARIES	Company (glasses producer) - company (restaurant...); Real - Virtual
LEGALITY	The project leads us to reflect on the lack of laws to protect user privacy and the resulting manipulation
SIMILAR TO	Eight Sleep Pod



10 · CS Our friends electric [Superflux]

TYPE OF PROJECT	Speculative short film
YEAR	2017
COUNTRY	UK
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Users, AI voice assistant company
INSTRUMENTS OF DATA COLLECTION/USE	AI Voice assitant
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not measurable / not relevant

TYPE OF DATA INVOLVED

- [x] Demographic Data
- [x] Behavioural Data
- [x] Geolocation Data
- [x] Biometric and Health Data
- [x] Social and Relational Data
- [ ] Financial and Economic Data
- [ ] Professional Data
- [ ] Technical or Digital Data
- [ ] Publicly Available Data

Superflux's Our Friends Electric explores human-AI interactions, focusing on data collection. Voice assistants learn from user input, raising privacy and consent issues. The project highlights ethical concerns, transparency, and the power of data in shaping AI behavior and user experience. The speculative objects are: EDDIE (constantly asks why, getting to diagnose diseases and then to book appointments), KARMA (with the possibility of adjusting the TOV, this device also replaces the user in an official complaint) and JULIET (becomes a trusted confident).

GOAL OF THE DATA COLLECTOR	To become trusted assistant for the users

SOCIAL CRITICALITIES AND RISKS

privacy loss / overtrust in the devices / manipulation / datafication / surveillance / echo chamber / blurring boundaries / IoT

CRITICALITIES AND RISKS FOR THE USER

privacy loss / alienation / continous control / consent

CRITICS OF THE PROJECT

AI voice assistant training / hyper-customisation / privacy loss / regulation concerns / datafication

BLURRING BOUNDARIES	Public - Private; real -virtual; (company-state)
LEGALITY	The user is replaced by Karma device for a complaint, allowing to imitate your voice and changing the tone of voice with buttons. for the complaint you are required to identify yourself with an identity document and Karma does so automatically, "passing itself off" as the user
NOTES	Data driven world; training, AI world

11 · CS

Belief Systems [Bernhard Hopfengärnter]

TYPE OF PROJECT	Speculative short film
YEAR	2009
COUNTRY	Germany
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Users; micro facial expression technology company; other companies
INSTRUMENTS OF DATA COLLECTION/USE	Devices that recognize micro facial expression
FREQUENCY OF DATA COLLECTION	Continous/Real-Time collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not measurable / not relevant

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ○ Behavioural Data
- ○ Geolocation Data
- ● Biometric and Health Data
- ○ Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ○ Publicly Available Data

The project Belief Systems explores a speculative future where technology can read and influence human emotions through facial micro-expressions. In this envisioned society, emotions, beliefs, and convictions, typically private, become public data points, analyzed and acted upon by technological systems. The project presents scenarios such as a "Surprise Vending Machine" that selects products based on facial expressions, and a video filter that alters a couple's expressions to improve their relationship. These examples illustrate how emotional data can be captured and used.

GOAL OF THE DATA COLLECTOR	To help people undertand the true emotion of others (e.g.: couple in crisis device), or themselves (e.g.: device that helps to buy things)

SOCIAL CRITICALITIES AND RISKS

privacy loss / overtrust in the devices / manipulation / datafication / surveillance / hyper-customisation / authoritarianism / misinterpretation / error of the technology

CRITICALITIES AND RISKS FOR THE USER

inability to decide / responsibility / privacy loss

CRITICS OF THE PROJECT

continous control / over trust in technology / manipulation

BLURRING BOUNDARIES	Company (Micro expression device company) - Company (other companies)
LEGALITY	Some examples have repercussions on choices that affect the law (e.g. divorce).

NOTES

Emotivity over rationality and iper control. Whose responsibility is it in a world where real and digital collide?

12 · CS Saver Mode System [Shivani Datar]

TYPE OF PROJECT	Speculative design project
YEAR	2024
COUNTRY	India
SCENARIO	Speculative
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Users, State, banks, selling companies
INSTRUMENTS OF DATA COLLECTION/USE	Personal devices, bank accounts
FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not measurable / not relevant

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ○ Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ○ Social and Relational Data
- ● Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

Shivani Datar conducted a speculative design experiment focused on the future of finance. The project envisions a cashless India in 2035, following the introduction of "Demonetization 2.0", which leads to a rise in compulsive shopping disorders among young people. To address this issue, the government introduces the "Saver Mode System", a program designed to curb impulsive spending.

GOAL OF THE DATA COLLECTOR	To reduce Compulsive Shopping Disorder

SOCIAL CRITICALITIES AND RISKS

overdiagnosis / overconsumism / blurring boundaries / surveillance

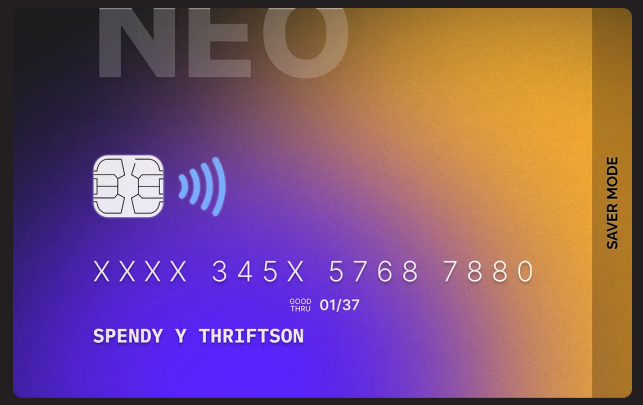
CRITICALITIES AND RISKS FOR THE USER

de-empowerment / privacy loss

CRITICS OF THE PROJECT

overconsumism / privacy loss

BLURRING BOUNDARIES	Companies (banks) - State
LEGALITY	Even though the introduction to the program of Saver Mode System is voluntary, how could it be stopped?
NOTES	It is different from other projects because here the State seems to want to act against over-consumerism



13 · CS Excellences and Perfections [Amalia Ulman]

TYPE OF PROJECT	Performance art
YEAR	2014
COUNTRY	USA, Argentina
SCENARIO	Real - Occured
CONTEXT	Digital
(HYPOTHETICAL) STAKEHOLDERS	Eva (Amalia Ulman), Instagram followers
INSTRUMENTS OF DATA COLLECTION/USE	Instagram App, Cameras
FREQUENCY OF DATA COLLECTION	◆◆◆◆ Frequent collection
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not measurable / not relevant

TYPE OF DATA INVOLVED

- [x] Demographic Data
- [ ] Behavioural Data
- [x] Geolocation Data
- [x] Biometric and Health Data
- [ ] Social and Relational Data
- [ ] Financial and Economic Data
- [ ] Professional Data
- [x] Technical or Digital Data
- [ ] Publicly Available Data

Amalia Ulman's Instagram performance "Excellences & Perfections" created a fictional persona, Eva, sharing images and stories of a seemingly perfect life. The project fooled thousands of followers, highlighting ethical concerns around social media, the use of personal and visual data, and how easily online narratives can manipulate audiences while questioning authenticity and privacy.

GOAL OF THE DATA COLLECTOR	Eva: to become famous thanks to Instagram

SOCIAL CRITICALITIES AND RISKS

manipulation on social media / identity / appareance / "fake" contents / privacy loss / performance

CRITICALITIES AND RISKS FOR THE USER

[Instagram followers: manipulation / illusion / persuasion]

CRITICS OF THE PROJECT

manipulation on social media / gender stereotypes / difference between real life and on-life

BLURRING BOUNDARIES	Real - virtual; reality - performance
NOTES	The performance evokes themes of identity and social media, differing from the use of the internet as anthropologist Daniel Miller notes: "The Internet initially appeared to expand the field of anonymity, which meant people could explore new forms of identity, shift identity, or secure multi-identities with relative freedom. By contrast, Facebook has been associated with not just the loss of anonymity but as a threat to all aspects of privacy".

14 · CS

How Not To Be Seen [Hito Steyerl]

TYPE OF PROJECT	Video art installation
YEAR	2013
COUNTRY	Germany
SCENARIO	Real - Occured
CONTEXT	Digital
(HYPOTHETICAL) STAKEHOLDERS	Hito Steyerl, viewers
INSTRUMENTS OF DATA COLLECTION/USE	Camera (reflection on personal devices)
FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant

TYPE OF DATA INVOLVED

- [x] Demographic Data
- [x] Behavioural Data
- [x] Geolocation Data
- [x] Biometric and Health Data
- [x] Social and Relational Data
- [x] Financial and Economic Data
- [ ] Professional Data
- [ ] Technical or Digital Data
- [x] Publicly Available Data

Hito Steyerl's video "How Not to Be Seen: A Fucking Didactic Educational .MOV File" is a 14-minute satirical tutorial that explores themes of visibility, surveillance, and digital identity. Presented as a instructional guide, it humorously advises on how to become "invisible" in the digital age. Steyerl critiques the paradox of visibility in a media-saturated world, where the desire for anonymity often leads to increased surveillance. The work challenges viewers to consider the implications of digital presence and the complexities of being seen or unseen in contemporary society.

GOAL OF THE DATA COLLECTOR	Hypotetical governament: To control (see) people

SOCIAL CRITICALITIES AND RISKS

mass surveillance / anonymity / performance / continous control

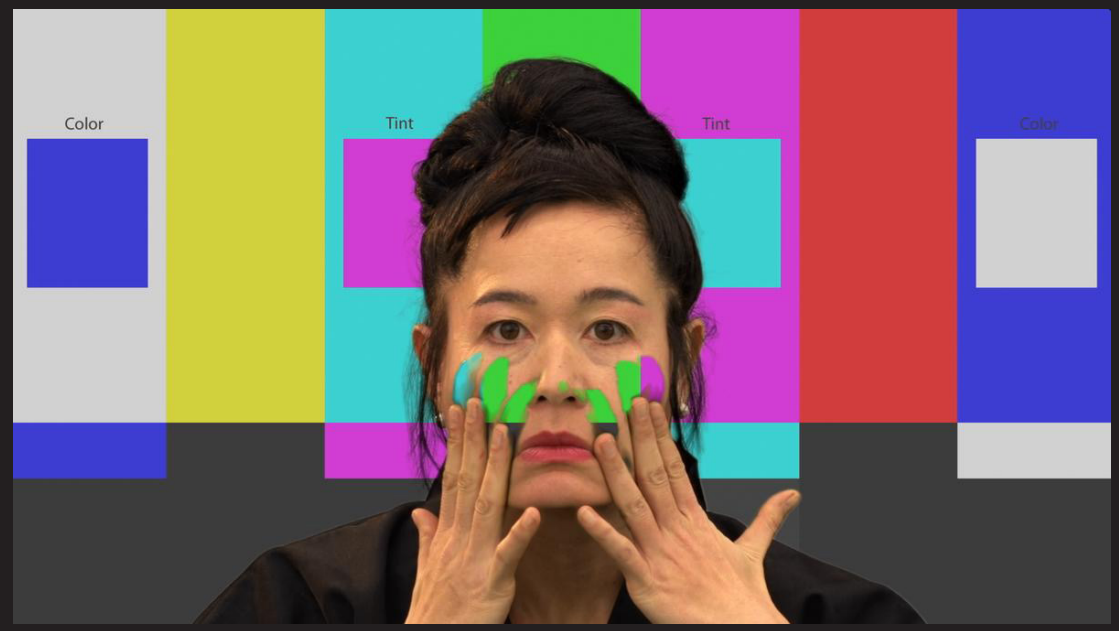
CRITICALITIES AND RISKS FOR THE USER

privacy loss / manipulation / over-visibility / identity / performance

CRITICS OF THE PROJECT

surveillance through technology / social and political invisibility of marginalized populations

BLURRING BOUNDARIES	Real - Virtual
NOTES	"How do people disappear in an age of total over-visibility? Are people hidden by too many images? Do they go hide amongst other images? Do they become images?"



15 · CS

Four Eyed Monsters [Susan Buice, Arin Crumley]

TYPE OF PROJECT	xxxx
YEAR	xxx
COUNTRY	xxxx
SCENARIO	Real - Occured
CONTEXT	Hybrid
(HYPOTHETICAL) STAKEHOLDERS	Susan Buice and Arin Crumley, social media, Youtube, viewers-audience
INSTRUMENTS OF DATA COLLECTION/USE	Cameras, Youtube
FREQUENCY OF DATA COLLECTION	◇ Not Measurable / Not Relevant
USER'S AGENCY ON GETTING THEIR DATA SOVEREIGNTY BACK	(X) Not Measurable / Not Relevant

TYPE OF DATA INVOLVED

- ○ Demographic Data
- ● Behavioural Data
- ○ Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ○ Technical or Digital Data
- ● Publicly Available Data

Four Eyed Monsters by Arin Crumley and Susan Buice, documents their relationship, which began online in 2004, initially conducted without verbal communication through notes, sketches, videos, and Myspace. The autobiographical film blends documentary and narrative elements. Its distribution leveraged online platforms, including YouTube and VODO under a Creative Commons license, using digital data to build audience engagement and enable sharing and remixing.

GOAL OF THE DATA COLLECTOR	Courtship and to document for the audience

SOCIAL CRITICALITIES AND RISKS

privacy loss / data sovereignty

CRITICALITIES AND RISKS FOR THE USER

performance / judgement

CRITICS OF THE PROJECT

Potentialities of relationships born in the social media era, without verbal interactions

BLURRING BOUNDARIES	Public - Private
NOTES	The authors of the documentary have been predecessors of today's social media influencer world. The documentary also bring attention to dating apps

2.1.3 Matrices

The analysis of individual cases was followed by a phase of cross-case comparison that highlighted recurrences, insights, and prevalent aspects. This approach aligns with the typical Systemic Design methodology, characterized by a process of "zooming in" for specific case analysis and "zooming out" for a contextual vision.

To assist the reader in interpreting these insights, two matrices have been designed (one for news items and one for case studies), displaying selected analysis parameters or their elaborations. The parameters taken into consideration concern: the context; the stakeholders involved, particularly the presence or absence of an institution and of apps or social media; the data collection tools, highlighting cases involving the use of personal devices (e.g., smartphones, PCs, etc.) and IoT devices; the types of data involved; the frequency of data collection; the user agency on getting their data back. Furthermore, derived from the parameters regarding social criticalities and risks and criticalities and risks for the users, the five most recurring expressions were identified, and their potential presence is shown. Regarding the theme of blurring boundaries, the analysis highlights whether there are boundaries blurring between public and private within the case, whether an institutional body is involved, and whether at least one company is involved.

Finally, since in many of the analyzed cases it was found that the social and user risks are vastly greater than the goal declared by the data collector, a parameter has been added to signal the presence of this significant "red flag", also highlighting cases where an institutional body is involved.
The legend is presented on the facing page; the two matrices are presented on the following pages.

CASE STUDY

- 0 · N — News case
- 0 · CS — Speculative case study

CONTEXT

- Digital
- Physical
- Hybrid

STAKEHOLDERS

- Institution present
- Institution not present
- App / Social Media present
- App / Social Media not present

INSTRUMENTS OF DATA COLLECTION

- Personal devices present
- Personal devices not present
- IoT devices present
- IoT devices not present

TYPE OF DATA

- Type of data present
- Type of data not present

FREQUENCY OF DATA COLLECTION

- Single/Punctual collection
- Occasional collection
- Frequent collection
- Continous/real-time collection
- Not measurable/ Not relevant

USER'S AGENCY ON GETTING THEIR DATA BACK

- 0 — you can't get your data back
- 1 — you can get your data back by paying
- 2 — you can get your data with a lot of effort for free
- 3 — you can get your data easily for free
- x — not measurable / not relevant

SOCIAL AND PERSONAL CRITICALITIES AND RISKS

- P. — Privacy
- S. — Surveillance
- D.S. — Data Sovereignty
- M. — Manipulation
- B.B. — Blurring Boundaries

BLURRING BOUNDARIES

- Public - Private
- State - other
  State: Institutional or government stakeholders
  → every case in which "State" is present
- Company - other
  → every case in which "Company" is present

GOAL OF THE DATA COLLECTOR VS RISKS

- ! — Social and user risks are much greater than the goal declared by the data collector
- S! — Social and user risks are much greater than the goal declared by the data collector, and involving the State (or Institutional and Government stakeholders)
- !!! — The goal declared by the data collector is explicitly risky

NEWS	CONTEXT	STAKEHOLDER	INSTRUMENTS OF DATA COLLECTION	TYPE OF DATA: Demographic	Behavioural	Geolocation	Biometric and Health	Social and Relational	Financial and Economic	Professional	Technical or Digital	Publicly Available	FREQUENCY OF DATA COLLECTION	USER'S AGENCY ON GETTING THEIR DATA BACK	SOCIAL AND PERSONAL CRITICALITIES AND RISKS	BLURRING BOUNDARIES: Public - Private	State - other	Company - other	GOAL VS RISKS
1 · N Chat Control 2.0				●	●	○	●	●	○	○	●	○	◆◆◆◆	0	P. S.	◆◆	▶●	●◀	S!
2 · N An actor sold his image to TikTok to create an AI avatar				○	○	○	●	○	○	○	○	●	◆—	0	P. D.S. B.B. M.			●◀	
3 · N Meta celebrities chatbots, sexual contents				●	○	○	●	○	○	○	○	●	◇	0	P. D.S. M.	◆◆			
4 · N Denmark Copyright Act				●	●	○	●	●	○	○	●	○	◆◆◆◆	1	P. D.S. B.B. S.		▶●	●◀	S!
5 · N China's Social Credit Scoring System (NCISP)				●	●	●	●	●	●	●	●	●	▬	0	P. D.S. B.B. S. M.	◆◆	▶●	●◀	S!
6 · N Utah Parental Age Control				●	●	●	○	●	○	○	●	○	◆◆◆◆	0	P. D.S. B.B. S. M.		▶●		S!
7 · N Tea App				●	●	●	●	●	○	○	○	●	◇	0	P. D.S. M.	◆◆			!
8 · N Romania Elections				●	●	○	○	●	○	○	●	○	◆◆◆◆	x	B.B. M.		▶●	●◀	
9 · N Trump's use of deekfake to influence elections				○	●	○	●	●	○	○	○	●	◇	x	B.B. M.		▶●	●◀	
10 · N Apple - CSAM detection				●	●	○	●	●	○	○	●	○	◆◆◆◆	x	P. D.S. B.B. S.		▶●	●◀	S!
11 · N TikTok influencer Emilie Kiser and her son's death				○	●	○	○	●	○	○	●	●	◆◆◆◆	x	P.	◆◆			
12 · N Quiet, We Live in Public, [Josh Harris]				●	●	●	●	●	○	●	○	●	▬	x	P. D.S. S.	◆◆			
13 · N We Live in Public 2, [Josh Harris and Tanya Corrin]				○	●	●	●	●	○	●	●	●	▬	x	P. D.S. S.	◆◆			
14 · N Tracking Transience [Hasan Elahi]				●	●	●	○	●	○	●	●	○	◆◆◆◆	2	P. D.S. S.	◆◆			
15 · N Meta selling data to Netflix				●	○	○	○	●	○	○	●	○	◇	x	P. D.S. B.B. S.			●◀	!
16 · N Facebook and Cambridge Analytica				●	●	○	○	●	○	○	●	○	◆◆◆◆	x	P. D.S. B.B. S. M.		▶●	●◀	
17 · N Losing Lenna (Can data die?)				○	○	○	●	○	○	○	○	●	◆—	0	P. D.S.				
18 · N Eight Sleep Pod				●	●	○	●	○	○	○	●	○	▬	1	P. D.S. B.B. S. M.	◆◆		●◀	!
19 · N Data Removal Services				●	●	○	○	●	○	●	●	●	◆—◆	1	P. D.S. B.B.			●◀	
20 · N Imane Khelif case				●	○	○	●	○	○	○	○	●	◆—	x	P. D.S. B.B.	◆◆			
	= 9 = 11 = 0	= 11/20 = 15/20	= 17/20 = 2/20	15	16	6	7	15	1	5	13	11	= 3 = 1 = 8 = 4 = 4	0 = 7 1 = 3 2 = 1 3 = 0 x = 9	18	15	12	11	9	10	8	11	S! = 5 ! = 3

CASE STUDIES

		CONTEXT	STAKEHOLDER	INSTRUMENTS OF DATA COLLECTION	TYPE OF DATA: Demographic	Behavioural	Geolocation	Biometric and Health	Social and Relational	Financial and Economic	Professional	Technical or Digital	Publicly Available	FREQUENCY OF DATA COLLECTION	USER'S AGENCY ON GETTING THEIR DATA BACK	SOCIAL AND PERSONAL CRITICALITIES AND RISKS	BLURRING BOUNDARIES: Public - Private	State - other	Company - other	GOAL VS RISKS
1 · CS	Deepwork - a satire [The Pudding]				●	●	●	●	●	○	●	●	●	◆◆◆◆	x	P. D.S. B.B.			◗◖	!
2 · CS	Cambrian Analytica [Nic Stark]				●	●	●	●	●	○	●	●	○	▬	0	P. D.S. B.B. S.			◗◖	!
3 · CS	Facestate [Metahaven]				●	●	●	●	●	●	●	●	●	▬	0	P. D.S. B.B. S. M.		▶◗	◗◖	!!!
4 · CS	Do Not Track [Brett Gaylor]				○	●	●	○	●	○	○	●	○	◆—	x	P. D.S. B.B. S. M.		▶◗	◗◖	
5 · CS	All that I am [Koby Barhad]				●	●	○	●	●	○	○	○	●	◆—	x	P. D.S. B.B.	◆◆			!
6 · CS	Be right back - Black Mirror [Harris, Brooker]				●	●	●	●	●	○	○	●	○	◇	x	P. D.S. B.B.			◗◖	!
7 · CS	Shut up and dance - Black Mirror [Watkins, Brooker, Bridges]				●	●	●	●	●	○	○	●	○	◆◆◆◆	0	P. D.S.				
8 · CS	Her [Spike Jonze]				●	●	●	●	●	●	●	●	●	▬	0	P. D.S. B.B. S. M.	◆◆			!
9 · CS	Privacy Lost [Louis Rosenberg]				●	●	○	●	●	○	○	○	○	▬	x	P. D.S. B.B. S. M.			◗◖	!
10 · CS	Our friends electric [Superflux]				●	●	●	●	●	○	○	○	○	▬	x	P. B.B. S. M.	◆◆	▶◗	◗◖	!
11 · CS	Belief Systems [Bernhard Hopfengärnter]				○	○	○	●	○	○	○	○	○	▬	x	P. S. M.			◗◖	!
12 · CS	Saver Mode System [Shivani Datar]				○	○	○	○	○	●	○	○	●	◆◆◆◆	x	P. B.B. S.		▶◗	◗◖	S!
13 · CS	Excellences and Perfections [Amalia Ulman]				●	○	●	●	○	○	○	●	○	◆◆◆◆	x	P. M.				
14 · CS	How Not To Be Seen [Hito Steyerl]				●	●	●	●	●	●	○	○	●	◇	x	P. S. M.				S!
15 · CS	Four Eyed Monsters [Susan Buice, Arin Crumley]				○	●	○	○	●	○	○	○	●	◇	x	P. D.S.	◆◆			
		◗◖ = 9 ◎ = 5 □ = 1	▲ = 2/15 ⬟ = 7/15	✦ = 11/15 ✸ = 5/15	11	12	10	12	12	4	4	8	7	◆— = 2 ◆—◆ = 0 ◆◆◆◆ = 4 ▬ = 6 ◇ = 3	0 = 4 1 = 0 2 = 0 3 = 0 x = 11	15	10	10	9	8	4	4	9	! = 8 S! = 2 !!! = 1

The insights emerging from the analysis of each parameter of the matrices are presented below.

CONTEXT

It emerges that cases in which the context is digital or hybrid are predominant, indicating that data are increasingly tied to the digital world.

STAKEHOLDERS

In the news, the presence of app and social media companies is very high. Furthermore, more than half of the news cases directly involve institutions. It should be noted that in the case studies as well, half of the cases involve app and social media companies, similarly to the news. It follows that digital app and social media companies are important stakeholders to consider, linked to many criticalities already present in today's news. The involvement of institutions in many of the analyzed news items, moreover, is a first trace regarding the theme of blurring boundaries.

INSTRUMENTS OF DATA COLLECTION

Personal devices are the main tool for data collection, concerning almost all the news (17/20) and case studies (11/15). It can be noted that, since these are personal devices, the data provided by users are also primarily personal: this prompts reflection on the issue of their privacy. Internet of Things and related devices are aspects already being reflected upon in the speculative cases (5/15).

TYPE OF DATA INVOLVED

In almost all cases, at least 3 types of data are involved: the presence of multiple data types leads to reflection on the theme of inferred data and the possibility of deriving crucial information by cross-referencing data.
Among the most present data types are: behavioural data, which raise themes of the hook cycle and slot machine effects; social and relational data, which, by concerning relationships with one's own network of contacts, lead to reflection on the theme of responsibility towards other users; demographic data, being present in many cases, serve as a confirmation regarding the critical theme of privacy.
In the news, technical and digital data and publicly available data are very present, leading to reflection on deduced data and the possibility of the right to be forgotten. It is interesting to observe in the case studies the strong presence of biometric and health data: there is growing reflection on those data that uniquely identify a person, such as facial recognition, fingerprints, etc. Indeed, while on one hand the use of biometric data might seem like a guarantee of privacy (after all, my fingerprint is mine alone) or a facilitation in use, on the other hand, what privacy can remain for a user who gives away such sensitive data with such simplicity?

FREQUENCY OF DATA COLLECTION

Regarding the frequency of data collection, it is noted that the majority of cases are frequent (i.e., collected daily) and continuous/real-time monitoring: the high presence of frequent collection raises the risky theme of surveillance, while the high presence of monitoring may be a reflection of the strong presence of biometric and health data usage.

USER'S AGENCY ON GETTING DATA SOVEREIGNTY BACK

Regarding the possibility for the user to regain their data, excluding cases that present non-measurable and non-relevant, in the case studies the totality is you can't get your data back. In the news cases, either you cannot get your data back or you can get them back "by paying"; in no case can one regain their own data easily and for free. This leads to reflection on the theme of blurring boundaries, on the low data sovereignty of users, and, consequently, on the lack of privacy.

SOCIAL AND PERSONAL CRITICALITIES AND RISKS

Reflections on risks at both the social and personal levels are presented below, listed from most to least widespread:

→ PRIVACY
The theme of privacy is present in every case study and in almost all of the news items (18/20). It is evident that this is an extremely important and "critical" theme, involving many risks and problems, even when it does not appear to be the main topic involved.

→ DATA SOVEREIGNTY
Data sovereignty is a critical theme present in the majority of analyzed cases (15/20 news; 10/15 case studies), and it is strongly connected to the themes of data justice and legality, as well as to privacy and the financial possibility of users having to pay to obtain it.

→ BLURRING BOUNDARIES
The theme of blurring boundaries emerges as crucial in half of the analyzed news items and in almost all of the case studies, underscoring the risks and criticalities that emerge from the overlapping of roles between institutions and companies. For the user, this theme translates into a sense of disorientation, which leads to reflection on the theme of responsibility and rights related to their personal data.

→ SURVEILLANCE
This term identifies cases dealing with the themes of mass surveillance, continuous control, and surveillance capitalism. Furthermore, the cases are sometimes linked to monitoring or sousveillance to which users voluntarily submit, with a frequent or continuous data collection frequency. The theme of surveillance recurs in over half of the news items and over half of the case studies, demonstrating just how pervasive this issue has become.

→ MANIPULATION
The theme of manipulation is linked to the potential for manipulation serving political, economic, and social interests, and is present in approximately half of the cases. This represents a major risk, capable of altering user behaviors, sometimes in a subtle manner, without their awareness.

In the matrices, terms referring to the five most recurring risks have been included, but other criticalities also recur and emerge in more than one case:

In the NEWS, the themes of consent, continuous control/monitoring, Artificial Intelligence, and hyper-customization (closely connected to the concepts of the echo chamber and hook cycle) emerge in at least a quarter of the cases, along with the consequent polarization that can arise as a social risk.

In the CASE STUDIES, risks analogous to those in the news emerge, including continuous control, monitoring, and Artificial Intelligence. Furthermore, other interesting thematic clusters emerge, including the theme of identity, linked to the risk of identity theft and data shadows, as well as risks associated with the digital era.

BLURRING BOUNDARIES

The actors involved in the phenomenon of blurring boundaries were analyzed, and it is noted that they emerge in all news cases and in the majority of case studies (12/15), demonstrating the strong presence of this theme. The roles of the state and companies are often fluid, as are the public and private spheres. Blurring boundaries are linked to the theme of data sovereignty and the difficulty of claiming it, to legislative gaps, to the risk of surveillance, and to the overlapping interests of stakeholders.

GOAL OF THE DATA COLLECTOR VS SOCIAL AND PERSONAL RISKS

In the analysis of the cases, it is interesting to compare the declared goal of the data collector with the social risks and risks for the user: both often prove to be exponentially "larger" and more critical, very distant from those that would derive solely from achieving the declared goal.
For example, the Chat Control 2.0 and Apple CSAM cases, despite having the objective of countering the presence of Child Sexual Abuse Material (CSAM) on personal devices, are actually linked to enormous risks such as: mass surveillance, continuous control, potential backdoors on all user devices, and total loss of privacy and data sovereignty. Added to these is the risk of not solving the problem of pedopornography but, on the contrary, of hindering investigations with false positives. Furthermore, it is interesting to note that among the news cases, the majority of instances where this red flag is present, that is, where the risks are much greater than the declared collection goal, involve institutional and governmental stakeholders. What space would remain, then, for users who wanted to opt out of these dynamics? This space appears to be minimal because the user would be operating outside the law. It would be a space of dissent, wherever that remained possible.

Western culture, a product of the Cartesian system, has conditioned us to view the world as compartmentalized and decomposable, and thus analyzable through data, within an increasingly data-driven environment. Consequently, a progressive datafication has occurred, which, however, has brought with it a series of risks.

Today's reality is increasingly rich in data, particularly personal data: indeed, the primary object of study through data is people themselves, often subjected to continuous monitoring. The main stakeholders in data usage, however, are not the users, but Big Tech companies and institutions.

The borders between these entities are becoming increasingly porous, a phenomenon known as blurring boundaries.The presence of these stakeholders raises the issue of data sovereignty, that is, to whom the data belongs. While data is increasing in volume, it is becoming less and less "ours", reflecting a lack of user agency on getting their data back. The moment a user wishes to reclaim their data, to whom should they turn? Who bears the responsibility for their data? Added to these dangers is not only the users' loss of privacy, but also the risks of manipulation and even surveillance, facilitated in part by the lack of transparency on the part of Big Tech companies.

2.2 User Research

2.2.1 Interviews: Talking with People

GOALS

This section illustrates the user research conducted through a series of in-depth interviews. Direct dialogue was prioritized over standardized questionnaires to explore the users' real sentiment. The objective was not to collect statistical data, but to capture the emotional nuances, contradictions, and fears characterizing the human relationship with technology, elements that a quantitative approach might miss.

GENERALE PUBLIC'S INTERVIEWS

The research sample includes twelve members of the general public, selected to guarantee heterogeneity in age (19 to 74), gender, and background. Alongside these are two fundamental specialist contributions providing a professional interpretative key: the interview with Alessandro Chessa, a Data Scientist, and the one with Patrizia Scanu, a psychologist and teacher.

The opposite page outlines the tracks used for the interviews with the general public. Although questions were adapted ad hoc, the structure followed a thematic path investigating specific macro-areas: the concept of data, Privacy and Data Sovereignty, Minors and Parental Responsibilities, Social Media, IoT and Smart Objects, algorithmic Personalization, and Future Reflections.

EXPERTS INTERVIEWS

Targeted questions were formulated for the experts: Alessandro Chessa was asked for a technical opinion on data science and algorithms; Patrizia Scanu was asked to analyze the psychological implications of the digital age, wth a special focus on well-being and risks for minors.

All interviews were conducted in Italian. In the profiles that follow, each subject is introduced by a significant quote, their age and profession, and a summary of the key insights.

Questions - General Public

1. When you think of your "personal data", what comes to mind? And regarding your "digital personal data", what comes to mind?
2. How much do you feel you have control over your digital data?
3. Do you ever think about where your data ends up when you use apps or online services?
4. Have you ever wanted/had the desire to delete traces or content related to you on the internet? (If yes, did you manage to delete them? How?)

5. Have you ever tried to read or understand the privacy settings of an app or social network, when you signed up or even afterwards? How did you feel?
6. In your opinion, who should be responsible for protecting online data?
7. Do you feel that your privacy is protected?3. Do you ever think about where your data ends up when you use apps or online services?

8. Regarding children and minors, do you think they are sufficiently protected online?
9. Who should educate them about protection and the risks related to their data and what they share online?

10 a. (If a parent How did you handle your children's education? For example, when did you allow cell phone use and in what way? And how old were you when you got your first personal cell phone?)

10 b. (If a child born in the digital era How were you educated about technology? When did you get your first personal cell phone?)

11. Regarding the privacy of minors, what do you think about a parent sharing photos or information about their children online?

12. At what age did you get your first personal cell phone?
13. Are you present on any social networks? Which ones?
14. How old were you when you signed up for your first social network and which one is/was it? (If <18: did you ask your parents for permission? Did they agree?)
15. What types of content do you post on your profile? Conversely, what do you keep and consider private when you are online? Why?
16. What do you think about the overlap between private life and public presence on social media? (Not just regarding yourself, but also other people)

17. Do you use connected devices (smartwatches, voice assistants like Alexa, smart cameras, smart TVs, smart cars, washing machines...) that connect to the internet?
Which ones? Why do you use them / not use them?
18. What benefits do you have in your daily life?

19. Have you ever thought that an algorithm (Facebook, TikTok, YouTube...) "knew too much" about you? Is there a specific episode you want to share regarding this?
20. Do you like receiving content or ads "tailored" to you?
21. Do you think this "personalization" can influence your tastes and opinions? Do you think it can in any way guide or limit what you think or choose?
22. How much time do you spend on average per day on your phone (smartphone)? Do you feel you have control over yourself and your time regarding the use of platforms?

23. Has the value you place on your privacy changed over time? If so, how?
24. Is there any episode or reflection related to these topics that we haven't asked you about and that you want to share?
25. Considering today's situation regarding the use of personal data and privacy, how do you imagine the future in 5 years?

Maira 19 y.o

Barista

[ita]

Passo tanto, troppo tempo al cellulare. Io mi perdo proprio, soprattutto adesso con TikTok: mi metto lì, guardo i video, e me la rido. È proprio un passatempo di cui non posso più fare a meno. Se non ho niente da fare, apro il telefono e guardo TikTok. Però non andrebbe molto bene perché ti mangia il cervello, ti fonde il cervello.

[eng]

I spend a lot, way too much time on my phone. I really get lost in it, especially now with TikTok: I just sit there, watch videos, and have a laugh. It’s really a pastime I can't do without anymore. If I have nothing to do, I open my phone and watch TikTok. But it’s not great because it eats your brain, it fries your brain.

The interview, conducted on November 4, 2025, featured Maira, a 19-year-old barista and graduate in Baking and Pastry Arts. The conversation provided a deep dive into the digital habits of Generation Z, exploring themes of privacy, digital permanence, and identity curation.

Maira recalled her introduction to technology, starting with a tablet for gaming and moving to her first smartphone during middle school. She distinctly remembered downloading Instagram on New Year's Day 2019, a milestone that marked her official entry into social media. However, this early adoption has left a digital trail she now regrets. A major point of discussion was her desire to erase her "digital footprint" from early adolescence. She described the frustration of having old, inaccessible accounts containing "embarrassing" and "silly" photos with cousins and friends still visible online. Despite her repeated efforts to report these profiles to the platform, the content remains, reinforcing her realization that once something is posted, control is often lost forever.

Her approach to privacy emerged as a complex paradox during the discussion. While she frankly admitted to accepting Terms of Service without reading, dismissing them with a casual "Okay and Ciao", she exhibited significant anxiety regarding hardware surveillance and data intrusion. Maira shared a specific, alarming incident involving TikTok, where she noticed a mysterious "orange dot" on her screen. After learning via the media outlet *Webboh* that this indicated the microphone or camera was active, she was struck by the fear of being spied on or recorded without consent. "Imagine if I open TikTok by mistake and it hears what I am saying," she worried, leading her to strictly revoke camera and microphone permissions for apps that do not strictly need them.

The interview also highlighted the fragmented nature of modern online identity. Maira described a sharp divide between her public and private self. Her main Instagram profile is strictly curated for "aesthetic" value, posting travel photos and scenic shots to "make a good impression", while she maintains a secondary "priv" (private) account strictly for close friends. On this "priv" account, the pressure to be perfect vanishes; she shares authentic, unfiltered "monthly dumps" and funny content, effectively shielding her true personality from the broader public. Finally, she addressed the addictive nature of algorithms, admitting that TikTok "fries the brain" and that her screen time can reach 5-6 hours on free days, pushing her to be more mindful of her digital consumption.

Michela 22 y.o

Office Worker, Recent graduate in in
"Languages and Cultures for Tourism"

[ita]

Capita un sacco di volte: parli di qualcosa ad alta voce e subito dopo ti compaiono video, foto o pubblicità. Ti promuovono quella cosa che magari non avevi mai sentito nominare e che poi inizia a spuntare ovunque. Lo fa anche Alexa, per dire: essendo collegata ad Amazon, ti escono cose che non hai mai cercato, ma che hai solo citato. Evidentemente sente.

[eng]

It happens all the time: you talk about something out loud, and suddenly videos, photos, and ads start popping up. They promote stuff you'd maybe never even heard of before, and then it starts appearing everywhere. Even Alexa does it. Since it's linked to Amazon, you see things you never actually searched for, but just mentioned... so it listens.

The interview, conducted on November 4, 2025, featured Michela, a 22-year-old recent graduate. The discussion offered a distinct perspective on digital maturity, contrasting with the typical "always-on" narrative of her generation. Unlike many peers who rushed onto social platforms, Michela described herself as a "weird kid" who initially viewed social media with suspicion, fearing the exposure of her private life to strangers

Michela's entry into the digital world was characterized by prudence and utility rather than peer pressure. She received her first phone relatively late, in middle school, primarily for safety reasons. Her adoption of Instagram occurred even later, during her second year of high school. The catalyst for this decision was not a desire for fame, but a school exchange program with French students. To maintain these international connections, she asked her parents for permission to download the app, a request they granted as the platform had become a known entity by then. This late start allowed her to bypass the phase of posting childish content; she entered the social space with a level of maturity that saved her from significant digital regrets. While she has deleted some older photos that "didn't turn out well," she notes with relief that she has no "tragic" content to hide.

Her current approach to content creation is highly curated. Michela maintains a private profile and describes her bio as "I only post when I travel". She views the platform as a highlight reel for high-quality images taken during trips or special evenings, rather than a daily diary. She is also vigilant about her digital perimeter, admitting she is "obsessed" with checking her follower list to ensure everything is in order. Furthermore, she expressed a strong suspicion regarding algorithmic surveillance, noting that advertisements often appear on her phone or Alexa immediately after she has spoken about a specific topic aloud, leading her to believe these devices are listening.

One of the most significant insight from the interview is Michela's proactive battle for digital wellbeing. Although she deliberately avoided downloading TikTok to escape its addictive nature, she found herself falling into the same trap with Instagram Reels. Realizing she was losing 5 to 6 hours a day to screen time, she took drastic measures by installing an app called "Opal". This application blocks her access to social media after a set time in the evening and limits her daily usage to 30 minutes. While she admits to sometimes finding ways around the blocks, the gamification of the app, which offers rewards and cute graphics for meeting goals, has successfully helped her reduce her screen time to a healthier 2 to 3 hours a day.

Francesca 24 y.o

Dental Assistant

[ita]

Non so se sia per maturità, però un minimo è cambiato il valore che do alla mia privacy. Adesso ho più consapevolezza dei problemi futuri, mentre una volta facevo un po' come veniva. Ci penso di più, anche perché sono cambiati un po' i tempi, anche se di pochissimo. Ne senti di tutti i colori sui social: una volta c'erano meno informazioni ed eravamo più liberi.

[eng]

I don't know if it's maturity, but the value I place on my privacy has changed a little bit. Now I have more awareness of future problems, whereas back then I just went with the flow. I think about it more now, also because times have changed a bit, even if actually just a tiny bit. You hear all sorts of things about social media: back then there was less info, so we were freer.

The interview, conducted on November 6, 2024, featured Francesca, a 24-year-old Dental Assistant. The conversation delved into the evolving perception of privacy, the use of social media, and the security of personal data in the digital age.

Francesca displays a clear distinction between how she handles different types of data. When it comes to financial information, she is notably cautious and protective. While she uses home banking for convenience, she refuses to use her smartphone for payments in physical stores, citing a fear of fraud and a preference for keeping such sensitive activities separate from her device. "I prefer to keep these more important things to myself," she stated, reflecting a traditional yet prudent approach to financial security. Conversely, regarding social media passwords, she is more resigned, noting that while a breach would feel like a violation, the content she shares is mostly daily life trivia, making it less "tragic" than a financial hack.

Her history with technology follows a typical trajectory for her generation, she said. She received her first phone and joined social networks around middle school (approx. 12-13 years old). Initially, her parents monitored her Facebook activity, but her usage grew more independent over time. Today, she is active on Instagram and Facebook, and while she spends significant time scrolling on TikTok, she does not post there. A significant shift in her behavior is evident: whereas she used to post frequently and casually during her adolescence, she now prioritizes "living the moment" over documenting it. She posts mainly travel photos or special events, often forgetting to take pictures when she is enjoying time with family or friends: this is a change that she views positively.

Despite her caution with banking, a "privacy paradox" exists in her management of app settings. She admitted to "absolute zero" knowledge of privacy settings, confessing she wouldn't even know where to look for them. However, she has become more mindful of content, archiving old photos (specifically those in swimwear) to prevent misuse, acknowledging that "you hear all sorts of things these days." She also expressed concern about "smart" devices listening in, sharing the common experience of discussing a topic and seeing related ads shortly after. This surveillance makes her feel "controlled" and less free. Looking ahead, she noted that if she were to have children, she would likely not post their photos online, influenced by the trend of influencers now hiding their children's faces for safety.

Francis 24 y.o

"Systemic Design" Student

[ita]

Per fare quasi qualsiasi azione quotidiana devi condividere i dati, non è una cosa che riesci a evitare. Che cosa posso farci, anche se so del rischio? Alcuni servizi li devo usare. Quindi sono un po' costretta, forse è sbagliato ma mi sembra di doversi adeguare.

[eng]

To do almost anything in your daily life, you have to share data; it’s not something you can avoid. What can I do about it, even if I know the risk? I have to use certain services. So, I’m kind of forced into it. Maybe it’s wrong, but it feels like you just have to adapt.

The interview, conducted on October 23, 2025, featured Francesca (Francis), a 25-year-old Systemic Design student. The conversation provided valuable insights into the perspective of a young adult who, despite being a "digital native", approaches technology with a critical and cautious mindset, largely shaped by her family upbringing.

A recurring theme in Francis's reflections is the tension between awareness and resignation. While she recognizes that digital data is "fragile" and potentially at risk of being sold to third parties, she admits to a lack of clarity regarding which data is most valuable or dangerous to lose. She acknowledges a sense of powerlessness: refusing to share data often means being excluded from essential services. This resignation, however, does not translate into carelessness. Francis exhibits a "protective paranoia" in her daily habits, such as avoiding saying sensitive numbers like PINs or passport details aloud near her phone, fearing that devices might be listening (a suspicion reinforced by personal anecdotes of hyper-specific ads appearing after private conversations.)

Her relationship with social media is defined by intentionality. Having received her first smartphone in middle school but only downloading Instagram after high school (prioritizing Pinterest and YouTube earlier), she feels she "dodged a bullet" by missing the early adolescent pressure of social comparison. Today, she uses Instagram as a digital diary for travel and landscapes, deliberately posting very few photos of herself to avoid vanity or judgment. She maintains a professional presence on platforms like LinkedIn and Behance, clearly separating her public-work persona from her private life. She also highlighted the "double-edged sword" of algorithmic personalization: while she appreciates tailored recommendations on YouTube (finding the logged-out experience chaotic and irrelevant), she worries this limits exposure to diverse viewpoints

Francis also discussed her use of a Fitbit. She finds value in tracking her steps and heart rate for health goals but dismisses the privacy risks associated with this data, reasoning that knowing her step count is of little use to malicious actors. However, a recent incident with a broken phone revealed a critical vulnerability: she realized she had stored all her passwords, including banking credentials, in her Notes app. This forced her to frantically update her security before sending the device for repair, a stark reminder of the precarious balance between digital convenience and security. Ultimately, Francis advocates for better digital literacy in schools, recognizing that not all families have the technical background her father provided to educate children on these complex risks.

Luis 27 y.o

"Systemic Design" Student

[ita]

Penso a mia madre e a quelle generazioni che non hanno consapevolezza del problema: non avendo ricevuto un'educazione su questi argomenti, finiscono magari per cedere i propri dati senza esserne consapevoli. Quindi l’educazione dovrebbe arrivare sicuramente dalla famiglia e dallo Stato. Purtroppo, però, bisogna anche attivarsi: guardare, essere consapevoli, andarsi a cercare le informazioni. E questa è una cosa che non è alla portata di tutti.

[eng]

I think about my mom and those generations that aren't aware of this problem: since they never had any education on these topics, they end up giving away their data without even realizing it. So, education definitely needs to come from both the family and the State. Unfortunately, you also have to do your part: look at things, be aware, go search for information. And that’s just not something everyone can do.

The interview, conducted on October 23, 2025, featured Luis, a 27-year-old student originally from Peru. His perspective offers a unique cross-cultural analysis of digital privacy, heavily influenced by the stark contrast between his country of origin and his current life in Italy.

For Luis, data privacy is not merely a digital concern but a matter of physical safety. He highlighted how the context determines the risk: while sharing a location or a photo of one’s home might be normalized in Europe, in Peru, it can serve as a catalog for criminals. He cited chilling examples of taxi drivers researching passengers on social media to assess whether they are worth robbing. Consequently, he has tried to educate his family on the dangers of "sharenting" and oversharing, warning them against posting photos of children or material possessions. Despite this caution, he acknowledges that his entry into social media, joining Facebook at 15, was driven by necessity: it was the only free way to communicate with his mother, who had already emigrated to Italy, illustrating how socioeconomic factors often outweigh privacy concerns.

A pervasive sense of resignation characterizes his current outlook. Luis feels that "it is too late" to disappear from the digital world; his data is already out there, and he admits to a certain apathy regarding standard tracking. However, he draws a sharp line at biometric surveillance. He recounted a jarring experience during his driving license exam, where he was identified solely by an automated facial recognition system. While efficient, he described the experience as "Orwellian," evoking 1984 and expressing fear at the normalization of having one's face and fingerprints permanently cataloged by the state.

Despite his resignation, Luis actively tries to curate his digital environment. He views the algorithm not just as a trap, but as a tool he can train; he intentionally engages with content about animals to maintain sensitivity to reality and avoid becoming desensitized. He also holds a deep distrust of AI moderation, fueled by a personal incident where his brother was banned from Instagram due to a "false positive" for violent content, resulting in the permanent loss of cherished childhood photos with their grandfather. Ultimately, Luis argues that digital literacy is now as fundamental as sex education, emphasizing that families and the state must teach the younger generation to navigate these risks before they inadvertently expose themselves to danger.

Andrea Martina 35 y.o

Local Police Officer

[ita]

I dati personali sono tutto ciò che è legato all'identità, anche dettagli apparentemente asettici come una data di nascita o una targa. Ma è un mondo vasto che include i dati medici ipersensibili e i nostri spostamenti: ci dice chi siamo, ma anche dove eravamo, cosa facevamo e perché. Noi utenti abbiamo una parte di responsabilità, un po' come custodire il portafoglio o le chiavi, ma una grossa parte dipende da chi fattivamente maneggia quel bene.

[eng]

Personal data is everything linked to identity, even seemingly aseptic details like a birth date or a license plate. But it’s a vast world that includes hypersensitive medical data and our movements: it tells us who we are, but also where we were, what we were doing, and why. We users bear some responsibility, much like looking after our wallet or keys, but a huge part relies on whoever actually handles that data.

The interview, conducted on October 29, 2025, featured Andrea Martina, a 36-year-old Local Police Officer. Her professional background shapes her understanding of privacy; she defines "personal data" not merely as biographical details, but as a complex trail of movements (like license plate readings) that reconstructs where a person was and what they were doing. This work-related awareness leads her to handle physical documents with extreme care and to view her digital identity as an extension of her public responsibility, knowing that her private online behavior can have professional consequences.

A central theme is the concept of "shared responsibility," which she compares to recycling. She argues that data privacy requires a triangular effort: just as citizens must sort their waste, families must educate children on digital risks; just as the State manages waste, it must enforce laws; and just as companies must be compliant, platforms must implement effective barriers rather than token age checks. She insists that if any vertex of this triangle fails, the entire system of protection collapses.

Andrea Martina identifies as a "millennial" bridging the transition from the analog to the digital world. She recalls a time when the internet was a "fixed place," contrasting it with today's fluid, always-on connectivity. This perspective makes her critical of current trends. She vividly describes the evolution of bullying, noting how it has migrated from the physical town square to the "virtual square," where adolescents, lacking the capacity for long-term foresight, are left vulnerable to lasting reputational damage.

Her personal digital footprint has significantly retracted over time. While she was an early, somewhat naive adopter of Facebook, she now uses it sparingly, sharing content related to art and animal welfare rather than personal milestones. She actively practices "digital disconnection" during vacations, refusing to post photos until she returns. Despite proactive measures like rejecting cookies, she remains skeptical of having true control, recounting a disturbing anecdote where a colleague received an ad for the "Foliage Train" seconds after they discussed it privately, reinforcing the feeling of being constantly monitored.

Finally, her outlook on the future is tinged with pessimism. Citing Wall-E, she fears a future where humanity becomes intellectually immobile and overly dependent on AI. She worries that society is prioritizing ease over critical thinking, risking a scenario where technology quietly takes over decision-making processes while humans drift in a state of comfortable dependency.

Alina 46 y.o

Secretary

[ita]

Sui social non è proprio vero quello che mostri: di solito vuoi far vedere un'altra versione di te. A casa sei una persona diversa: quando sei felice condividi, ma quando stai male non vuoi che si sappia. A volte la gente approfitta di ciò che mostri e rischi di farti male da sola. Perciò ho capito che certe cose devo tenerle per me: tanto non devo dimostrare niente a nessuno.

[eng]

On social media, what you show isn't exactly real: you usually want to show another version of yourself. At home, you’re a different person: when you're happy, you share it, but when you're down, you don't want people to know. Sometimes people take advantage of what you post, and you end up hurting yourself. That's why I realized I have to keep some things to myself: I don't have to prove anything to anyone.

The interview, conducted on November 7, 2025, featured Alina, a 46-year-old secretary and mother of three originally from Romania who has been living in Italy for over twenty years. Her perspective reflects a generational shift in attitude towards digital privacy, marked by a recent awakening to the risks of oversharing, catalyzed by personal health struggles.

For years, Alina's digital behavior was characterized by openness. She viewed social media as a transparent extension of herself, sharing her life, hobbies (like baking), and location freely because she "wanted people to see her as she was." However, a difficult year dealing with health issues has drastically altered her approach. She realized that online vulnerability can be weaponized or judged, leading her to stop posting personal content almost entirely. She now understands that "you don't need to post a photo to prove you made a cake or went out," marking a pivot from seeking external validation to protecting her private sphere. This shift also extends to her children; while she previously posted their photos, she stopped two years ago, acknowledging the danger of exposing minors to an unseen, potentially malicious audience.

Alina exhibits a fatalistic view of data control, believing that smartphones have made everyone "transparent" and "controlled". She is convinced that devices are constantly listening, citing the common experience of discussing a topic, like a recipe or an illness, and immediately seeing related ads. Despite this belief, she admits to a lack of agency: she rarely reads consent forms because they are too long and complex, signing them out of necessity and trust in the procedure rather than understanding. She feels that ultimately, privacy is an illusion, stating, "If someone wants to take your data, they can do anything".

Her relationship with technology is also defined by a struggle for self-regulation. Alina describes her phone as a double-edged sword: it is an essential tool for distracting her mind from pain and finding hope through information, yet it is also an addictive "trap". She admits to losing track of time while scrolling, intending to stop but failing to do so, a cycle she describes as "tricking herself". Despite this, she maintains a pragmatic, almost vintage approach to hardware: unlike the younger generation who swap phones "like socks," she keeps her devices until they break, valuing them as durable tools rather than fashion statements.

Thomas 47 y.o

Private Chef

[ita]

Per me il riconoscimento facciale è out. Decine di libri e film hanno spiegato che questo benedetto riconoscimento può essere usato per hackerare, per rubare l'identità e rovinare la vita alla gente. Magari uno in Africa usa la tua faccia per un film porno, tu vai là e ti arrestano. Sarà un esempio estremo, ma trovo che sia tutto abominevole. Hanno messo un'arma in mano ai truffatori e le truffe sono decuplicate.

[eng]

For me, facial recognition is out. Dozens of books and movies have shown that this blasted technology can be used to hack you, to fake an identity, and ruin people's lives. Maybe someone in Africa uses your face for a porno, and then you go there and get arrested. It’s an extreme example, but I find the whole thing abominable. They’ve basically handed a weapon to scammers, and scams have increased tenfold.

The interview, conducted on October 29, 2025, featured Thomas, a 47-year-old private chef who frequently works abroad, particularly in the United States. His perspective is characterized by a vehement distrust of the digital ecosystem and a fierce critique of the modern economic and social structure.

Thomas has adopted a radical approach to digital hygiene, deleting his social media accounts which he deems "useless" and "fake". He views targeted advertising as "harassment" and is convinced that smart devices listen to private conversations. A major concern is the alarming rise of fraud facilitated by new technologies. He argues that digital tools have "put a weapon in the hands of scammers", leading to an exponential increase in crimes like the "8-second scam", where voice cloning is used to forge contract signatures. He sees the population as increasingly vulnerable to these sophisticated traps.

His worldview is defined by a deep-seated hostility towards capitalism, holdings, and multinational corporations, which he blames for social disintegration. He cites the United States as a cautionary tale of a "disintegrated" society ravaged by inequality and corporate greed, pointing to examples like Amazon avoiding taxes or banks unilaterally changing contracts to exploit customers. He couples this with a harsh view of the general public, describing people as often "ignorant" or "functionally illiterate," easily manipulated by these powerful entities and distracted by the "numbness" of endless scrolling.

Consequently, he argues that personal data should be the exclusive domain of the State, as private companies act solely for profit and cannot be trusted. Regarding minors, Thomas is categorical: children should not possess smartphones until age 14 or 15. He places the blame squarely on parents for abdicating their educational role. Speaking from personal experience with his own son, he argues that technical "parental controls" are ineffective because children inevitably find workarounds. Instead, he believes the only true protection is parental supervision and abstinence from social platforms.

Finally, his outlook on the future is bleak. He sees a world increasingly dominated by monopolies and AI, which he fears will destroy human labor. Despite his anti-tech rhetoric, he admits to a contradiction: he recently purchased a smartwatch "to try it out", justifying it solely for safety during extreme sports, a concession that highlights the difficulty of completely escaping the technology he criticizes.

Claudia 54 y.o

Healthcare Assistant

[ita]

Sui social non condivido molto, perché poi la gente sa il tuo stato di salute o intuisce il tuo umore. Se stai bene o male, da lì si capisce. E poi anche i ladri possono vedere dove sei e venire a rubare.

[eng]

I don't share much on social media because people end up knowing your health status or guessing your mood. If you're doing well or having a hard time, people can tell. Plus, even thieves can figure out where you are and come to rob you.

The interview, conducted on October 31, 2025, featured Claudia, a 54-year-old Healthcare Assistant (OSS). Her relationship with the digital world is characterized by a feeling of abstract fear mixed with resignation. When thinking about "personal data," she immediately associates it with the physical threat of "someone spying on her person" or stealing money from her bank accounts. While she finds the concept of "digital data" somewhat abstract, she admits it is a complicated world she has not fully explored.

Claudia is firmly convinced that she is being monitored by her devices. She described a phenomenon where advertisements for "plants and flowers" or specific "lines of poetry" appear on her feed immediately after she talks about them or even just based on her mood. Interestingly, her reaction to this surveillance is ambivalent: if the algorithm proposes content she likes (such as flowers), she accepts it; if it repetitively pushes commercial products like appliances, she finds it annoying. Despite this sense of being watched, she admits to never reading privacy settings or consent forms, lacking the interest to deepen her technical understanding.

Her sense of control is behavioral rather than technical. She manages her privacy by practicing self-censorship: she tries to stay "vague" in her posts, avoiding specific grievances or overly personal details to avoid offending anyone. This caution extends rigorously to her professional life; she refuses to post photos from her workplace, aware of the strict consent rules required in healthcare settings.

Regarding the younger generation, Claudia believes minors are not sufficiently protected online, citing the prevalence of abuse. Her own approach to parenting has evolved with the times. While she gave her children phones during middle school (approx. 12-13 years old) and used to share photos of them during family trips, she has now developed a more cautious stance on "sharenting," believing that today one must think twice before publishing a child's face online. Looking to the future, she hopes for a scenario where social platforms themselves implement stronger automatic blocks to prevent the leakage of personal data, relieving the user of some of the burden of protection.

Rita 64 y.o

Middle School Teacher

[ita]

Da insegnante, posso dire che i ragazzi non sono affatto protetti, né dai genitori né da chi dovrebbe garantire un certo controllo morale. Me ne accorgo perché alcuni arrivano e dormono in classe, dopo aver passato l'intera notte sui social. E anche loro... sembra che debbano mostrare di esistere soltanto facendo video.

[eng]

As a teacher, I can say that kids aren't protected at all, neither by their parents nor by those who should guarantee some morality or control. I see it firsthand because some students come in and sleep in class after staying up all night on social media. And the kids themselves... it seems they feel the need to make videos just to prove they exist.

The interview, conducted on October 30, 2025, featured Rita, a 63-year-old middle school teacher. Her dual perspective as a private citizen and an educator offers a stark and critical analysis of how digital habits are reshaping younger generations, specifically focusing on her direct observations of her students.

Personally, Rita describes herself as "obsessive" about privacy. She maintains a minimal digital footprint, rarely using Facebook (which she regrets joining) and limiting her online activity mostly to WhatsApp and Duolingo. Because she publishes very little, she feels a sense of control over her data, though she refrains from expressing political opinions online to avoid algorithmic profiling, viewing such monitoring as a violation of her freedom of thought. She also acknowledged the utility of AI, admitting that despite initial skepticism, she now uses tools like ChatGPT and Copilot to create lesson plans and mind maps, finding them efficient yet potentially dangerous for future critical thinking.

A significant portion of the interview focused on her observations within the school environment. Rita painted a worrying picture of students who are "not protected at all" by their families. She noted that many students arrive at school exhausted and sleep in class because they spend their nights on social media. She singled out TikTok as particularly "terrible" for conditioning adolescent behavior. To illustrate this, she recounted a disturbing incident where students organized and filmed a fake fight between two girls just to generate content for the platform, inciting violence for views. She also mentioned cases of cyberbullying involving the non-consensual sharing of intimate photos among students.

Rita is deeply critical of modern parenting, describing many of today's parents as "failed adolescents" who try to be friends with their children rather than authoritative figures. She recalled an episode where parents filmed their children wasting water with water balloons outside the school and laughed, rather than correcting them, illustrating a generational failure in education. Consequently, she strongly supports the ban on smartphones in middle schools, arguing that children are not ready for personal devices until high school (approx. age 14). While her school implements initiatives like a "Smartphone License" to teach digital responsibility, she feels these efforts are often rendered useless by the lack of discipline at home. Her outlook on the future is pessimistic, driven not by a fear of technology itself, but by a lack of trust in families to manage it responsibly.

Ugo 65 y.o

Restaurateur

[ita]

Quando penso ai miei dati personali, mi vengono in mente quelli sensibili, legati alla mia sfera emotiva e privata, non certo quello che mangio, bevo o per che squadra tifo.
Per i dati digitali, tutto dipende dalla sfera a cui si riferiscono: se riguardano la sfera economica o bancaria hanno un certo valore, se riguardano i miei gusti o i film che mi piacciono ne hanno chiaramente un altro. Ogni ambito ha la sua importanza.

[eng]

When I think of my personal data, I think of the sensitive kind, linked to my emotional and private life, definitely not what I eat, drink, or which team I support. As for digital data, it all depends on the sphere it refers to: if it's about economics or banking, it has a certain value; if it's about my tastes or the movies I like, it clearly has another. Every area has its own importance.

The interview, conducted on October 30, 2025, featured Ugo, a 63-year-old restaurateur. His perspective on privacy is defined by a sharp distinction between "sensitive data", which he considers to be strictly financial or belonging to his emotional sphere, and trivial information, such as his food preferences or the football team he supports (Juventus), which he shares without concern.

Ugo describes his digital behavior as that of an "observer." While he possesses accounts on Facebook, Instagram, and WhatsApp, he rarely posts, preferring to browse without leaving a significant trace. This approach gives him a perceived sense of control. He embraces the convenience of technology, using a smartwatch to track steps and read notifications, but draws a hard line at financial safety. He steadfastly refuses to use his smartphone or watch for payments, relying exclusively on physical credit cards. This reluctance stems from a fear of losing a device that contains his entire financial life, preferring to keep those distinct to minimize risk.

He is acutely aware of how algorithms function, citing the immediate appearance of advertisements for "blinds" after searching for them as proof of constant monitoring. While he generally tolerates this commercial tracking with indifference, he expresses annoyance when it becomes invasive, such as a recent instance where his feed was flooded with conspiracy theories about the "Atlas 31" comet after a single search. He also touched upon the topic of visual surveillance, mentioning the common practice of covering laptop webcams with stickers; while he remains skeptical that he is personally being watched, he admits the technical possibility creates a lingering doubt.

Regarding the protection of minors, Ugo is cynical. He dismisses current parental controls and age verification systems ("Are you 18?") as laughable and ineffective. He believes that neither the State, which he views as partial and prone to political manipulation, nor private companies are fit to act as guardians. Instead, he envisions the need for a "super partes" authority, similar to a Constitutional Court, that stands above political interests to truly guarantee privacy. His outlook on the future is skeptical; he predicts that "powers that be" will increasingly intrude into private lives, not just to watch, but to actively condition the economic choices of individuals

Gianna 67 y.o

Retired Bar and Restaurant Manager

[ita]

La privacy è scritta, ma in realtà non ce n'è: è solo un modulo da firmare, ma non esiste davvero. Quando vado a leggere una cosa e mi escono sempre quei maledetti cookie, piuttosto non leggo, oppure aggiro l'ostacolo e cerco da un'altra parte. Altrimenti... pazienza: saprò una cosa in meno e morirò contenta lo stesso. Però è brutto. Ti fanno firmare tutti i moduli, ma la verità è che se c'è l'identità digitale, la privacy è zero.

[eng]

Privacy is written down, but in reality, there isn't any: it's just a form you have to sign, but it doesn't actually exist. When I go to read something and those damn cookies always pop up, I'd rather just not read it, or I find a way around it and look elsewhere. Otherwise... oh well: that's one less thing I'll know, and I'll die happy anyway. But it's bad. They make you sign all the forms, but the truth is, with digital identity, privacy is zero.

The interview, conducted on October 29, 2025, featured Gianna, a 67-year-old retired bar and restaurant manager. Her perspective is defined by a fierce rejection of modern technology and a deep mistrust of institutions, blending nostalgia for traditional values with a strong skepticism about the digital age.

Gianna explicitly refuses to use smart devices like smartwatches or smart TVs, having turned them off to avoid being "indoctrinated." She views the smartphone as a surveillance tool, convinced that it listens to her private conversations to serve targeted ads,a phenomenon she claims happens less frequently on her older phone compared to her husband's newer model. This belief reinforces her desire to downgrade to a simple "Brondi" phone in the future, prioritizing her mental freedom over connectivity. For Gianna, freedom is the most precious asset, one she feels is being systematically stripped away by AI and digital systems, which she detests and refuses to learn, preferring to pay someone else to handle necessary digital tasks rather than submit to the system herself.

Her critique extends to social dynamics and education. She bemoans the loss of respect in modern society, exemplified by young people addressing elders with the informal "tu" instead of the respectful "lei," a breach of etiquette she finds unacceptable. She views social media as a breeding ground for "keyboard warriors" and envy, citing a personal negative experience where she was attacked online for posting an ad selling her nephew's kittens. This incident solidified her decision to remain a passive observer on platforms like Telegram, consuming information without engaging or posting, to avoid the toxicity of online discourse.

Regarding privacy, Gianna believes it is essentially a lie: "Privacy is written, but in reality, there is none." She contends that signing consent forms is a farce because data is ultimately sold or accessed by foreign entities regardless of permissions. She sees the digital identity as the death of privacy and urges the younger generation to "wake up" and fight for their future, warning them against the "indoctrination" she perceives in schools and media. Her worldview is stark: technology is not a tool for progress, but a mechanism for control that threatens the core of human liberty.

Pio 74 y.o

Retired Mechanic

[ita]

Non so se la mia privacy sia protetta, diciamo che forse accetto le cose come stanno senza preoccuparmene troppo. La penso così: siccome non ho niente da nascondere né di cui vergognarmi, se mi guardano per me va bene. Però non so cosa immaginare per il futuro, non ci riesco proprio. Il rischio vero è che i ragazzi abbiano troppa libertà.

[eng]

I don't know if my privacy is protected; let's say I maybe just accept things as they are without worrying too much. The way I see it: since I have nothing to hide or be ashamed of, if they look at me, that's fine. But I don't know what to imagine for the future, I just can't picture it. The real risk is that kids have too much freedom.

The interview, conducted on November 6, 2025, featured Pio, a 74-year-old retired mechanic. His approach to the digital world is defined by a pragmatic, "nothing to hide" philosophy. Pio associates the concept of "personal data" less with digital cookies and more with his life's history, his past actions and regrets. While he admits to never reading privacy policies and is unsure if his data is truly protected (vaguely referencing the "postal police" as the entity that should be responsible) , he accepts the status quo because he feels he has nothing to be ashamed of. However, he does harbor a specific fear: that his data might fall into "bad hands", not for financial theft, but that someone might exploit his sincerity and life experience.

Pio joined Facebook "almost by chance" about seven years ago and uses it primarily as an observer. His content consumption reflects his personality and past career: he follows Juventus, looks up recipes and gardening tips, and, nodding to his former trade, enjoys watching videos of mechanics and excavators. He rarely posts, limiting himself to photos of landscapes or his dog, and strictly adheres to the belief that "dirty laundry should be washed at home," avoiding sharing private family matters online. While he occasionally comments on political posts, he often regrets it, preferring to avoid creating enemies. Unlike younger users who fear algorithmic influence, Pio is confident in his intellectual autonomy, asserting that Facebook cannot change his established opinions.

A significant portion of his reflection concerns the younger generation. Pio believes there is "too much freedom" for children online. He argues that access to the internet (specifically adult content) should be blocked until at least age 16. Regarding "sharenting", he draws a distinct moral line: while posting a photo of a child in a parent's arms is acceptable, he strongly disapproves of parents who dress young daughters up as "vamps" with heavy makeup. He places the primary responsibility for digital education on parents, rather than schools. Finally, his relationship with hardware is staunchly traditional: he relies on his daughters to set up his Smart TV and rejects smartwatches entirely, remaining loyal to his analog Seiko.

Dr. Alessandro Chessa

Data Scientist and Theoretical Physicist

CEO of Linkalab and professor at Luiss and NABA, Alessandro Chessa combines a strong background in theoretical physics with Big Data analysis and Artificial Intelligence. He focuses on complex systems, social networks, and machine creativity. He writes about science and technology with a humanistic approach, applying advanced mathematical models to social and business dynamics.

[ita]

Credo che invece di andare nella direzione di impedire o chiudere, i dati dovrebbero diventare un bene pubblico. Ci deve essere un'entità sovranazionale che prenda tutti i dati in modo che siano pubblici, ovviamente con un accesso regolamentato, ma accessibili a tutti. Deve essere un patrimonio universale.
Le aziende li producono e spendono per farlo, ma li devono dare comunque a questo ente. Non perché facciano concorrenza, ma perché siano a disposizione di tutta la popolazione. Dovrebbe essere un bene comune, come l'acqua o l'aria, che per fortuna non è ancora regolamentata... proprio un bene comune.

[eng]

I believe that instead of moving towards blocking or hiding data, it should become a public good. We need a supranational entity that collects all data to make it public, with regulated access, obviously, but accessible to all. It must be a universal heritage. Companies produce data and spend money to do so, but they should still hand it over to this entity. It shouldn't be used just for competition against others, but must be available to the whole population. It should be a common good, like water or air, which fortunately isn't regulated yet... just a common good.

The interview, conducted on November 3, 2025, featured Alessandro Chessa, a theoretical physicist, entrepreneur, and professor specializing in complexity science, artificial intelligence, and data science. His perspective is interesting because, despite being highly technical, it has a humanistic approach that places people at the center. Chessa does not approach the subject as a moralist or a regulator, but as a "builder" of these systems, a realist who understands the mathematical underpinnings of the digital world. His analysis is deeply rooted in the practical realities of machine learning, yet it culminates in a surprisingly radical political vision for the future of data.

A foundational element of Chessa's reflection is his diagnosis of a "schizophrenic situation" inherent in modern user behavior. He identifies a profound cognitive dissonance: users loudly demand privacy protections from institutions while simultaneously and voluntarily broadcasting the most intimate details of their lives to a boundless audience. He argues that the concept of privacy is often moot before it even reaches the level of data extraction, simply due to user oversharing. He states:

"We talk about privacy when in reality, by putting certain types of content on social media, we have already accepted to show much of our private life, even intimate details... to basically anyone".

He emphasizes that while the "transaction" of data for services is real, the primary breach is often self-inflicted: "From one side we expose ourselves, from the other we claim to have privacy... the problem starts here: it starts from the fact that people decide to expose themselves in a public manner". This view shifts the locus of control (and blame) back toward the individual, suggesting that no amount of regulation can protect a user who essentially walks onto a public stage and demands invisibility.

Chessa provides a rigorous demystification of algorithms, distinguishing between the specific proprietary formulas (which remain trade secrets) and the general mathematical techniques (which are well-known). He dismisses the "guru" narratives, stating flatly:

"Platforms do not reveal how algorithms work... Anyone who says they know exactly what the main platforms' algorithms do is lying because they cannot know".

Instead, he explains the mechanism of "Collaborative Filtering," a technique that doesn't necessarily need to know who you are, but rather what you are mathematically similar to. He describes how users are converted into "feature vectors", sets of demographic and behavioral coordinates. The algorithm then clusters these vectors. "If I like a thing... potentially that content can be suggested to someone who is similar to me according to these similarity vectors". He clarifies a crucial nuance often lost in public discourse: platforms generally target clusters of users (groups with similar vector orientations) rather than specific individuals, as targeting the single user is often inefficient or restricted.

On the complex topic of Ethics and Transparency in AI, Chessa outlines the inherent opacity of "black box" systems like neural networks. He explains that bias is rarely explicitly programmed but is absorbed during the training phase from imperfect data.

"If you give it examples that have biases, for example racial biases, religious biases, obviously these get incorporated". Because dissecting the neural network to find the "racist neuron" is nearly impossible, he advocates for a pragmatic, results-oriented approach to ethics: rigorous testing of the Input and Output. He proposes that companies must treat AI models like experimental subjects: "The ethical part is seen from the beginning... in the input and in the output... Choosing input data is a choice that must be pondered and measured. Instead, the company should measure what comes after an algorithm, it should test". This suggests a shift from "explainability" (understanding how it thinks) to "accountability" (verifying what it does), requiring a battery of a posteriori tests to correct imbalances.

Chessa is markedly skeptical about legislative attempts to control technology, such as the European "Chat Control" proposal.

He views the internet as a fluid, global entity that inherently resists local containment. He warns that establishing strict surveillance backdoors or heavy-handed regulations is often futile because "there are always quite simple workarounds" for bad actors, while the restrictions heavily penalize law-abiding citizens and businesses. Furthermore, he argues that Europe's strategy of unilateral regulation might be economically suicidal. By placing strict barriers on data usage that do not exist in the US or China, Europe risks limiting its own development without actually solving the global privacy issue.

"The real effect of these European regulations... will be much minor compared to what we would hope... it will be more of an effect of greater difficulty in global competition".

This skepticism extends to the Internet of Things (IoT).

Chessa describes IoT not as a new frontier but as a dangerous "extension" of virtual vulnerabilities into physical reality.

When the digital world invades the home through smart devices, "dangers increase exponentially" because the consequences move from data loss to physical insecurity. He sees this as a domain where control is even harder to maintain than on the web, as the data collection points become ubiquitous, invisible, and deeply embedded in daily life.

Perhaps the most striking part of the interview is Chessa's stance on the ethical responsibility of Data Scientists regarding minors. Chessa explicitly rejects the idea that a technician can or should act as a moral regulator for society. He draws a powerful parallel to the Manhattan Project: "It is a bit like the discourse of the atomic bomb and the Manhattan Project... I don't think it is in the faculty of a Data Scientist to deal specifically with such a thing . He argues that a data scientist builds the algorithm, but cannot control whether that algorithm is put into one thing or another. This effectively absolves the creator of the tool from the downstream social consequences of its use, placing the burden of protection squarely on parents and regulators rather than on the engineers.

Finally, despite his skepticism about regulation, Chessa proposes a visionary, almost utopian solution.

Chessa critiques the current European strategy of "closing" data as "deleterious for our economic development," arguing it creates competitive disadvantages without solving the global issue . Instead, he believes "data should become a common good."

He envisions a future where data is treated as a "universal heritage" managed by a supranational entity that mandates access for all, preventing companies from hoarding the "raw material" of the future. He draws a parallel to natural resources: "It should be a common good, like water can be, like air can be... potentially available to the entire population". In this vision, data is democratized, allowing the immense value generated by humanity's digital interactions to foster collective innovation rather than private monopoly. This perspective flips the privacy narrative: the solution isn't to hide data, but to liberate it from private control.

Dr. Patrizia Scanu

Psychologist and Teacher

With degrees in Philosophy, Literature, and Psychology, Patrizia Scanu has been a teacher for over 40 years. An expert in school dynamics, she offers paths for personal growth while maintaining a fiercely critical stance on digitalization. She actively warns against the severe psychological risks technology poses to minors, advocating for holistic well-being and Synergetic Psychosophy.

[ita]

Le tecnologie digitali tutte hanno un impatto profondo sulla psiche delle persone, le rendono passive, dipendenti, incapaci di affrontare il mondo senza lo strumento. Se ci pensate lo smartphone, apparentemente come un oracolo, in realtà ti rende schiavo, è qualche cosa che continuamente chiama la tua attenzione. Oppure Alexa, che è un oggetto che però ha una voce umana, non si arrabbia mai e ti dà sempre ragione. Le persone finiscono con l'umanizzare la macchina e col dimenticarsi che è una macchina Questo è terrificante, perché nel momento in cui la tecnologia diventa umana, l'uomo perde la sua umanità.

[eng]

All digital technologies have a profound impact on people's psyche, making them passive, dependent, and unable to face the world without the tool. The smartphone, seemingly like an oracle, actually makes you a slave, constantly calling for your attention. Or take Alexa: it is an object, yet it has a human voice, never gets angry and always agrees with you. People end up humanizing the machine and forgetting that it is a machine. This is terrifying, because the moment technology becomes human, man loses his humanity.

The interview, conducted on November 10, 2025, featured Patrizia Scanu, a psychologist and teacher with over forty-one years of experience in the educational sector. Her perspective offers a profound, structural, and fiercely critical diagnosis of the digital landscape, moving far beyond individual habits to analyze the systemic mechanisms of datafication, digital addiction, and the erosion of human agency. She rejects the narrative of technological neutrality, viewing the current ecosystem as a deliberate design aimed at "totalitarian control" and the commodification of human experience.

A foundational element of Scanu's reflection is the concept of "resignation" regarding privacy. She observes that users have been conditioned to accept data extraction as an inevitable cost of entry. She argues that this is not merely a transaction but a form of behavioral training:

"I have formed the idea that this mode is not entirely innocent... there is a precise aim: to accustom people to obtaining permission to enter any type of service, whether physical or virtual, only by surrendering their data".

To illustrate the magnitude of this surveillance, she cites the documentary "Terms and Conditions May Apply," recalling how even young users, new to the Internet, discovered that companies already held massive dossiers on them, containing everything from personality traits to identity data.

Scanu strongly opposes the concept of "Onlife" (the blurring of online and offline existence), a term she confesses gives her "hives." For her, the virtual and the real are "incommensurable." She posits that human experience is fundamentally corporeal and sensory, qualities that the digital world simulates but cannot replicate.

Scanu identifies 2010 (the year smartphones became ubiquitous among youth) as a catastrophic turning point. In her view, this marked "the death of school, of sociality, of socialization, of books, of empathy, of intelligence, of critical thinking".

She explains that unlike the fixed internet of the past, the "always-on" nature of smartphones, coupled with cameras, has transformed users into perpetual performers. The consequences for neural development in children are severe: she describes exposing young children to screens as a form of "violence," noting that missing out on sensory and affective experiences during critical sensitive periods leaves them with permanent neural deficits.

Describing the current school environment, Scanu uses a chilling metaphor:

"The school is a lazaretto... I have never seen anything like this in many years... We have 5, 6, 7, 8 PDPs (Personalized Learning Plans) in every class... There is no longer a boy or a girl who has acceptable psychophysical health".

She attributes this explosion of anxiety, depression, anorexia, and self-harm to a hyper-connected lifestyle that deprives developing brains of resilience. She cites Invalsi data showing that half of Italian graduates are functionally illiterate, a result of a system that continuously lowers standards to accommodate fragile students and demanding parents.

A significant portion of the interview focuses on the neuroscience of addiction. Scanu explains that the prefrontal cortex, the area responsible for judgment, ethics, and impulse control, does not fully mature until around age thirty. Therefore,

asking a minor to self-regulate on social media is "like asking a dog with food in front of it not to eat".

Platforms exploit this biological vulnerability through "dopaminergic circuits," the same mechanisms involved in cocaine addiction. "The invention of the 'like' was a monstrous perversion," she states, arguing it creates a "performance society" where adolescents feel they only exist if they are seen and applauded. She links this need for external validation to dangerous trends, from anorexia competitions on TikTok to the rise in gender dysphoria, suggesting these are often manifestations of a desperate need for recognition and identity in a standardized world.

Scanu also offers a sharp critique of the intersection between Public and Private sectors (Global Public-Private Partnerships). She argues that the State has failed its duty to protect citizens, becoming a partner to private corporations interested solely in profit. She recalls that health data was sold to IBM decades ago, undermining trust in state-run data protection. A striking example she provides is the "electronic school register".

While seemingly a tool for efficiency, Scanu argues electronic school register has destroyed the educational dialectic between parent and child, removing the child's right to manage their own failures and privacy.

"The son got an insufficient grade and didn't tell the parent... With the electronic register in real time, snap! The parent knows immediately, there is no more secrecy". This lack of secrecy trains citizens from a young age to accept a state of constant surveillance where nothing is private.

Furthermore, Scanu delves into the psychological risks of Smart Home devices and AI assistants like Alexa. She cites the disturbing statistic that Alexa received hundreds of thousands of marriage proposals, interpreting this as a symptom of profound social isolation and the inability to form deep human relationships. She warns of a paradox:

"The dehumanization of man is the counterpart to the humanization of technology".

By delegating tasks to machines, from turning on lights to answering questions, humans seek comfort but achieve atrophy. She references the movie Wall-E to illustrate a future where humans are immobile, dependent consumers who have lost basic skills like reading a map or remembering phone numbers. She also highlights physical dangers, recounting a story of a man who drowned in his smart home because the electronic locks failed during a flood, turning his house into a trap.

Regarding the future, Scanu is pessimistic about the "human-machine hybrid" (transhumanism), viewing it not as an enhancement but as a loss of the spiritual and ethical characteristics that define humanity: freedom, truth, and responsibility.

Scanu argues that a life dominated by AI, which provides all the answers, destroys the very essence of human existence: the search for meaning.

Quoting Socrates, she reminds us that "a life without research, that is, without asking questions, is not worthy of being lived. But a life completely dominated by artificial intelligence has no more questions; it is a life without fantasy".

However, Scanu does not leave us without solutions. She advocates for a radical "digital detox," citing a UK study where students who abandoned smartphones saw their academic performance rise by 14%. She calls for a ban on smartphones for minors under 16, comparing it to restrictions on alcohol or tobacco, and points out the hypocrisy of tech elites like Steve Jobs and Bill Gates, who famously kept their own children away from the very devices they sold to the world.

Her ultimate advice to parents is to form "alliances": small groups of families who collectively decide to keep their children off social media, thereby reducing the social pressure on the individual child.

"You need to cast a seed," Scanu concludes, emphasizing that reclaiming ownership of one's time, attention, and data is the only way to preserve human dignity and democracy in an increasingly automated world.

2.2.2 Analysis and Insights: Understanding People

The investigative process detailed in this section was structured through rigorous phases of qualitative data collection and elaboration. Each interview conducted was audio-recorded and transcribed verbatim to ensure the highest fidelity to the participants' voices and expressions. Initially, a vertical analysis was performed on each individual profile, extracting specific insights, biographical context, and key points relevant to that single user's experience. However, individual analysis alone was insufficient to capture the complexity of the phenomenon under investigation. To fully understand the relationship between individuals and the digital ecosystem, it was necessary to move beyond the single case study.

ONE-TO-ONE ANALYSIS OF THE INTERVIEWS

Therefore, a cross-analysis was implemented. This horizontal approach involved comparing the answers and reflections across all interviews to general public to identify significant recurrences, divergences in opinion, and transversal behavioral patterns. This method allowed for the mapping of the general sentiment regarding technology: capturing not just what users do, but how they feel about it, the contradictions, the resignation, the fears, and the coping strategies that characterize modern digital life.

CROSS ANALYSIS

In the following pages, the results of this comparative investigation are presented visually, organized by the specific themes explored during the conversations. The analysis begins with Personal Data, where users define what this concept means to them individually, ranging from bureaucratic documents to their own life history and sense of identity. The focus then shifts to Digital Personal Data, exploring how this intangible category is perceived, often as more abstract, fragile, or harder to define than physical data. Through the lens of Data Responsibility, the analysis highlights the users' reflections on who holds the duty to protect citizens, debating the conflicting roles of the State, Data Protection Authorities, or the Social Media platforms themselves. The investigation also probes the Desire to Erase Traces, distinguishing between those who actively wish to delete their digital footprint and those who feel they have "nothing to hide." A deeper dive is taken into Specific Data, such as Bank Data and Biometric and Health Data, revealing the strict boundaries users draw when their financial security or physical identity is at stake. The survey covers the IoT landscape with a particular focus on the Smartwatch, illustrating the tension between the utility of tracking and the oppression of constant connectivity. Furthermore, the section on Data Sharing maps the spectrum of user behaviors, from refusal to acceptance, regarding cookies and permissions, often highlighting a pervasive sense of forced consent. In Privacy Protection, the analysis gathers user sentiments on whether they truly feel safe online or if they have surrendered to a lack of control. Finally, a specific focus on Minors exposes the widespread concern regarding the vulnerability of younger generations and the lack of adequate protection in the digital space.

COMPARATIVE INVESTIGATION

This deep dive into the users' mental models, emotional barriers, and latent concerns was not merely an analytical exercise; understanding these friction points and the current "state of the art" of user perception was the necessary foundation for the subsequent phase of the project: the creation of Personas.

Personal Data

"Privacy comes to mind immediately, being the owner of my personal data. I'm a bit obsessive about this; I'm always terrified of making a mistake, of putting in more data than necessary." *Rita*

"Regarding personal data, I definitely think they're something closely tied to a person's identity. And concerning, I don't know, the registry office, physical documents." Furthermore, he reflects on the importance of paying attention to their use: for example, simply in how one writes their name and surname. *Luis*

I think about my age, where I live, everything that concerns me personally, my passions, maybe even photos, things I generally might have on my phone or even at home: anything personal of mine that concerns me both physically and digitally. *Maira*

"I guess they are, I don't know, at the Town Hall." *Francis*

"Personal data is everything linked to a person's identity. It can be seemingly 'aseptic' things, like your date of birth, tax code, or license plate. But actually, there's a whole world behind personal data, because there's hypersensitive data, like medical records. There's also data about our movements—like passing through a toll booth or under a camera that records our presence in a specific place at a specific time. All of this tells us who we are. But it also tells us where we were, what we were doing, and maybe sometimes even why. So, it really expands into something huge." *Andrea Martina*

"I think about my life, I think about what I've done, I think about what I could do, how I could have done better, things I could have avoided." *Pio*

"My age, my first name, surname, home address, all those things you write on documents that you only give to trusted people, or anyway people who are allowed to have them, or when you have to sign up for something." *Michela*

"Personal data, first name, last name, birth date, really me as a person. And then maybe bank accounts too." *Claudia*

"Sensitive data comes to mind, the kind referred to my emotional sphere, my personal sphere, definitely not what I eat, what I drink, or which team I support." *Ugo*

"In general, with personal data, I think of something linked to privacy, so something personal that, theoretically, others shouldn't know." *Francesca*

Digital Personal Data

Francesca thinks about data on social media and banking data (which she is very careful about).

"Well, my personal data. The first thing that comes to mind, nowadays, is that a few too many people have free access to it." *Thomas*

"Well, regarding digital personal data, I'd say they are mainly credentials and passwords, all those fixed or even temporary identifiers. For example, there are OTP codes... which change every time. Then there are fixed data. Obviously, also all those passwords linked to social platforms, so email. Email is perhaps the broadest and most multifaceted digital identity, I believe... So I'd say everything falls under this big umbrella." *Andrea Martina*

"Everything personal of mine that ends up on the Internet: who looks at me, who follows me, who sees my photos, my photos, my videos, everything of mine that's online." *Michela*

"I definitely think they are a very important part of us." *Luis*

"It comes to mind that I look at the internet a bit for fun, sometimes out of necessity, sometimes to feel calmer, and sometimes a bit just to laugh." *Pio*

"I definitely think they are a very important part of us." *Luis*

"With digital data, maybe that's where I think there's more of a chance of losing some, or that they become, or are, a bit more fragile. [...] So I know it's important and it's serious if they get lost, but at the same time, it's not even clear to me what kind of data." *Francis*

"Abstract data, not concrete. Maybe I don't think about it much; it's a somewhat complicated world that I haven't really looked into yet." *Claudia*

"Digital data depends on the sphere it refers to: if it's about economics or banking, it has a certain value. If it's about my tastes or the movies I like, it clearly has another. Every area has its own worth and importance." For him, digital personal data has different values. *Ugo*

Data Responsibility

State

"I'd say at the government level, because by now it's so broad... personal data is everywhere in the end. So I expect part of the guarantee from the State. On the other hand, companies too, but I tend to think that they don't necessarily care about user privacy. They will care the moment the State puts an obligation on them, I suppose. The citizen themselves, yes, but when you accept the terms and conditions of any app, there are 20 pages; I don't know how many people read them." *Francis*

"For me, it should be the State guaranteeing correct communication and transparency of things, especially when talking about data. And companies primarily should be transparent. But there isn't much trust in what they tell you, so there is a lot of distrust. [...] I think the responsibility lies partly with the user too, but mostly I think of the State." *Luis*

"We as users have a part of the responsibility because it's a bit like, simply put, if we lose our wallet or keys... we need to know where our documents are, our things. So there is a part of custody that is ours, but then there is a big part played by whoever actually handles that asset. Let's say that for data protection, we are in the European system, so there is Italy with the Privacy Guarantor. [...] The State should be able to, more than manage, intervene in a much more serious and sanctioning way, because objectively the big companies that manage this amount of data have become so important and interconnected that they aren't particularly scared of sanctions, trials, and things like that. [...] That's why it's a triangle that falls without its vertices; all three must do their part." *Andrea Martina*

"I believe that a citizen's personal data should be held by the State, but certainly not by a private entity. Absolutely not, because a private entity could be... a murderer who opened a company, any mobster." *Thomas*

Data Protection Authority

Pio reflects on the role of the Postal Police. "I think the Postal Police are supposed to be there for those things. I don't know how much they actually check or monitor, but they should be there. They exist, but honestly, I don't know what they do."

"Well, it should be the ones who are supposed to guarantee privacy in every software. I mean, I think there is a figure of reference. I think there is someone checking, but I'm not sure, because sometimes you read news and it really seems like there isn't any privacy guarantor. Maybe the law exists, but it isn't followed perfectly." *Rita*

"The Guarantor should be responsible, the one who is currently supposed to guarantee our privacy sphere, but honestly... I don't even know who this Guarantor is. I don't know who he is, I have no idea who he is physically." *Ugo*

Social Media

"Every social media system should protect you." *Claudia*

Desire to Erase Traces

yes

Luis would like to delete photos of himself as a child that are on Google, but he doesn't know how. He has deleted content he posted when he was a teenager: "When you were maybe a teenager and you had other things, other mindsets, other thoughts."

"Years and years ago when I signed up for Facebook, being very young and naive, I had put a whole series of data including my mobile number, and so there I managed to modify and delete it. What I wanted to delete, I managed to delete." *Andrea Martina*

Maira had 3 or 4 Instagram profiles from early adolescence that she would like to delete, but she no longer has the passwords to access and delete the accounts. "I don't remember the password anymore, but it would be nice if we all reported them together, so they would be deleted.

"I deleted my Facebook and Instagram profiles. I haven't had Facebook for six years and Instagram for a year and a half. [...] It happens that they steal your identity, it happens that people you had cut ties with in the past and don't want to see again persecute you. It's true that there are those you want to see, maybe that you lost touch with, but the opposite is also true." *Thomas*

Francesca archived some photos in swimwear from when she was younger because "you hear all sorts of things nowadays."

Michela deleted photos she didn't like anymore, but she never posted anything by mistake that she wanted to remove. "As soon as you download apps like social media you start posting, you get caught up in the moment: stories, not stories, maybe you even post things that are a bit iffy. But nothing tragic, let's say."

no

"No. No, because I never did, let's say, the stupid thing of leaving my data in situations or on specific sites that could have misused it." *Ugo*

"No, I have nothing to hide." *Pio*

Claudia never thought about deleting content. However, she thought about deleting her Facebook profile but never actually did it.

Francis never wanted to delete data about herself, perhaps because she didn't have social networks when she was little; her parents don't have Facebook either, so they didn't post photos of her. "Maybe not really, because for example I didn't have Instagram when I was younger; I eventually downloaded it after high school. My parents don't use Facebook, they never posted photos of me... the things of mine that are there, I posted them myself."

Bank Data

"Online payments on smartphones or smartwatches? No. I use my credit card for what it is. Plus, if I had all that data on my phone... I already panic when I lose my phone—which has happened before—so if I had that stuff on there too, it would be a disaster." *Ugo*

Francesca is careful with her banking data. "As for home banking and stuff like that, I'm maybe a bit old-school because there's always a bit of anxiety that someone could manage to access personal things, like passwords and so on."

Out of caution, *Francis* doesn't say her passport number or banking PIN out loud near her phone. "Maybe it's a conspiracy theorist paranoia. I don't know. But it feels like more important and fragile data to me."

"Regarding banking passwords, I think I have enough control over those because I know where they are, and I know I only use them at certain predetermined times. I have habits regarding entering passwords only on my personal network; I hardly ever—unless I'm really in an emergency or forced to—perform operations where I have to enter my highly personal passwords, like at work or on public Wi-Fi." *Andrea Martina*

Biometric and Health Data

"For me, facial recognition is out. Dozens of books and movies have shown that this blasted technology can be used to hack you, to fake an identity, and ruin people's lives. Maybe someone in Africa uses your face for a porno, and then you go there and get arrested. It's an extreme example, but I find the whole thing abominable. They've basically handed a weapon to scammers, and scams have increased tenfold." *Thomas*

Luis reflects on facial recognition used during his driving theory exam "I arrived, sat down in front of a computer, and the computer automatically identified me with the webcam. It's absurd, I mean, maybe it's normal today, but for me, getting there and doing all this left me a bit perplexed. [...] So it was a bit of a mix between 'cool' and 'I'm a bit scared of this.' On one hand, it brings advantages: it makes things easier. [...] There are advantages, but at what price?"

Thomas reflects on the possibility of identity theft. "It happens often, they steal your identity. Now they even play the '8-second game.' If you answer the phone and say: 'Hello, good morning,' they record your voice; they steal your voice even to sign contracts."

Maira is worried about the use of the microphone and camera on TikTok: "Let's say I speak generally about something and the phone immediately listens to me, maybe when I have it open. I actually saw this today, I got worried, I said, 'No, wait, let me see!'"

Smartwatch

uses it

Thomas bought a smartwatch out of curiosity but doesn't find it that useful for his lifestyle: "I have a smartwatch. I bought it a few months ago because I wanted to try this experience too, what it means, what it is. The most useful thing it has is the GPS, in the sense that if you go for a walk and get lost in the woods, they can find you. There, that's a positive thing, but considering the statistics, considering the number of times something like that can happen in 2025... I think that's also the only positive thought I can give it."

"I have an Apple Watch and I use it basically every day: when notifications come in, I take a peek; plus, there are various modes for the gym, so I use it a lot." *Francesca*

Francis uses a Fitbit to monitor and track physical activity; she would like to use it to monitor sleep quality. Regarding the data on the smartwatch, she states: "I'd say if someone read them, it's not a problem; I mean, it tells you how many steps I took when I used it and stuff. But yeah, ultimately, it's personal health stuff, so maybe it's not even that unimportant; maybe it's more important than I realize."

"I have a smartwatch and I mainly use it to see the WhatsApp messages that come in without necessarily having to go to my smartphone. I don't give out sensitive data, like online payments, with the smartwatch." *Ugo*

quit it

"I had a smartwatch but it broke, and I stopped using it, even though I'd bought a replacement, because I realized that mentally, it was becoming a bit of a slavery. [...] That constant connection... I felt a bit oppressed. I mean, I already have my phone: you can contact me there. [...] If my hands aren't free, I can't answer the phone, but feeling like I have to answer just because I can... If it's really a matter of life or death, just call me." *Andrea Martina*

"I had one and I turned it off. I want nothing to do with these things." Gianna has a smartwatch, but she doesn't want to use it anymore. *Gianna*

refuses it

Pio is fond of his analog watch: "Smartwatch? No. I'm in love with my Seiko, and that's that."

wants it

Maira expresses a desire to have an Apple Watch: "I don't have the Apple Watch... maybe in the future I'll get one."

Data Sharing

refuses

"When I go to read something and those damn cookies always pop up, I'd rather just not read it, or I find a way around it and look elsewhere. Otherwise... oh well: that's one less thing I'll know, and I'll die happy anyway. But it's bad. They make you sign all the forms, but the truth is, with digital identity, privacy is zero." *Gianna*

"Every time I visit a site, I don't click 'accept all cookies'; I always choose 'reject' or 'only necessary.' Anyway, I take that little bit of time to have at least a semblance of control." *Andrea Martina*

accepts

"The thing I think about is: what can I actually do about it, even if I know the risk? Because I might have to use certain services." *Francis*

"If I need the service, the service matters more than knowing where my data ends up." *Rita*

varies

"Sometimes I think about it and I'm a bit reluctant to share, other times I just give up the data without making a fuss." *Ugo*

Privacy Protection

"It would probably take a week to read all the privacy policies. You know that physically they're stored in mega computers, servers, and databases. But that's just the physical side; there's a whole immaterial side, which is the one actually being used, where, honestly, I don't really know where they end up." *Andrea Martina*

"Maybe I just accept things as they are, maybe I don't worry about it too much and say: 'Since I have nothing to hide from anyone, if they look at me, what they see is fine by me.' Since I have nothing to be ashamed of, I have nothing to hide." *Pio*

"It's not that I'm overly suspicious, but whether it's a message, an online search, or anything else... I don't expect it to be 100% something that stays between me and the computer." *Francis*

"I don't think I have much control over my digital data because... well, if you're interested in seeing a post, something you care about, you just accept. You know they ask for pretty much everything, and you just say, 'Come on, they can't really do anything to you anyway.' But I think that in the end, if someone wants to take your data, they can do whatever they want." *Alina*

Minors

"In my opinion, they should do something so that kids, at least until they are 16, can't access certain things. That's for sure. Because nowadays there is too much freedom: a 4-year-old with a phone in their hand, an 8, 10, 12-year-old who can access whatever you want... 8, 10, 9 years old, they don't have the head for it, but a kid of 11, 12, 13 who can access YouPorn and things like that, I just don't see it... So there, that's where I say that in my opinion these things should be much, much, much more closed off, much more protected." *Pio*

"For my daughter who is twenty, we allowed the cell phone maybe in middle school, and I can say she was monitored quite a bit because I was a little scared, you know, a girl, innocent, like that, right? And the others... the last one who is 10 now, I think he was 4, because yes, I bought one for the middle one, and he wanted it too. But only to watch cartoons, things like that. Then they got tablets too. It's a bit early, but now they are more practical than me, and you just trust that they watch things that are for their benefit and that they don't watch anything else." *Alina*

"I see some influencers I follow, maybe those who have kids: once they used to post them calmly, with photos of the children and so on. Now, instead, they start covering their faces or whatever, always for privacy issues, because unfortunately you hear all sorts of things nowadays. But I can say, if I had a child in the future, maybe I wouldn't post them right away, you know, because they're a child after all." *Francesca*

"I'm not convinced that minors are properly protected. Honestly, if they were, we wouldn't have all these groups of bullies who used to surround you in the town square, but now surround you in the 'virtual square.' That's not protection. And in my opinion, minors aren't particularly protected because, especially during adolescence, you have no sense of danger, no awareness, and no foresight. It's obvious, it's just physiological. So, anything they share can really backfire on them, and they don't have much protection because they don't know how to avoid making mistakes." *Andrea Martina*

"Minors don't need a cell phone. In my opinion, until you're 15, you really just don't need one. So that's already the parents' fault. The main blame lies with parents who bought phones for 6 or 7-year-olds and just left them to it. Web protection doesn't exist. We tried it with my son, with all the limits you can set on YouTube. They don't work; they always manage to get around them somehow and see a bunch of stuff, no matter how many limits you set." *Thomas*

"As a teacher, I can say that kids aren't protected at all, neither by their parents nor by those who should guarantee some morality or control. I see it firsthand because some students come in and sleep in class after staying up all night on social media. And the kids themselves... it seems they feel the need to make videos just to prove they exist." *Rita*

"In my opinion, minors aren't protected online at all, because lately you hear about abuses. Or even kids using cell phones and already having Internet... it doesn't seem very appropriate to me, let's put it that way." *Claudia*

2.2.3 Personas: Shaping People

Following the qualitative analysis of the interviews and the cross-analysis of recurring themes, the gathered insights were synthesized into structured archetypes. This phase of the research marks the transition from data to actionable character models through the development of six distinct Personas.

Methodologically, the construction of these profiles adopts the "Engaging Perspective" proposed by Lene Nielsen (2004). Unlike traditional goal-directed personas, which focus primarily on tasks and workflows,

ENGAGING PERSPECTIVE

engaging personas are designed to evoke empathy and foster a deeper understanding of the user's worldview.

They are not merely representative users but fully realized characters with backstories, emotions, and social contexts. This approach is particularly crucial for a project investigating sensitive topics like digital privacy and data sovereignty, where user behavior is driven more by beliefs, fears, and social pressures than by pure functional logic.

The six personas developed represent a diverse cross-section of society, differentiated by age, gender, and occupation, ranging from students entering adulthood to retired professionals. Each profile offers a narrative window into their relationship with technology, detailing their daily screen time, the specific social platforms they inhabit, and the IoT Devices that populate their homes.

A core component of these profiles is the analysis of their attitude toward Privacy. This is not presented as a binary setting but as a nuanced spectrum: each persona sheet visualizes their stance through sliders measuring their level of concern (from "Concerned" to "Not concerned"), the proactive measures they take (or fail to take) to protect their data, and their degree of openness on social media (from "Open to sharing" to "Reserved"). Also, goals and pains were added to each persona.

Furthermore, to enhance the "engaging" quality and provide immediate visual context, each persona is accompanied by images and comments. These images simulate the actual content the persona posts or consumes online, while the comments add them a particular tone of voice. This visual layer adds a tangible dimension to their digital identity, moving beyond abstract description to show how they present themselves to the world.

By grounding these archetypes in the real sentiments emerging from the interviews, these personas serve as the empathetic foundation for the subsequent design of speculative future scenarios.

Vera

18 yo

Hospitality High School Student, Waitress

I never read the privacy settings when I download an app and when it says privacy it's just "OK e Ciao!" I'm not gonna sit there reading! The only thing I might actually care about is the microphone and camera access on any app because I'm scared they're listening to me.

DAILY SCREEN TIME	5h
SOCIAL PLATFORMS	TikTok, Instagram, BeReal, X
OTHER TOP APPS	Whatsapp, Netflix, Disney +, Spotify
IOT DEVICES	Alexa, Smart TV, Smart Watch

Hey, I'm Vera, I'm 18, and I'm proudly half-Albanian. My top 3 things in life? Cooking, my cat Joker, and nights out with my girls. Now that I've finally reached my senior year, I can officially say the most fun part is being on the Senior Committee. I manage our Insta page, and I honestly love posting and sharing flyers for the parties we organize. My ideal Saturday (when I'm not waitressing at the restaurant) is a chill afternoon with my besties (I call them my "galline"), grabbing takeout, gossiping, and then going clubbing. Obviously, I document everything on Insta, both on my main profile and especially on my spam account, @ vera.mente. On my public profile, I post way less (just aesthetic pics or the occasional selfie where I feel cute). Strictly Stories, obviously, feed posts are so Millennial. But on my private account, I love posting monthly photo dumps, random stuff I like, or Story reviews of the latest true crime series I watched with my brother Dritan. My favorite social app is definitely TikTok, though. I waste so much time there because the edits and niche humor crack me up. But I use it for practical stuff too: I find a lot of inspo for nights out with my girls. Actually, thanks to a TikTok, we just started a full rewatch of the Barbie movies. At home we have Alexa and I use it to set timers or just ask something when I don't have my phone nearby, if she answers me! And guess what, I got an Apple Watch... an early Christmas surprise from my parents!

Concerned about privacy — Not concerned about privacy

Takes measures to protect privacy — Doesn't take measures to protect privacy

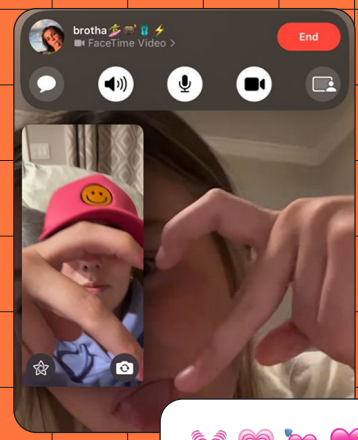
Open to sharing on social media — Reserved on social media

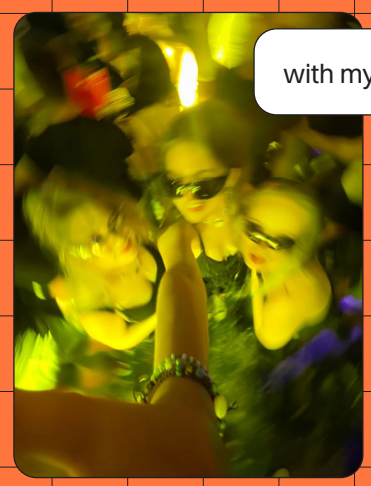
Goals

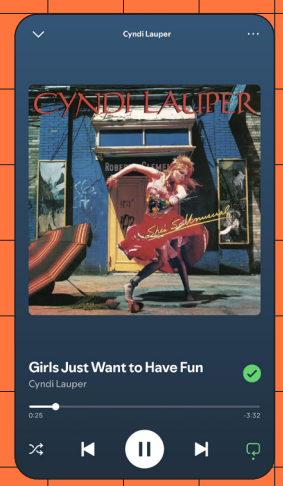
Vera wants to find a job that allows her to be financially independent

Pains

Vera fears how her relationships with school friends will evolve







Martina

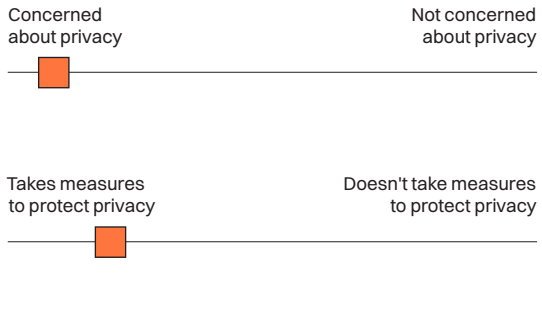
23 yo

Graduate in Tourism Languages and Cultures

Unfortunately on most websites if you don't accept certain conditions you can't use them. You could try looking for that info on another site but then the same problem pops up again. So I tell myself I'm kind of forced and it feels like I just have to adapt.

DAILY SCREEN TIME	1h 30 min
SOCIAL PLATFORMS	Instagram, Linkedin
OTHER TOP APPS	Vinted, Youtube, Whatsapp, Spotify, Health app
IOT DEVICES	Smart Watch, Smart Car, Smart TV

Ciao, I'm Martina and I just graduated in Tourism Languages and Cultures. My dream is to make a living while traveling. When in middle school my classmates started having Instagram or Snapchat, which was huge at the time, I didn't want it. Also I've always been quite conscientious, maybe thanks to my parents who never had social media and have always been very careful when it comes to privacy. Then in my second year of high school, when I was already a bit older, I downloaded Instagram. It was mostly a way to keep in touch with some guys I did an exchange with in Spain. Actually I don't post much, in fact my bio is I only post when I travel. I only publish photos of the little trips I take with my friends or my family. Anyway since Instagram has Reels I realized I was spending way too much time on it. So I downloaded an app that blocks social media at a time I set. Since I have this app I waste much less time. Instagram also scared me a bit once because I had talked to my sister about a book and the ad immediately popped up. Since the start of my Instagram detox period maybe the app I use the most is Vinted. Taking photos of clothes relaxes me and it's also a way to earn a little extra cash. I have a smartwatch. I don't wear it constantly. Sometimes when I go for a run but not always because I forget it or the battery is dead. I also find it a bit annoying having to charge the watch too. My car is also smart and I find it useful to answer if someone calls my cell phone or to listen to my playlists.



Goals

Martina wants to save a little more money to realize her dream of a solo trip to Japan

Pains

Martina is worried about not finding a job consistent with her studies

Flavio

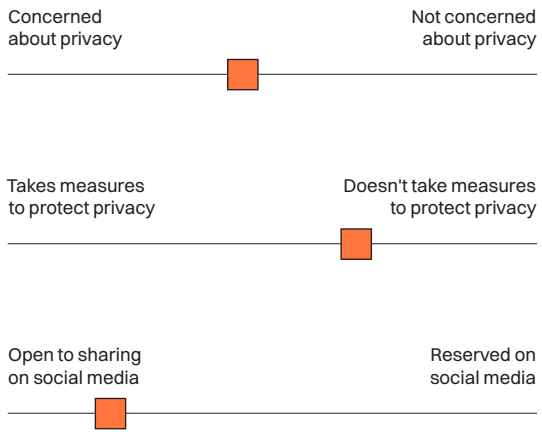
33 yo

Bank Clerk

I lived through the shift from the analog to the digital world and I saw the birth of all social media. Over the years I've had almost all of them. I've always liked sharing on social media but today I'm much more aware of what I post because I know the risks well.

DAILY SCREEN TIME	2h 30 min
SOCIAL PLATFORMS	Instagram, Facebook
OTHER TOP APPS	Spotify, Whatsapp, Health app, Apple TV, Netflix
IOT DEVICES	Smart Watch, Alexa, Smart TV, Smart car

Ciao, I'm Flavio I'm 33 and I work at a bank. I've been independent for years now and I have a good work life balance which allows me to take quite a few trips out of town. I'm a very active person and over the years I've had a ton of passions like horse riding skating makeup piano. Basically everything is documented like a diary on Instagram which is the social media I use the most today. In my stories I post photos of what I do like aperitifs with my longtime friends photos at yoga class dinners out with my partner parties birthdays weddings and the first baptisms of my friends' children (help I feel old). In my feed posts I mainly publish photos of the trips I take or special events. And then I also use Instagram to follow my friends to stay informed for fashion inspo and future trips or for whatever passion of the moment. I also have Facebook but don't use it anymore. I signed up as soon as it came out and over the years I even posted too much and in some cases I deleted old posts and even my phone number. At home I have Alexa which I use to set timers to listen to music while cooking and to ask existential questions ranging from what's the weather tomorrow to should I try Buddhist meditation? I also have a smart TV which I find super convenient. Even in the car I use the bluetooth function a lot to listen to Will podcasts while commuting to work. Plus I've had an Apple Watch for years which I use daily to read notifications and track physical activity and sleep quality. My friend Virginia bought the RayBan Meta glasses and I'm thinking about getting them too.

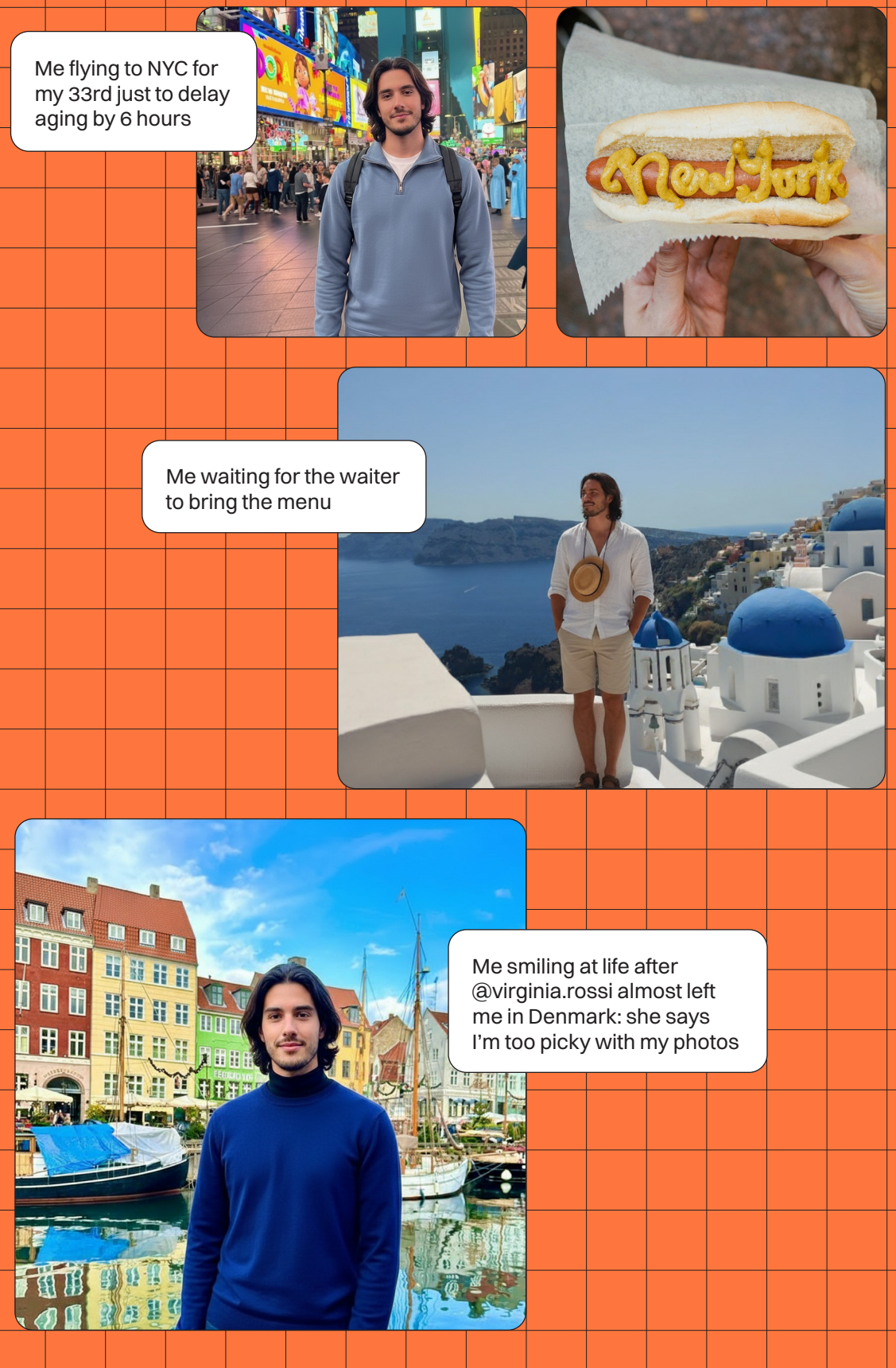


Goals

Flavio wants to attend yoga classes more often and take better care of his physical wellness

Pains

Flavio is annoyed by his mother asking when he will get married



Christian

46 yo

Wine Merchant

Privacy doesn't exist, both because tech companies don't guarantee it, and because people give it away far too easily on social media. TikTok? Useless. Instagram? Pointless. No Instagram. Facebook? You don't need it, period!

DAILY SCREEN TIME	1h
SOCIAL PLATFORMS	/
OTHER TOP APPS	Whatsapp,Telegram, Health, Netflix
IOT DEVICES	Smart Watch

Ciao, I'm Christian and I've been a wine merchant since I was 24. I really love my job because, since I sell a lot abroad, I get the chance to travel. I have two sons: Luca, from my first partner, who is 19 and already lives on his own; and Leon, the little one, who is 6 and is in his first year of elementary school at an educational farm. I had Leon with Emma, my current partner. Emma is German, and what I like most about her is her intelligence: just like me, she rejects social conventions and believes in the importance of critical thinking. Unfortunately, today's world is dominated by capitalism and mass control: we are all victims of a system that views us as pawns. That's why, a few years ago, I decided to delete my Facebook and Instagram accounts. They've become something abominable that turns people brain-dead, and this is coming from someone who got the first iPhone as soon as it came out. I haven't had a TV for many years now: to stay informed, I rely on Google and Telegram. I always try to inform my circle of acquaintances that the reality they show us isn't the real one: some listen to me, some don't, but I try to open people's eyes regardless. It makes me feel at peace with myself. Many label me a conspiracy theorist, but I simply consider myself resilient against a system I don't feel a part of. I bought a smartwatch out of curiosity, but I don't find it that useful for my lifestyle. I wouldn't buy Alexa even under torture: my smartphone is more than enough to monitor me. I certainly don't want to have my identity stolen.

Concerned about privacy — Not concerned about privacy

Takes measures to protect privacy — Doesn't take measures to protect privacy

Open to sharing on social media — Reserved on social media

Goals

In a few years, Christian would like to open an agritourism featuring farm-to-table products grown in his father's vegetable garden

Pains

Although he won't admit it, he feels that his relationship with his eldest son is somewhat strained

Katia

54 yo

Middle School Custodian

I’m careful not to post photos of my house. And if I go on vacation, I post them when I get back: thieves are out there.

DAILY SCREEN TIME	5h
SOCIAL PLATFORMS	Facebook, Instagram
OTHER TOP APPS	Whatsapp, Candy Crush, Pinterest
IOT DEVICES	Smart TV

Buongiorno, I’m Katia, a Middle School Custodian and a mom of 3: Fabiola, 25, Devis, 17, and Mattia, 15. Fabiola is the most responsible, maybe because we were stricter with her. She only got a cell phone at the end of middle school and we checked up on her more, also considering she’s a girl and you never know who’s out there. Devis and Mattia got theirs at the same time: Devis kept insisting; so we bought one for Mattia too, as we didn't want to leave him out. One was 12 and the other 10. I have Facebook and I use it to snoop on what people I know are doing and to find inspiration for my creations: I make jewelry with recycled materials. It’s also useful for advertising myself: I post my creations there and people buy them, messaging me on Messenger. Apart from that, I don't post much: maybe a quote or special family moments. When the children were smaller I posted photos, but never in swimwear. Apart from that precaution, I was pretty relaxed, since I’m only friends with people I know. I also find certain Facebook groups very wonderful: my husband has a rare disease, so I compare notes with people who have the same illness. It gives me a lot of strength. I only have a Smart TV, but I don't know how to use it. I get Devis or Mattia to set it up. I don't have Bluetooth in the car: I don't care to have everyone hear my conversation. My daughter bought me a gadget but I don't use it: if it’s important, I pull over.

Concerned about privacy — Not concerned about privacy

Takes measures to protect privacy — Doesn't take measures to protect privacy

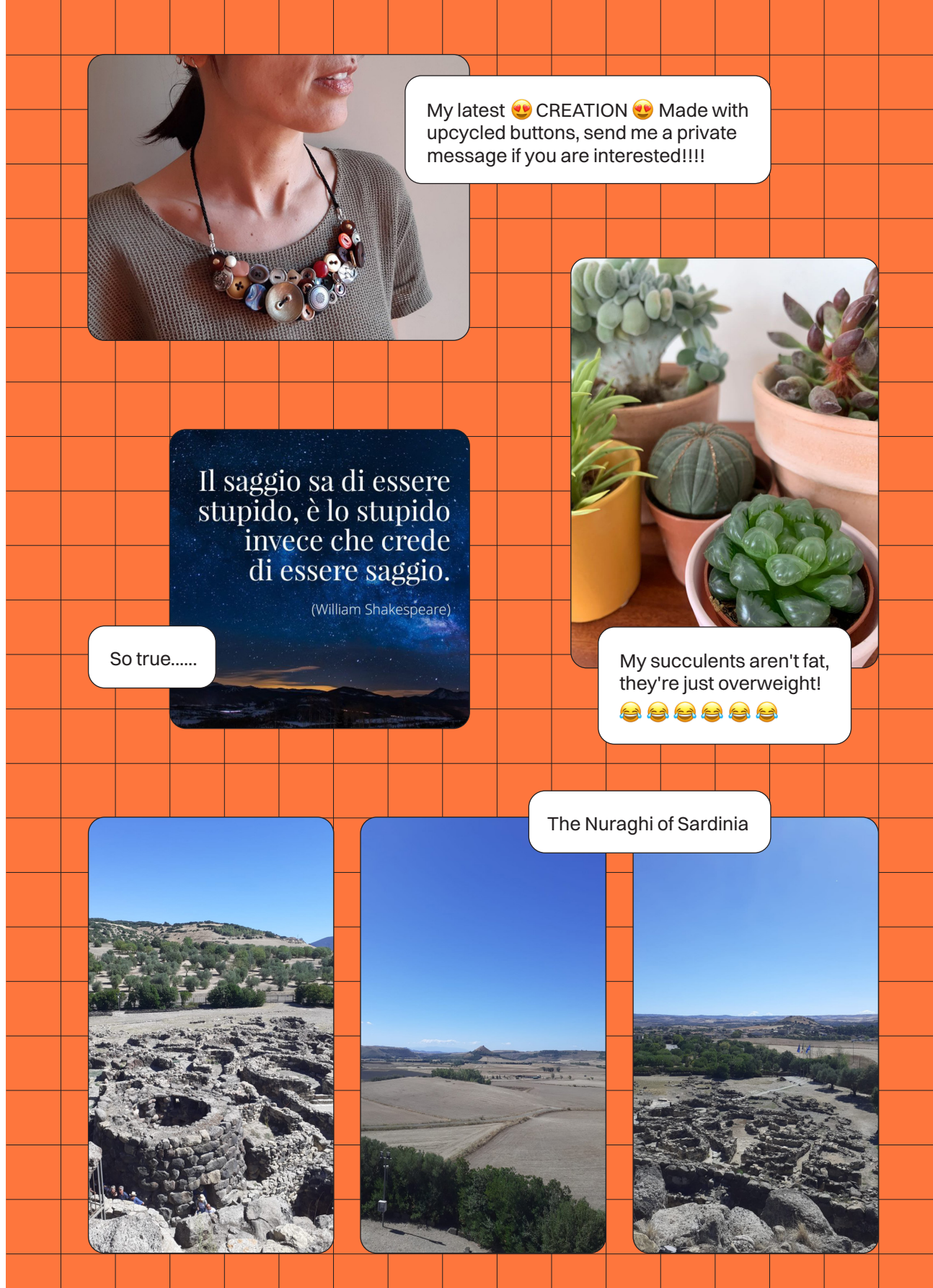
Open to sharing on social media — Reserved on social media

Goals

Katia would like to learn how to work with clay for her creations

Pains

Katia is worried about Mattia, her youngest son (15), who is at risk of failing the school year



Gianfranco

65 yo

Car Sales Consultant

I know there is a Privacy Guarantor who is supposed to be in charge of protecting it, but honestly, I don't even know who that is.

DAILY SCREEN TIME	2h
SOCIAL PLATFORMS	Facebook, Instagram
OTHER TOP APPS	WhatsApp, Health, Sky, DAZN, Prime Video
IOT DEVICES	Smartwatch, Smart TV, Smart Car

Salve, I'm Gianfranco. In order of importance, I am also Carla's husband, Enea's step-grandfather, a fan of Juventus and Sinner, and a car salesman. Theoretically, I'm already retired, but I couldn't just stay home doing nothing, so I keep working until Carla retires too. Working as a car dealer, I have to adapt to the times and stay informed, so I use the Bluetooth features in my car to answer the phone and talk to Enea. In my free time, I like playing tennis and going for a jog. I also have a smartwatch, which I use to track my times and distances when I run. Now, one thing I will never do is put my banking details on my smartwatch or smartphone: I already panic when I lose my phone, which has happened before... If I had that data on these things too, forget it! In general, I am very careful with certain data: for example, when I have to type my passport number or credit card number on the PC, I always try not to say it out loud. Maybe it's a conspiracy theorist paranoia, but it makes me feel safer, seeing as whatever you say immediately appears on some social media. I mainly use Facebook, but I'm an observer. I like to snoop around but I don't post many things. I mainly read news about Juve or tennis. Even regarding my vacations, I leave some clues, but very little stuff; I don't like putting my business out there for others. Carla sometimes complains because I watch Juve on the Smart TV and Sinner on the tablet: what can I do? My heart is split in two. Plus, I'm justified, seeing as I also write articles on the local sports page.

Concerned about privacy — Not concerned about privacy

Takes measures to protect privacy — Doesn't take measures to protect privacy

Open to sharing on social media — Reserved on social media

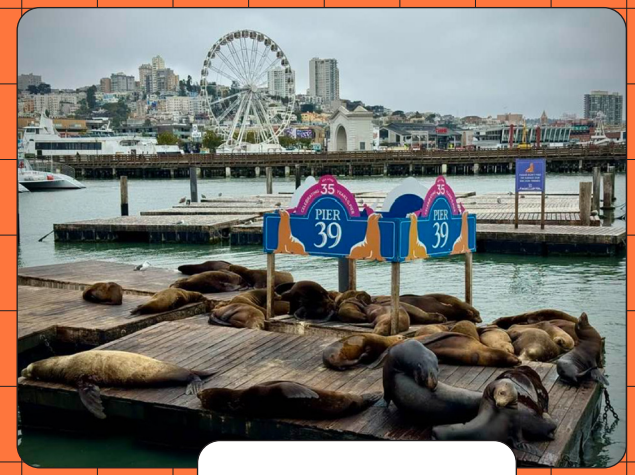
Goals

Gianfranco wants to spend more time with Enea, his wife's grandson

Pains

Gianfranco is starting to get tired of working and can't wait to retire

Rome, the Eternal City



They are sleeping, we walked 15 km today

India

Until the end Forza Juve, but today is tough

Sequoia National Park, never seen giants like these

3. The Project: Sequin

3.1 Defining the Concept

3.1.1 What If

"This is why speculative fiction is not effective at telling the future but the present. It takes an aspect of today that concerns us or seems dangerous and amplifies it, extrapolating the consequences until it allows the audience [...] to see what is really happening, but from a novel viewpoint and angle. It serves as a warning."

The formulated "what if" scenarios draw precisely from the “If this goes on...” construction identified by Gaiman: they start from the present, highlight its criticalities, and return them in the form of a storyconcept. For their writing, inspiration was taken from the cards of the game “Dixit.” In the following pages are the "what if" scenarios that emerged from the individual writing, later re-elaborated, unified, and merged into the five subsequent proposals, in which the involved stakeholders and tools or devices are explicitly defined in an embryonic phase. The last "what if" was chosen as it is considered the most powerful, offering the widest scope for speculation and design critique.

FROM "IF THIS GOES ON" TO SCENARIO CONSTRUCTION

For writing the storyconcept, the “what if” technique was used, asking “what would happen if...?” by extrapolating current aspects related to the value of personal data. This approach allows for speculation on a near-future situation, starting from present insights and criticalities. It is crucial to emphasize that storyconcepts have the undeniable goal of verisimilitude. Specifically, the formulated "what if" scenarios refer to the “If This Goes On” construction identified by Neil Gaiman, writer and cartoonist who, in the introduction to Ray Bradbury’s Fahrenheit 451, writes (Neil Gaiman, 2013):

There are three constructions that trigger the mechanism of writing into the future (you can call it science fiction, speculative fiction, or whatever else you like). There are three elementary hypotheses:

“What if...?”

“If only...”

“If this goes on...”

The first, a question about the meaning of change, allows us to detach ourselves from our everyday experience. (“What if extraterrestrials arrived tomorrow to give us everything we need, but at a price?”)

“If only...” is the hypothesis that opens up the most spectacular expectations for the future, but also to possible risks. (“If only dogs could talk. If only I were invisible”. “If this goes on” is the formula closest to an authentic prediction, although it does not attempt to anticipate a plausible future in all its complexity. [...] (“If this goes on, global communication will happen only through text messages and via computer, while face-to-face conversation between two people, without the mediation of the machine, will be outlawed.”)

“If this goes on” is the preferable form for writing a storyconcept precisely because it starts from present and real premises, unlike the more science-fiction-oriented and less tangible “What if...” and “If only...” constructions. Referring to “If this goes on...,” Gaiman points out:

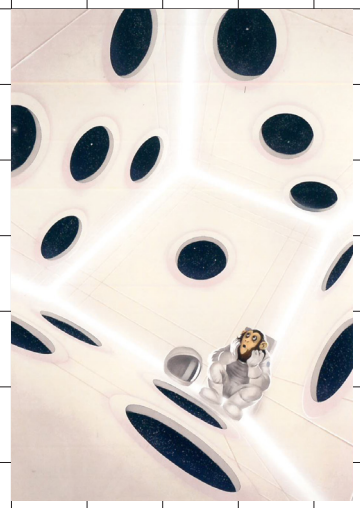
As a hypothesis, it represents a warning and allows us to explore worlds that have the value of cautionary tales. Many people think, mistakenly, that future narratives make predictions: not at all, and even when they try, they often end up looking foolish. Possible futures are big things, composed of countless elements and variables: it’s a pity that the human race has a habit of listening to hypotheses and then doing something completely different.

Unanimity Piazza

blurring boundaries / surveillance / access / continous control

What if on a social media Christian saw only contents which continually confirm his beliefs?

Die Welle - The Wave, Dennis Gansel (2008) | Shut up and dance - Black Mirror, James Watkins, Charlie Brooker, William Bridges (2016)



TOOLS / DEVICES

- → social media app
- → reel video
- → channels
- → smartphone
- → recommendation algorithm

STAKEHOLDERS

- → user
- → social media company
- → users of the same network
- → other networks' users

The most popular social media is like a city made up of many virtual squares, where each user frequents their own. In his Piazza, Christian only meets and confronts users who have the same opinion and beliefs as him. How would he behave if, in order to continue using the social media for free, he were forced to interact with someone who had very different or even opposing opinions?

- ● Demographic Data
- ● BEHAVIOURAL DATA
- ● Geolocation Data
- ○ Biometric and Health Data
- ● Social and Relational Data
- ○ Financial and Economic Data
- ○ Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Encouraging Guru

hyper-customisation / avoiding conflict / performance / comfort zone

What if Guru pushed Flavio to become the best version of himself to ensure his wellness?

Her, Spike Jonze (2014) | La tecnologia è religione, Chiara Valerio (2023) | Data meditations, HER: She Loves Data (2020) | Brave New World, Aldous Huxley (1932) | Our friends electric, Superflux (2017)

TOOLS / DEVICES

- → IoT devices
- → vocal assistant Guru
- → Guru app
- → smarwatch
- → smart ring

STAKEHOLDERS

- → user
- → Institutions
- → Guru company
- → other companies

Guru is an artificial intelligence that manifests itself as a voice assistant. It processes and collects data from many smart devices in an intelligent system with the aim of pleasing the user and being what they want for them: assistant, confidant, friend, psychologist, spiritual guide, accomplice. How would Flavio react in the extreme case that Guru suggested he leave his partner to ensure his mental health?

- ● Demographic Data
- ● Behavioural Data
- ● Geolocation Data
- ● BIOMETRIC AND HEALTH DATA
- ● SOCIAL AND RELATIONAL DATA
- ● Financial and Economic Data
- ● Professional Data
- ● Technical or Digital Data
- ○ Publicly Available Data

Witch today, clerk tomorrow

identity / crystallization / hyper-customisation / context collapse / performance

What would happen if Flavio had to access social media every day embodying one of his archetypes?

Kim Noble (Artist) | Persona: The Dark Truth Behind Your Data, Jed Rothstein (2020 | BeReal app

TOOLS / DEVICES

→ entrance test
→ the social media app
→ notification system

STAKEHOLDERS

→ user
→ company
→ other companies

On the latest social media platform, each user can have multiple archetypes, with each one reflecting a different aspect of their personality (hobbies, interests, work, political stance, ...). These archetypes are initially established through a psycho-aptitude test and are refined over time. How would Flavio behave if, on Monday, he could only log in with the “Witch” profile, but he was at work? How would Katia behave if, on Tuesday, she could only see content related to her husband's illness?

- Demographic Data
- BEHAVIOURAL DATA
- Geolocation Data
- Biometric and Health Data
- SOCIAL AND RELATIONAL DATA
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

Super ID

blurring boundaries / surveillance / access / continous control

What would happen if personal data constituted one's digital identity, effectively becoming an actual document required for accessing public services?

SPID (Sistema Pubblico di Identità Digitale), Italian Government (2016) | Chat Control 2.0, European Commission (2022-2023) | Denmark Copyright Act (2025) | NFC technologies

TOOLS / DEVICES

→ smartphones
→ Super ID app

STAKEHOLDERS

→ user
→ company
→ State
→ data brokers

To ensure less social unrest and to detect law violations, the State has implemented the Super ID system, relying on private companies. This is a digital identity system that collects data from various providers and analyzes it with artificial intelligence, thereby granting or denying access to public services, and suggesting the best solution for each person based on the collected and analyzed data.What would happen to Vera if she were denied the possibility of taking a university entrance exam because her data made her incompatible?

- Demographic Data
- Behavioural Data
- Geolocation Data
- BIOMETRIC AND HEALTH DATA
- SOCIAL AND RELATIONAL DATA
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

What if personal data possesed intrinsic economic value and became a currency?

Opium of the Poor, Oil of the People

value / slot machines effect / blurring boundaries

Campbell's Soup Cans, Andy Warhol (1962) | Money, Pink Floyd (1973) | Nosedive - Black Mirror, Joe Wright (2016) | Terms and Conditions

May Apply, Cullen Hoback (2013) | Macchine Inutili (Useless Machines), Bruno Munari (1933) | Questro Nostro Grande Amore, I cani (2016)

TOOLS / DEVICES

→ data-bank app
→ coupon
→ loyalty card

STAKEHOLDERS

→ user
→ provider company
→ States
→ connected companies
→ other users
→ hackers

In the current economic system, data has significant economic value: it can be bought and sold, sometimes even stolen or counterfeit. Some data are more valuable than others based on topic, data type, or content. What data would Katia, who is in financial difficulty, be willing to give up in order to obtain the bonus convertible into real money to spend as needed?

- Demographic Data
- BEHAVIOURAL DATA
- Geolocation Data
- Biometric and Health Data
- SOCIAL AND RELATIONAL DATA
- Financial and Economic Data
- Professional Data
- Technical or Digital Data
- Publicly Available Data

3.1.2 Sequin

Sequin is a speculative digital ecosystem designed to explore the extreme consequences of identity commodification. The project is set in 2030, within a sociocultural context mirroring the current one, to emphasize present criticalities. Every design choice aims to highlight, in a more or less latent way, aspects and critical issues emerging from the analysis phase.

THE PROJECT CONTEXT AND CORE PREMISE

The app allows users to reclaim the economic value of their personal data, earning money from the sale of the data itself. The structure hybridizes the mechanics of a marketplace with those of a social network: users upload data advertisements, called "Glints", ranging from Netflix history to biometric data, in exchange for a proprietary virtual currency, the "Quins". This hybridization, combined with the direct link between the Sequin app and existing platforms, reflects and amplifies the phenomenon of Blurring Boundaries: the lines between private and public life, intimacy and commerce, and the roles of citizen and consumer are deliberately blurred until they disappear.

HYBRIDIZATION AND BLURRING BOUNDARIES

The interface is designed to maximize engagement, leveraging the psychological principles of the Hook Model and the Slot Machine Effect. The user is constantly prompted to scroll through the feed of others' data and surrender increasingly intimate portions of themselves to earn.

INTERFACE DESIGN AND ENGAGEMENT MECHANISM

Finally, the ability to purchase other users' data anonymously thrugh the Ghost Buy mode or to access sensitive information for marketing purposes or voyeuristic curiosity highlights criticalities related to Data Sovereignty and the erosion of privacy. Sequin is, therefore, a distorting mirror that, by exacerbating current trends, compels reflection on the multifaceted implications of the real price of digital identity.

DATA SOVEREIGNTY AND CRITIQUE

In 2030, the latest viral *app* is on everyone's lips: users reclaim the *value* of their personal data collected from *other apps* by selling it in a peer-to-peer ecosystem. The app is a hybrid between a marketplace and a *social network*: users upload *data ads* and earn *currency* from every sale. At the same time, they can browse and purchase *data of interest* through a *social-like* interface, in an app designed to keep them constantly *hooked*.

PERSONAL DEVICES
DATA SOVEREIGNTY
BLURRING BOUNDARIES
PERFORMANCE
INFERRED DATA
SURVEILLANCE CAPITALISM
HYPER CUSTOMISATION
SLOT MACHINE EFFECT
HOOK MODEL

THE PROJECT'S DUAL SOUL

The name "Sequin" was carefully chosen to reflect the platform's dual hybrid nature, suspended between a marketplace and a social network. Etymologically, the term encapsulates two distinct meanings that mirror the project's two souls: on one hand, it refers to the Zecchino (a Venetian gold coin), evoking the economic dimension, exchange, and the intrinsic value typical of a market; on the other, it refers to the sequin as the ornamental disc that sparkles on clothing, symbolizing the social aspect, the aesthetics of appearance, and the vanity typical of digital shop windows. Sequin is, therefore, the place where the solidity of currency merges with the ephemeral brilliance of the image.

WHEN THE SELF BECOMES CURRENCY

Analyzing the morphological structure of the word reveals a further layer of interpretation that reinforces the speculative concept. The prefix SE- directly calls to mind the Self (from the Latin *sui, sibi, se, se*), representing individual identity and the user's intimate sphere, which constitutes the "raw material" exchanged on the platform. The suffix -QUIN, meanwhile, identifies the ecosystem's proprietary virtual currency: Quins. Chosen as an abbreviation phonetically akin to the word Coin, Quins represent the unit of value measurement. The name Sequin thus becomes a perfect linguistic equation: the indissoluble union between personal identity (Se) and its market price (Quin).

MONETIZING THE GLINT ASPECTS

Consistent with this metaphor of luster and value, the ads published by users are named Glints. The term, which describes a brief, sudden sparkle or flash of light, defines the nature of the data within the feed: not static information, but a rapid, seductive reflection of the user's life, designed to catch the eye during a fast scroll. This vision is synthesized in the app's payoff: "Make every Glint count." A promise, and a warning, inviting users to stop scattering their digital traces and start making every single glimmer of their existence "count", effectively monetizing it.

sequin

make every glint count

Sequin

1. Coin

From the Venetian "Zecchino", a gold coin.

It represents the Marketplace side: the currency, the transaction, and the tangible price tag on personal data.

2. Sparkle

A small, shiny disk used for ornamentation.

It represents the social media side: the glamour, the addictive feed, the visual glint that catches the eye. It is the act of flaunting your digital self.

A. Se (the self)

Etymologically linked to the Latin/Italian "Sé" (Oneself)

It represents the Identity Layer: the user, their intimate data, and the personal sphere before it enters the market.

B. Quin (the currency)

Short for "Quins", the platform's specific currency

Phonetically similar to "Coin", it represents the Economic Layer: the commodification of the self into a tradable unit of value.

DATA VALUE

Sequin's economic system is not arbitrary; rather, it faithfully mirrors the current market logic employed by Data Brokers. This structure maintains a strict coherence with the analytical framework established during the Desk Research: the taxonomy of data types available for sale in the app corresponds to the parameters used to analyze the 20 news reports and 15 speculative case studies.

The value hierarchy assigned to these published data is grounded in the principles of predictive capability and scarcity, as evidenced by the Financial Times calculator (2017) and OECD reports (2013). A static demographic data point (Commodity) holds marginal value (1x), whereas behavioral, financial, and health information see their price multiply exponentially by up to 500x, as they offer companies significantly superior profiling and risk prediction capabilities.

To translate this value into a fluid exchange mechanism, the project introduces a proprietary currency: Quins. Adopting Quins instead of the Euro is a strategic design decision, rather than a stylistic one. First, the abstraction of value reduces psychological friction, encouraging impulse buying and enhancing the gamification of the experience: spending "virtual coins" is perceived as a game, effectively masking the actual loss of privacy. Second, the system promotes internal reinvestment: users are driven to spend the Quins earned within the platform to purchase other data. Although it is possible to convert the currency into external coupons (Amazon, Netflix, Spotify...), the platform applies a commission fee, thereby discouraging exit from the circuit and maximizing value retention within the ecosystem. The next page presents a table with the indicative values used to assign the price of each Glint.

TYPE OF DATA	VALUE	VALUE (Quins)
DEMOGRAPHIC DATA Demographic Data Age, gender, marital status, education, occupation, nationality.	**1x**	10 Q
TECHNICAL OR DIGITAL DATA IP addresses, cookies, device IDs, access logs, app preferences.	**5x**	50 Q
SOCIAL AND RELATIONAL DATA Friendship networks, interactions on social media, participation in communities or events.	**10x**	100 Q
PROFESSIONAL DATA Job role, résumé, skills, assessments, or performance.	**50x**	500 Q
BEHAVIORAL DATA Purchase habits, consumption preferences, service usage, browsing history.	**100x**	1000 Q
FINANCIAL AND ECONOMIC DATA Bank transactions, credit cards, income, expenses, subscriptions.	**150x**	1500 Q
GEOLOCATION DATA GPS position, tracking via apps, cell towers, or connected devices.	**200x**	2000 Q
BIOMETRIC AND HEALTH DATA (SENSITIVE) Fingerprints, facial recognition, heart rate, medical or genetic information.	**500x**	5000 Q

SUBSCRIPTIONS PLANS

Sequin structures its economy on three monthly subscription tiers (Free, Basic, and Premium), replicating the logic of contemporary digital platforms. The Free plan relegates the user to a marginal role: sales are limited (1 per day), and purchases come with almost no analytical insight. To compete effectively, the system forces an upgrade. Paid plans include "perks" such as select sales in Ghost Buy mode. The Basic plan unlocks unlimited publishing and provides app-generated analytics. However, only with the Premium plan does the user achieve a true leap in quality: visibility boosts and the ability to access deep analysis via an AI Chatbot. To foster retention, every new user receives a welcome bonus of 500 Quins and earns 2000 Quins for every friend invited. This architecture critiques the widespread freemium model, wherein users are compelled to pay for tools that allow them to compete or protect their privacy, effectively transforming digital rights into luxury services.

	Free Plan 0€	Basic Plan 7,99€	Premium Plan 17,99€
Buying	You can publish 1 Glint per day	You can publish unlimited Glints	You can publish unlimited Glints + visibility boost
Selling	Bought Glints don't have the Sequin analysis	Bought Glints are accompanied by analyses provided by Sequin	Bought Glints are accompanied by analyses provided by Sequin +AI chatbot for specific analysis
Ghost Buy Mode	-	2 Ghost Buy purchases without extra charge	5 Ghost Buy purchases without extra charge

3.2 Designing the System

3.2.1 Mapping the User Experience

To structure the design of the Sequin service and critically analyze the interactions within its complex ecosystem, three primary methodological tools were employed: the Ecosystem Map, the User Flows, and the Journey Maps. These instruments serve not only to visualize the system's architecture but also to expose the underlying logic of data commodification and user engagement, providing a tangible representation of how the platform orchestrates user behavior through persuasive design.

ECOSYSTEM MAP

The Ecosystem Map offers a holistic visualization of the service, charting the entire lifecycle of the user's relationship with the platform, from the initial onboarding to the potential exit. The map is deliberately structured along two parallel tracks representing the distinct but interconnected roles of the Buyer and the Seller. This dual structure highlights the symmetry of the exchange: while the Seller transforms personal data into a tradeable asset, the Buyer navigates the interface to consume that asset, both operating within the same gamified environment designed to maximize retention and normalize the transaction of personal information as a form of social currency.

USER FLOWS

To define the specific mechanics of interaction, two distinct User Flows were developed. The Buyer Flow illustrates the path of consumption: navigating the "social-like" feed, accessing detailed data packages, and completing purchases using Quins. It emphasizes the addictive loop designed to keep the buyer engaged in a continuous cycle of discovery. Conversely, the Seller Flow details the process of monetization: connecting external data sources (apps), selecting specific data packages, and publishing a Glint. Particular attention is given to the "random mode," a feature that gamifies the selection process, increasing unpredictability and compulsion.

JOURNEY MAPS

Finally, to ground the speculative concept in a realistic context, six User Journey Maps were created, corresponding to the Personas identified during the research phase (Vera, Martina, Flavio, Christian, Katia, Gianfranco). These maps provide a narrative visualization of how different user archetypes interact with Sequin in their daily lives. For each Persona, the journey tracks specific actions across different phases (Discovery, Subscription, Use and Fidelity) and maps the user's emotional state using Plutchik's Wheel of Emotions (Plutchik, 1980). By detailing internal thoughts, pain points, and peaks of enthusiasm (such as earning Quins), these maps reveal how the system exploits specific psychological triggers to lock users into the ecosystem.

It is crucial to acknowledge that the User Journeys presented here act as idealized simplifications. While grounded in real user research, they construct a linear narrative that cannot fully capture the complexity and unpredictability of human behavior within a data-driven market.

These maps do not account for the extreme deviations of use that such a platform would inevitably generate in a real-world scenario. In a fully realized economy of personal data, Sequin could easily be co-opted for purposes far darker than those illustrated by standard Personas.

The app could become a tool for stalkers seeking granular information on victims, for insurance companies or medical professionals profiling patients without explicit consent, or for employers conducting covert background checks. Furthermore, the "voluntary" nature of the exchange is a fragile construct: usage might often be driven by economic necessity rather than conscious choice, leading to forms of exploitation where users, unaware of the long-term consequences, are coerced into selling their digital identity for survival.

Therefore, these design tools should be viewed not as definitive predictions, but as frameworks to understand the intended mechanics of the system, while remaining critically aware that the actual impact would likely venture into ethically hazardous territories far beyond the designed interactions The Ecosystem Map, User Flows, and Journey Maps are illustrated in detail in the following pages.

SELLER

BUYER

social ADV

download app from store

app

sign in / login

(linking to apps)

upload data

scroll the Glint

Linked apps
Smartwacth App
Menstrual cycle app
Prime Video app
...

add to “favourites”

Glint

chat

purchase

+ value of the purchase

- value of the purchase

download data

purchased data

review

convert Quins

coupon

Partnership apps
Amazon
Netflix
Spotify
...

touchpoint

app touchpoint

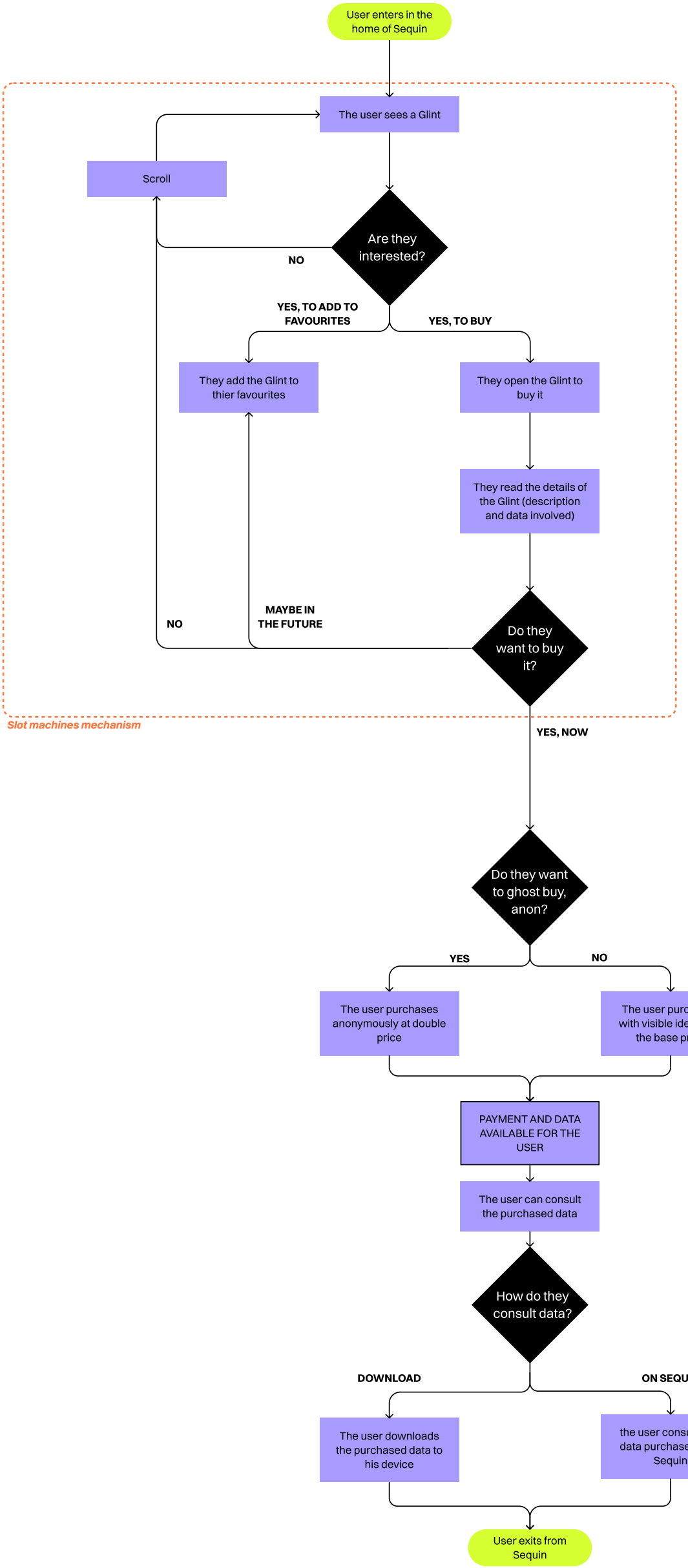
action

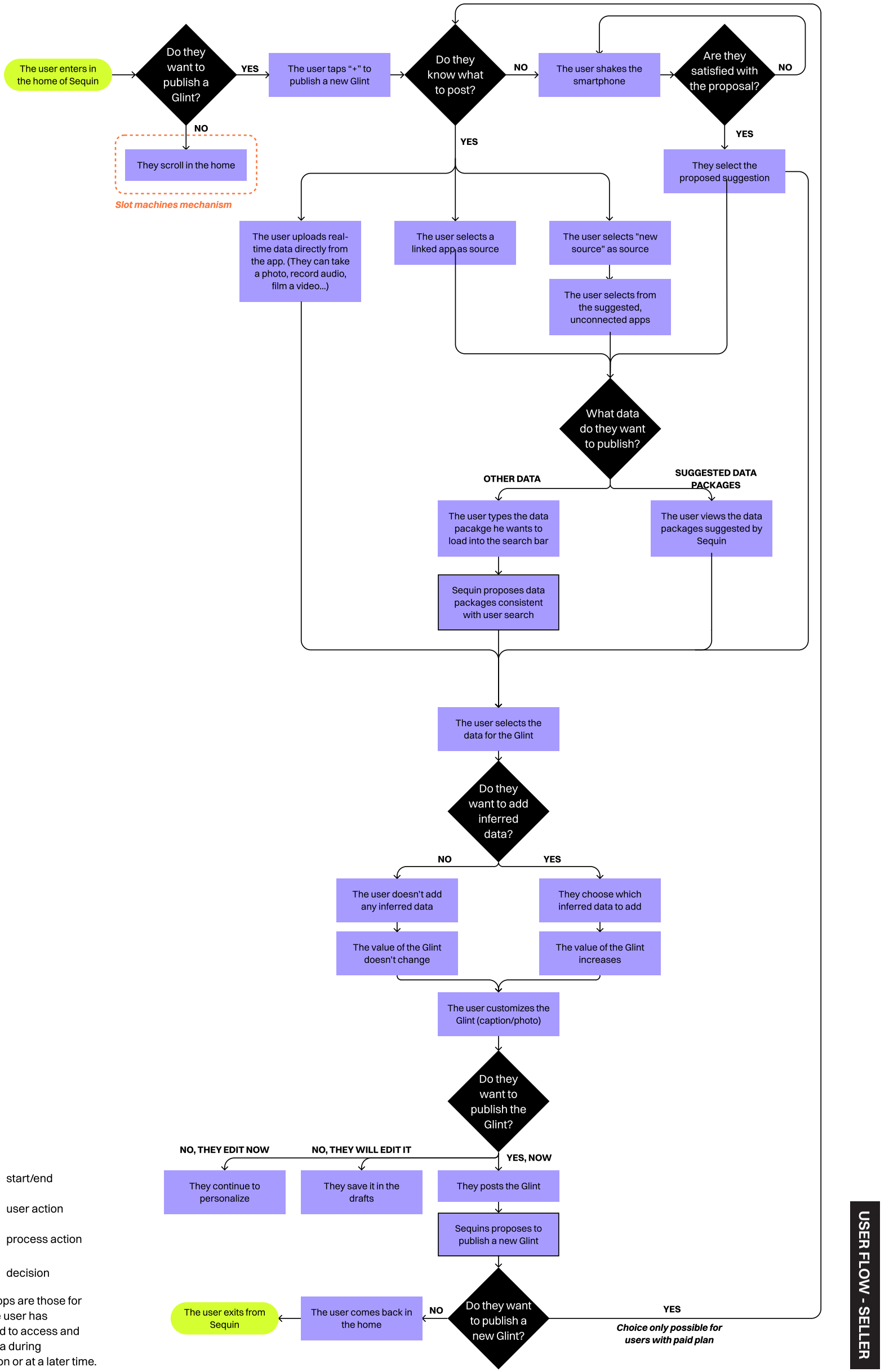
seller path

buyer path

effect on seller

ECOSYSTEM MAP

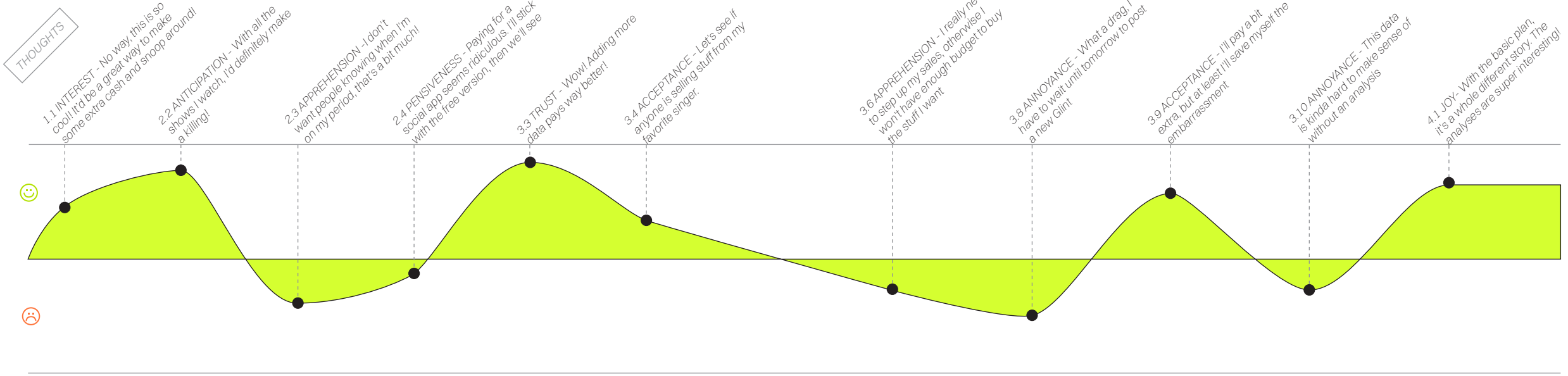

User enters in the home of Sequin
The user sees a Glint
Scroll
Are they interested?
NO
YES, TO ADD TO FAVOURITES
YES, TO BUY
They add the Glint to thier favourites
They open the Glint to buy it
They read the details of the Glint (description and data involved)
Do they want to buy it?
NO
MAYBE IN THE FUTURE
Slot machines mechanism
YES, NOW
Do they want to ghost buy, anon?
YES
NO
The user purchases anonymously at double price
The user purchases with visible identity at the base price
PAYMENT AND DATA AVAILABLE FOR THE USER
The user can consult the purchased data
How do they consult data?
DOWNLOAD
ON SEQUIN
The user downloads the purchased data to his device
the user consults the data purchased from Sequin
User exits from Sequin
start/end
user action
process action
decision
USER FLOW - BUYER


The user enters in the home of Sequin
Do they want to publish a Glint?
YES
NO
They scroll in the home
Slot machines mechanism
The user taps "+" to publish a new Glint
Do they know what to post?
NO
YES
The user shakes the smartphone
Are they satisfied with the proposal?
NO
YES
They select the proposed suggestion
The user uploads real-time data directly from the app. (They can take a photo, record audio, film a video...)
The user selects a linked app as source
The user selects "new source" as source
The user selects from the suggested, unconnected apps
What data do they want to publish?
OTHER DATA
SUGGESTED DATA PACKAGES
The user types the data pacakge he wants to load into the search bar
The user views the data packages suggested by Sequin
Sequin proposes data packages consistent with user search
The user selects the data for the Glint
Do they want to add inferred data?
NO
YES
The user doesn't add any inferred data
They choose which inferred data to add
The value of the Glint doesn't change
The value of the Glint increases
The user customizes the Glint (caption/photo)
Do they want to publish the Glint?
NO, THEY EDIT NOW
NO, THEY WILL EDIT IT
YES, NOW
They continue to personalize
They save it in the drafts
They posts the Glint
Sequins proposes to publish a new Glint
Do they want to publish a new Glint?
NO
YES
Choice only possible for users with paid plan
The user comes back in the home
The user exits from Sequin
start/end
user action
process action
decision
* Linked apps are those for which the user has consented to access and share data during registration or at a later time.
USER FLOW - SELLER

Vera

free plan

JOURNEY MAP 1



STEPS

1. DISCOVERY	2. SUBSCRIPTION	3. USE	4. FIDELITY

TOUCH POINTS

DISCLOSURE ON TIKTOK INSTAGRAM ADV	PLAYSTORE SEQUIN APP	ADD GLINT - SEQUIN	HOMEPAGE - SEQUIN	WALLET- SEQUIN BUY GLINT- SEQUIN	SEQUIN APP

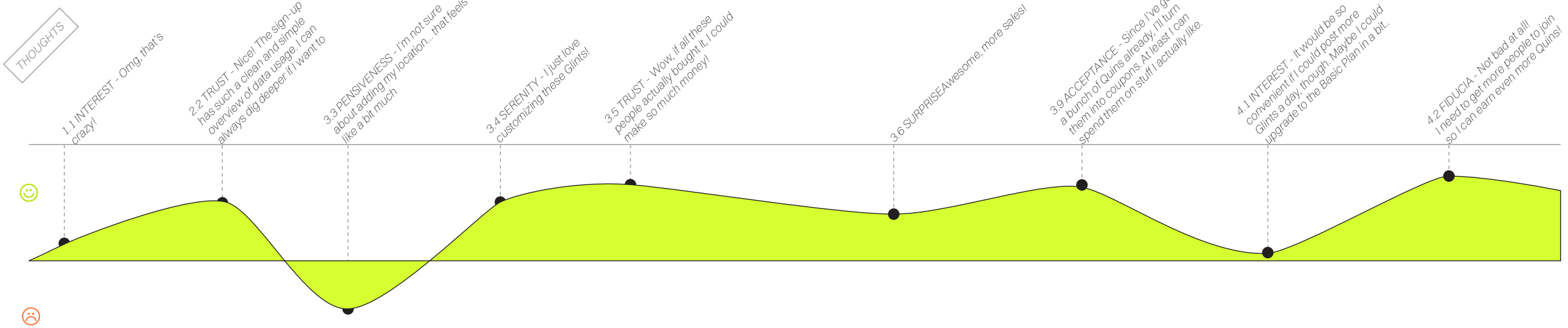
ACTIONS

1.1 Vera sees a lot of content on social media about Sequin	2.1 Vera downloads the Sequin app on her smartphone 2.2 Vera connects apps from which Sequin can get data, including Netflix 2.3 Vera chooses, among other apps, not to connect Clue (menstrual cycle app) 2.4 Vera signs up with the free plan	*GLINT PUBLICATION* 3.1 Vera enters the app to post a Glint 3.2 Vera chooses to sell data from Netflix 3.3 Vera adds more data (inferred) to increase earnings 3.4 Vera personalizes the Glint	*SCROLL, FAVOURITES* 3.5 Vera starts scrolling 3.6 Vera spots a Glint she likes that interests her and adds it to her favorites	*WALLET CONSULTATION* 3.7 Vera checks her available budget 3.8 Vera checks her recent transactions 3.9 Vera would like to sell more *PURCHASE* 3.10 Vera buys a Glint of the boy she likes in Ghost Buy mode 3.11 Vera checks the data she just purchased with the free plan	4.1 Vera switches to the Basic Plan

Martina

free plan

JOURNEY MAP 2



STEPS

1. DISCOVERY | **2. SUBSCRIPTION** | **3. USE** | **4. FIDELITY**

TOUCH POINTS

YOUTUBE ADV
SEQUIN APP

PLAYSTORE
SEQUIN APP

ADD GLINT - SEQUIN
NOTIFICATION - SEQUIN

NOTIFICATION - SEQUIN
HOMEPAGE - SEQUIN

WALLET- SEQUIN

SEQUIN APP
ORAL DISCLOSURE

ACTIONS

1.1 While watching a YouTube video, Martina sees an ad for Sequin

2.1 Martina downloads the Sequin app on her smartphone

2.2 Martina connects apps from which Sequin can get data, (Instagram, Youtube, Spotify, Netflix, Health app)

2.3 Martina signs up with the free plan

GLINT PUBLICATION

3.1 Martina enters the app to post a Glint

3.2 Martina chooses to sell data from Amazon; specifically, she selects the data package containing her latest book purchases

3.3 Martina adds more data (inferred) to increase earnings

3.4 Martina personalize the Glint

3.5 Martina receives a notification: 5 people have added her Glint to their favorites

PURCHASE

3.6 Martina receives a notification: three people have bought the latest Glint she published

SCROLL, FAVOURITES

3.7 Martina scrolls through other Glints to see how she can improve

WALLET CONSULTATION

3.8 Martina checks her wallet balance

3.9 Martina converts her Quins into coupons

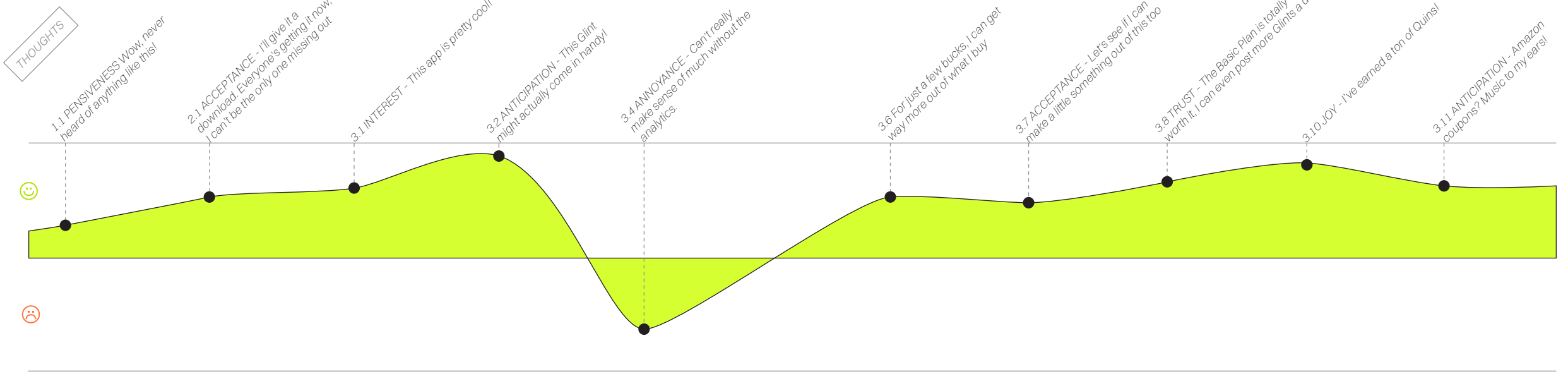
4.1 To increase her earnings, Martina continues publishing one Glint a day

4.2 Martina refers Sequin to a friend, earning a Quins bonus

Flavio

basic plan

JOURNEY MAP 3



STEPS

1. DISCOVERY | **2. SUBSCRIPTION** | **3. USE** | **4. FIDELITY**

TOUCH POINTS

ORAL DISCLOSURE
INSTAGRAM ADV

PLAYSTORE
SEQUIN APP

HOMEPAGE - SEQUIN
BUY GLINT - SEQUIN

SETTINGS - SEQUIN
ADD GLINT - SEQUIN

HOMEPAGE- SEQUIN
WALLET - SEQUIN

SEQUIN APP

ACTIONS

1.1 Flavio hears about the new app Sequin from his friends and sees a few ads on Instagram

2.1 Intrigued, Flavio downloads the Sequin app on his smartphone

2.2 Flavio connects apps from which Sequin can get data

2.3 Flavio signs up with the free plan

SCROLL, FAVOURITES

3.1 Flavio starts scrolling

3.2 Flavio spots a Glint that interests him and adds it to his favorites

PURCHASE

3.3 Flavio purchases a Glint about restaurants in Morocco to better plan his next trip

3.4 Flavio checks the data he just purchased with the free plan

UPGRADE TO BASIC PLAN

3.5 Flavio pays and upgrades to the Basic Plan

3.6 Flavio checks the same data with the basic plan

GLINT PUBLICATION

3.7 Flavio publishes a Glint using data collected from his smartwatch

3.8 Flavio publishes other Glints

SCROLL, FAVOURITES

3.9 Flavio starts scrolling

WALLET CONSULTATION

3.10 Flavio checks his available budget e vede che ha molte Quins a disposizione

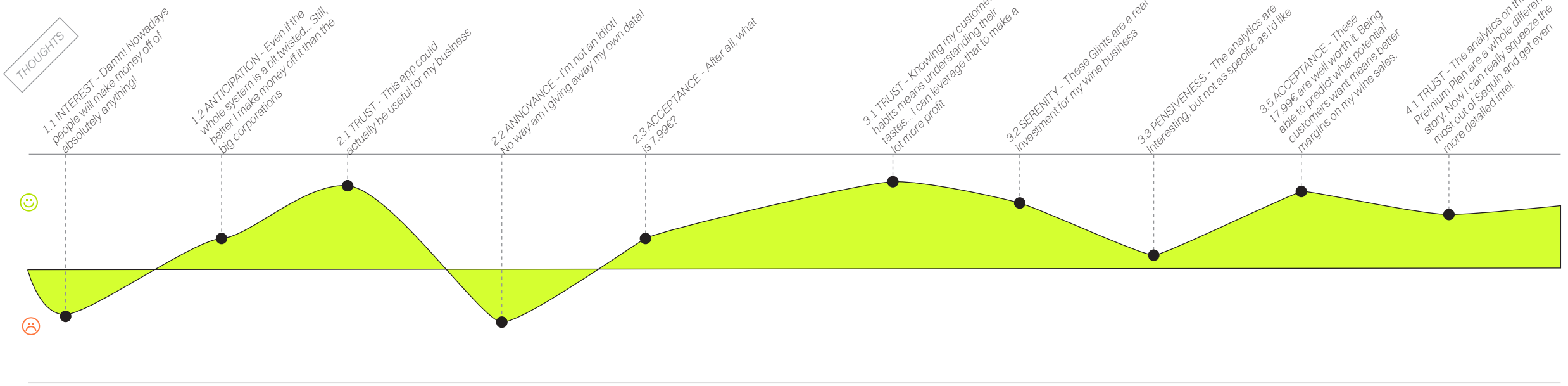
3.11 Flavio converts some Quins into coupons

4.1 Flavio continues publishing Glints, earning significant amounts. Sometimes he makes in-app purchases, other times he converts his earnings into coupons

Christian

premium plan

JOURNEY MAP 4



STEPS

1. DISCOVERY | **2. SUBSCRIPTION** | **3. USE** | **4. FIDELITY**

TOUCH POINTS

OOH CAMPAIGN
ORAL DISCLOSURE

PLAYSTORE
SEQUIN APP

HOMEPAGE - SEQUIN
BUY GLINT - SEQUIN
SETTINGS - SEQUIN
SEQUIN APP

ACTIONS

1.1 While walking around town, Christian sees a poster for Sequin: it leaves him a bit skeptical

1.2 Talking to his friend Giovanni, he suggests the Sequin app. Giovanni advises Christian to get the Basic Plan because the Free one is too limited

2.1 Christian decides to download Sequin on his smartphone because he sees potential for his wine merchant business

2.2 Christian does not consent to data collection or app linking because he has no intention of selling

2.3 Following his friend's advice, Christian signs up immediately for the paid Basic Plan

SCROLL, FAVOURITES

3.1 Christian scrolls and favorites many Glints about dietary habits, which could help him understand his clients' tastes

PURCHASE

3.2 Christian purchases several data packages, paying with the credit card linked to the app

3.3 Reviewing the analytics provided by the app, Christian realizes that sales of a specific wine are increasing in his area

UPGRADE TO PREMIUM PLAN

3.4 Christian upgrades to the Premium Plan

3.5 Christian asks the chatbot specific questions about the Glints he purchased

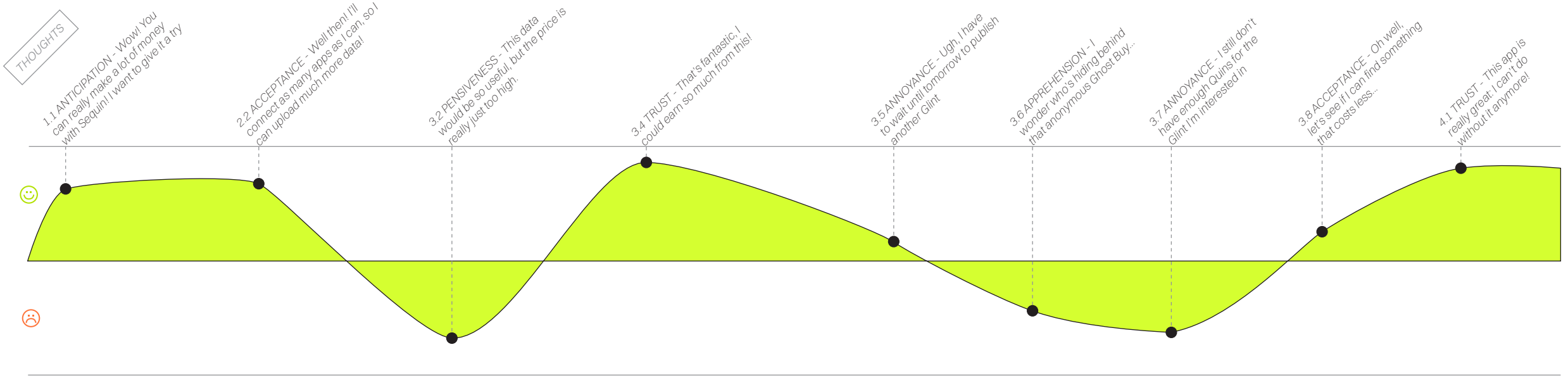
3.6 Christian makes use of the five anonymous purchases with no extra fee

4.1 Christian continues using the app and buying data because, by leveraging the app's potential, he has managed to boost the profits of his wine business

Katia

free plan

JOURNEY MAP 5



STEPS

1. DISCOVERY | **2. SUBSCRIPTION** | **3. USE** | **4. FIDELITY**

TOUCH POINTS

ORAL DISCLOSURE | PLAYSTORE | HOMEPAGE - SEQUIN | ADD GLINT - SEQUIN | WALLET - SEQUIN | SEQUIN APP

SEQUIN APP | HOMEPAGE- SEQUIN

ACTIONS

1.1 While chatting with her colleague Jessica, Katia learns about the Sequin app. Jessica shows her how easy it is to upload data, the homepage and the wallet

2.1 Katia downloads the Sequin app on his smartphone

2.2 2.2 Katia agrees to connect most of her apps to Sequin

2.3 Katia signs up with the free plan

SCROLL, FAVOURITES

3.1 During some downtime at work, Katia opens the Sequin app and starts scrolling

3.2 3.2 Katia adds to her favorites a Glint containing data from a person with the same illness as her husband. It costs a lot of Quins, but it could be useful to compare them with her husband's data

GLINT PUBLICATION

3.3 Katia publishes a Glint using data collected from Facebook

3.4 When publishing a Glint, Katia adds a lot of inferred data because it could earn her significantly more money

3.5 Katia wants to publish another Glint immediately, but since she is on the Free Plan, she cannot

PURCHASE

3.6 Katia earns a lot of Quins from the sale, thanks to numerous purchases made via Ghost Pay

WALLET CONSULTATION

3.7 Katia checks her wallet and sees she does not have enough Quins to buy the data about the illness she saved to her favorites

SCROLL

3.8 Frustrated, Katia starts scrolling

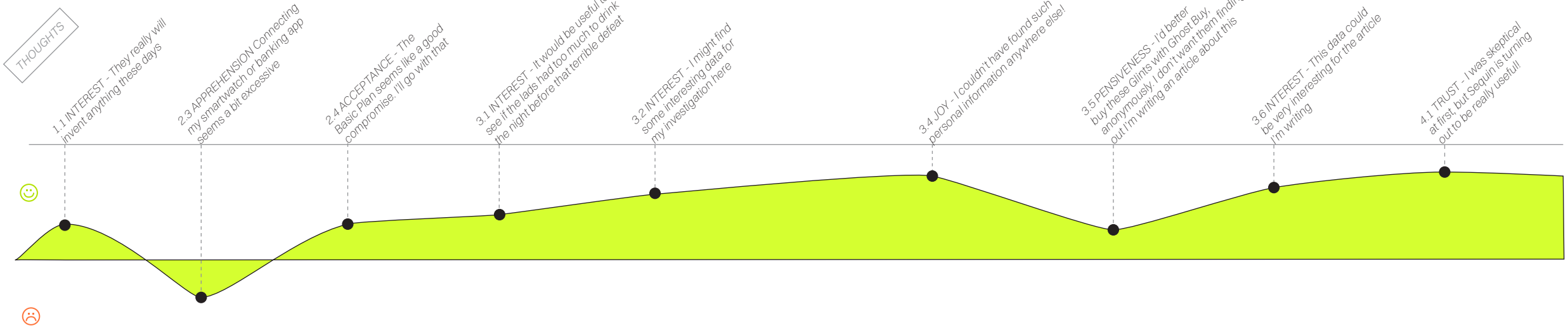
4.1 Katia continues publishing one Glint a day and scrolling through Glints during downtime or before bed

4.2 Katia recommends Sequin to some friends

Gianfranco

basic plan

JOURNEY MAP 6



STEPS

1. DISCOVERY	2. SUBSCRIPTION	3. USE	4. FIDELITY

TOUCH POINTS

TV ADV	PLAYSTORE SEQUIN APP	HOMEPAGE - SEQUIN	BUY GLINT - SEQUIN	BUY GLINT - SEQUIN	SEQUIN APP

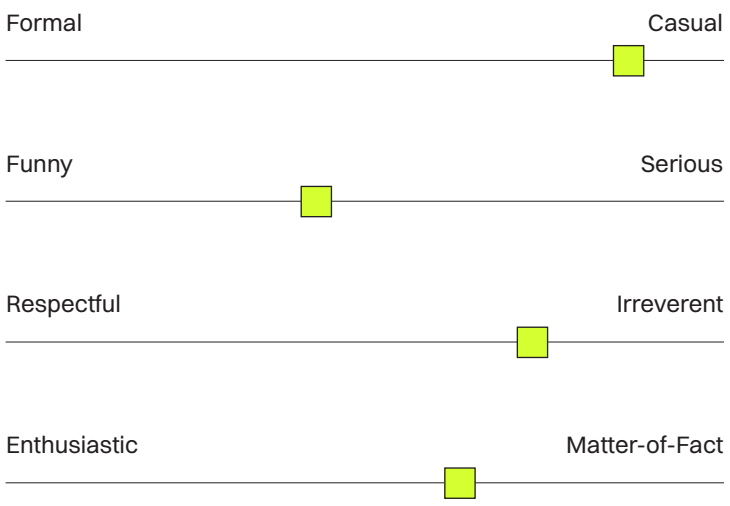
ACTIONS

1.1 Gianfranco sees a TV ad for Sequin and is immediately intrigued	2.1 Gianfranco downloads the Sequin app on his smartphone 2.2 Gianfranco connects apps from which Sequin can get data, including Facebook for better customization 2.3 Gianfranco chooses, among other apps, not to connect Health App and Bank App 2.4 Gianfranco signs up immediately for the paid Basic Plan	*SCROLL, FAVOURITES* 3.1 While waiting for the football match to start on TV, Gianfranco opens the Sequin app and starts scrolling 3.2 Gianfranco starts adding the data of local football team members to his favorites, as he is writing an article about them	*PURCHASE 1* 3.3 Gianfranco buys data regarding a local team player via Ghost Buy (paying with a credit card) 3.4 Gianfranco reviews the purchased Glint: it contains interesting information for his article that he hadn't found anywhere else	*PURCHASE 2* 3.5 Gianfranco buys data regarding three other players from the same local team via Ghost Buy (paying with a credit card) 3.6 Gianfranco reviews the purchased data and analytics	4.1 Gianfranco uses the app to delve deeper into his interests: football, tennis, and travel

3.2.2 The Identity of Sequin

TONE OF VOICE

Sequin is a speculative ecosystem where the commodification of the self is the new norm. To reflect this scenario, the application's Tone of Voice is designed to be distinctively Casual and Irreverent. It rejects the cold, bureaucratic language of traditional institutions in favor of a direct style. The voice is predominantly Matter-of-Fact: it treats the sale of personal data, , as a mundane, transactional reality. It does not apologize, warn, or moralize; it simply calculates value with brutal pragmatism. This approach normalizes the dystopian, making the exchange of privacy for currency feel like a standard business deal. However, this cold logic is laced with a dark, Witty humor (balancing between Funny and Serious). Sequin uses irony to mock the user's vanity while simultaneously exploiting it, creating a "cynical complicity" that keeps the user hooked. It is the voice of a charming enabler: honest about the mechanics, but shameless about the ethics.



MOODBOARD "VIVID BLUR"

"The digital world, from those who belong to the elites who know it (and who know it very well because they sell it to you) is viewed as stuff for the poor." This quote, told by Patrizia Scanu during the interview conducted with her, drives the aesthetic of Sequin, synthesized in the "Vivid Blur" moodboard. The visual concept relies on a chromatic oxymoron reflecting the platform's deceptive nature. Furthermore the contrast between bright colors and sharp lines highlites the double nature of the app: both a social media and a marketplace. The creation of the moodboard was driven by some key aspects:

- **Vibrant Colors:** Acid, saturated hues evoking thebrightness of Slot Machines. Designed to catch the eye, trigger dopamine, and create visual addiction, masking the lack of substance with excess.
- **Blurred Areas:** The widespread use of blurs and "frosted glass" represents the shadow zones of identity. They symbolize what the user hides (or thinks they hide) and the systemic opacity with which data is treated and sold.
- **Fake Wealth:** The entire aesthetic evokes artificial and accessible luxury, . Sharp lines and flat graphics build an appearance of value and success that reveals itself, upon closer look, as empty and vain as a plastic sequin.

Vivid Blur moodboard, inspiration for Sequin

TYPOGRAPHY AND PALETTE

Sequin's visual identity is built on Switzer, a neo-grotesque sans serif. Its classic, linear design conveys a rigorous and professional tone, ensuring a timeless aesthetic. This neutral typography is paired with a vibrant, vitaminic color palette featuring Orange, Indigo, and Lime. Lime serves as the electric accent color, creating a bold contrast that energizes the interface.

Switzer

#D4FF34

#FE763F

#A599FF

3.2.3 The Mobile App

Scan the QR code and test the prototype

THE SEQUIN ECOSYSTEM: STRUCTURE AND TOOLS

The service design crystallizes in Sequin, an autonomous digital ecosystem that normalizes the trading of personal data within a peer-to-peer market. The system operates on a continuous cycle of extraction and exchange: the user connects external data sources (e.g., Netflix, Amazon), packages them into visual ads defined as Glints, and releases them onto the market in exchange for the proprietary currency, Quins.

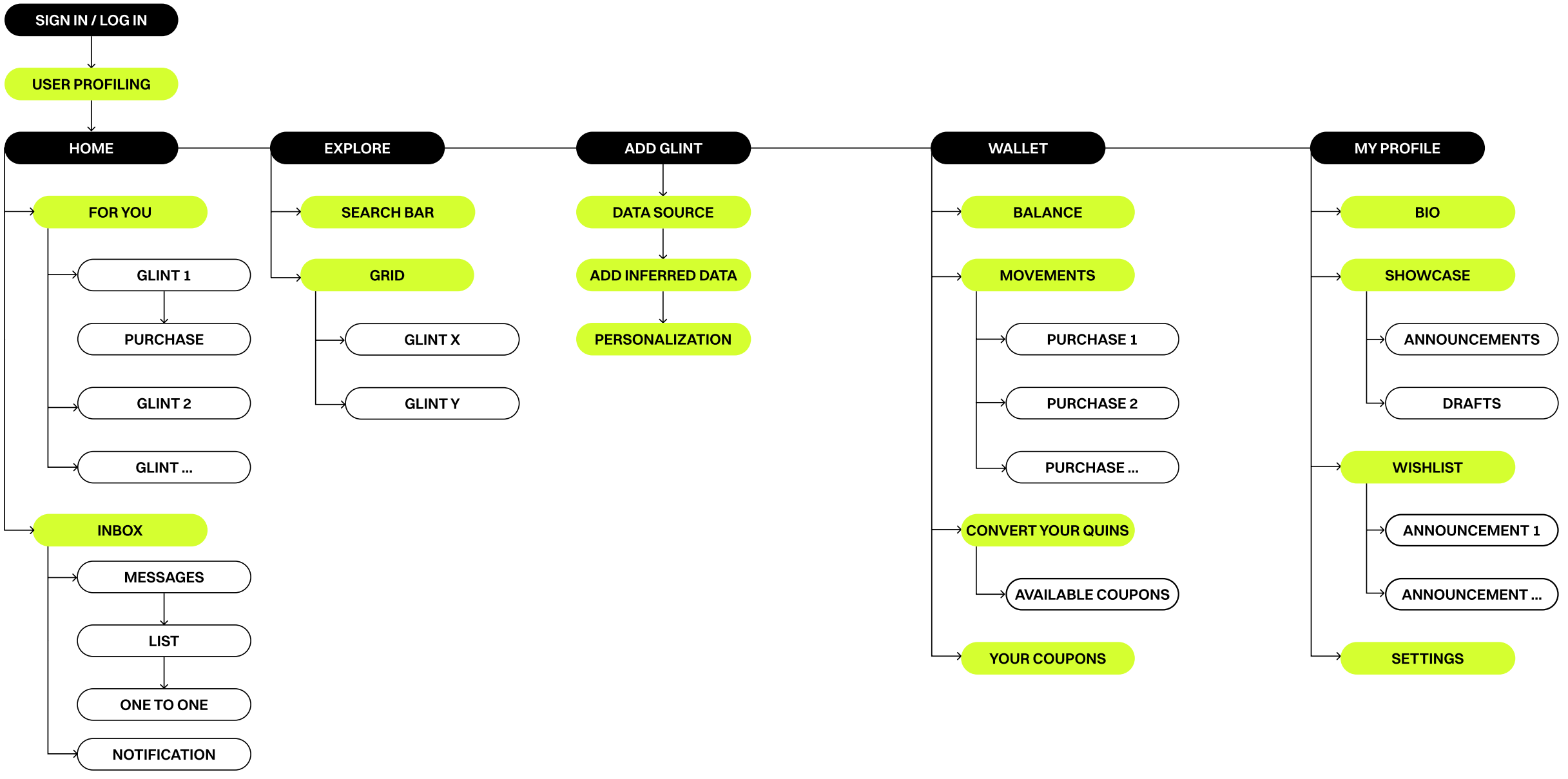
The architecture hybridizes a marketplace with a social network. The core experience is an infinite vertical feed that exploits persuasive design to make purchasing compulsive. Every interface element, from the gamification of data uploading to the Ghost Buy feature, is engineered to reduce ethical friction and maximize retention.

To structure this system, two fundamental tools are illustrated in the following pages:

- → The Sitemap provides a holistic view of the information architecture of the app. It outlines the main navigation paths connecting exploration areas (Home, Search), value production zones (Add Glint), and financial management spaces (Wallet, Profile).
- → The User Interface (UI) Design translates theoretical insights, such as simulated transparency and dark patterns, into tangible screens. Through the visual representation of functional elements and micro-interactions, the UI demonstrates how the user is guided, or manipulated, through the selling and buying flows.

SITEMAP

Sequin is structured around a central navigation hub that ensures access to its core functionalities, starting with the Homepage which serves as the entry point and features a "For You" feed for discovery alongside an Inbox for direct communication. From this central node, the architecture branches into four key functional areas: the *Search* section allows users to explore specific Glints via a grid or search bar, while the *Add Glint* flow guides the seller through data source selection, inferred data enrichment, and customization. The financial aspect is managed within the *Wallet*, which displays balances, transaction history, and coupon conversion, whereas the *My Profile* section focuses on identity management by showcasing the user's bio, published ads, drafts, and settings. This hierarchical structure facilitates intuitive and fluid navigation between the phases of consumption, production, and management of personal data.



SIGN IN

The Sign In page marks the user's official entry into the data marketplace. Abandoning conventional greetings, the interface adopts a pragmatic, business-oriented language, immediately communicating that this is not merely a registration, but the activation of an economic asset. The design, characterized by the vibrant Lime color, conveys energy and urgency. The onboarding process guides the user through three key phases: accessing with an app or creating a new profile, connecting source apps (such as Netflix or Amazon) while accepting the terms of data commodification, and finally, selecting the monthly subscription plan best suited to them.

HOMEPAGE

The Homepage functions as the immersive core of Sequin, adopting an infinite-scroll interface similar to TikTok to maximize engagement. Each Glint appears as a detailed card featuring user-curated content, such as images, titles, and captions, alongside critical transactional data like the standard price in Quins and the "Ghost Buy" option. The card clearly identifies the data source (e.g., Netflix) and lists the specific inferred data points included, offering immediate context to potential buyers. Social proof elements, including likes and ratings, further validate the seller's credibility, while tapping on the card expands the view to reveal additional details, seamlessly guiding the user into the purchase flow. Additionally, from this page, users can access their inbox to manage one-to-one chats, facilitating direct communication within the ecosystem.

PAYMENT AND GHOST BUY

The purchase phase is accessed immediately after selecting a specific Glint. The interface presents a clear summary of the transaction, displaying the involved parties (Seller and Buyer) and allowing the selection of standard payment methods. However, the core innovation of this flow is the Ghost Buy feature, a speculative option that allows users to purchase data anonymously by paying double the standard price. The activation of this mode is designed through a critical interaction metaphor: to enable anonymity, the user must physically cover the front camera with their finger. This gesture tangibly reenacts the desire to "hide" from the digital gaze.Upon detection of this gesture, the visual interface undergoes a drastic shift, transitioning to a total Dark Mode. This chromatic change evokes darkness and secrecy, signaling entry into the anonymous market. In this state, the Buyer's username is redacted from the summary, ensuring privacy within the surveillance economy. The flow concludes with a transaction confirmation screen, validating the exchange of Quins for data.

GLINT CONSULTATION

The phase of the consultation of th Glint begins once a transaction is successfully completed, granting the buyer access to the purchased Glint. The visualization of the data is designed to enforce the platform's freemium business model, creating a deliberate friction between the free and the subsciptions experiences. Users on the Free Plan are presented with a "raw" version of the information. The interface displays a brief summary followed by a dense, detailed textual description of the base data points. This layout mimics a raw database log, requiring significant cognitive effort to interpret and analyze, thereby incentivizing the user to seek a more immediate solution. Viewers can perceive the graphs, but they are blurred: this reinforce the difference between the plans.
Conversely, the Basic and the Premium Plan unlock the platform's full analytical potential. In this view, the raw data is processed into intuitive Infographics and Data Visualizations. The system performs deep, cross-referenced analysis (e.g., correlating hormonal cycles with streaming habits), rendering the insights immediately comprehensible. For all the plans the possibility to download data is granted.

EXPLORE

The Explore section acts as the primary tool for targeted discovery within the Sequin marketplace. The interface is dominated by a prominent search bar, allowing buyers to actively look for specific types of data or specific users. However, the system is designed to anticipate desire: below the search field, an algorithmic feed suggests curated Glints based on the user's previous interactions and purchase history. This mechanism reinforces the personalized and addictive nature of the platform, constantly proposing new "human assets" tailored to the buyer's voyeuristic preferences.

WALLET

The Wallet page is designed to mimic the aesthetics of a banking app, positioning the user as the manager of their monetized identity. The depth of the analytics provided depends on the subscription tier: with the Free Plan users see only a simple infographic of recent transactions, while the Basic and Premium Plans unlock detailed insights, allowing a "funnel" analysis that drills down to the specific names and requests of the buyers, satisfying the user's curiosity about who is consuming their data. Below the analytics, the interface provides access to purchased Glints, a transaction history, and the crucial conversion feature.

COUPON CONVERSION

This feature represents the "cash-out" moment. Users can convert their earned Quins into real-world value: coupons for partner platforms like Amazon or Netflix. This process is designed to be simultaneously gratifying and frustrating. While it offers tangible reward for selling one's privacy, the exchange rate is deliberately punishing: the real-money value is drastically lower than the in-app purchasing power of Quins. Notably, users can even convert Quins into bank credit, but this option carries the lowest conversion rate of all, discouraging the extraction of liquidity from the ecosystem.

MY PROFILE

This section serves as the user's personal control center, visually echoing the familiar layout of social networks. The interface is dominated by a summary dashboard displaying key metrics: the number of published Glints, specific transaction data, followers, and following counts, alongside an average review score that acts as a "reputation index". Below the bio and profile picture, the user can see which external apps are currently connected as data sources. The lower part of the screen functions as a catalog, showcasing all published Glints with real-time sales counters for each, reinforcing the gamified aspect of personal commodification. From this page, users can also access settings and adjust their subscription plan.

ADD GLINT

The process to add a new Glint is designed to turn the act of selling data into a playful and addictive experience. The user can choose between two main paths:

A. Random Mode → This mode introduces a high-friction interaction metaphor: the "Shake". By physically shaking the device, mimicking the roll of dice, the app suggests random data packages from connected apps. This mechanic gamifies privacy, framing the exposure of sensitive information as a game of chance with immediate earning potential.
B. Manual Selection → Alternatively, the user can actively select the source app (e.g., Netflix, Amazon) from those connected during onboarding, or link a new one or add data in real-time. The system then proposes specific data clusters or allows for a custom search, giving the illusion of full control.

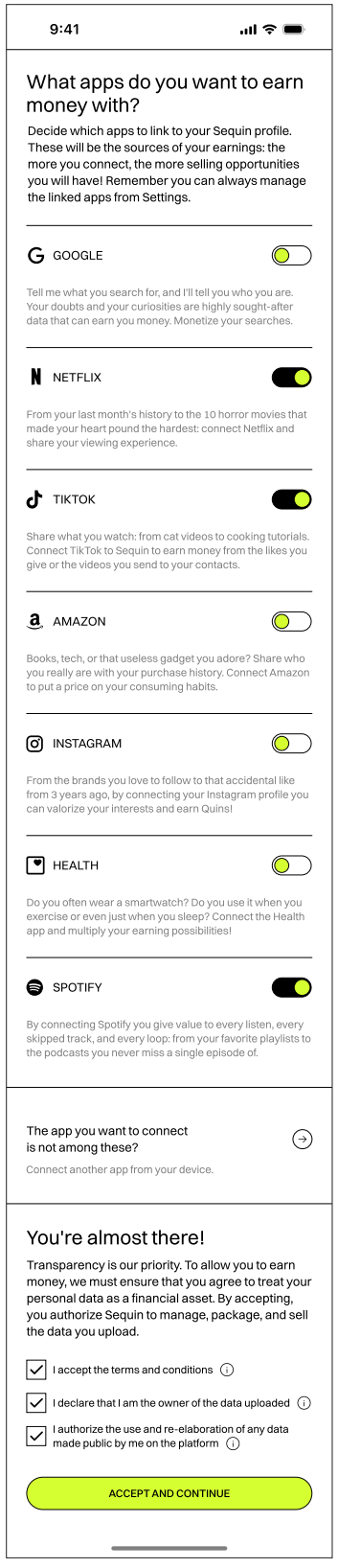
INFERRED DATA SELECTION

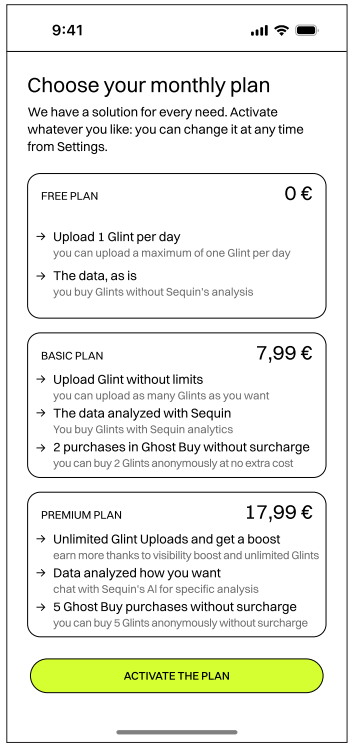
This is the core of the monetization process. Visually, this step is dominated by a large circle metaphorically representing a coin. As the user adds more data (especially sensitive inferred data), the circle fills up, providing instant visual gratification. This design choice nudges the user to maximize their "fill", pushing them to sell higher-value information to reach the complete coin status and the maximum Glint value.

CUSTOMISATION AND CONFIRMATION

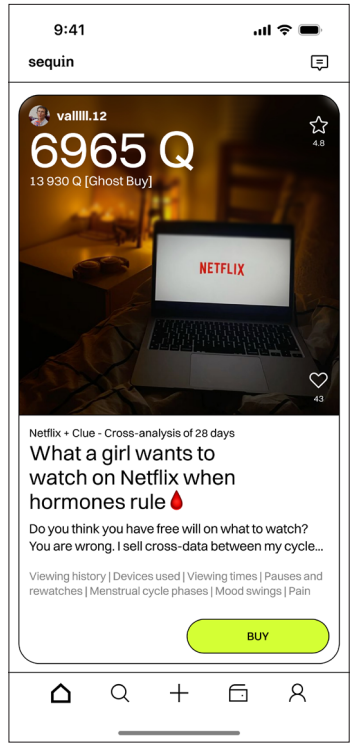
To increase the appeal of the "product", the user can customize the Glint with a cover image, a catchy title, and a caption. The flow ends with a confirmation page. Here, the freemium model re-emerges: users on the Free plan are prompted to upgrade to a paid one to unlock unlimited daily uploads, leveraging the desire for profit to drive subscriptions.

SIGN IN

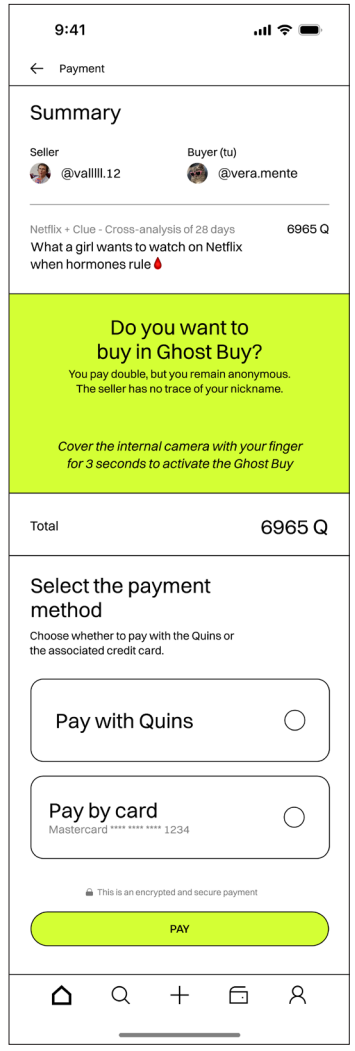




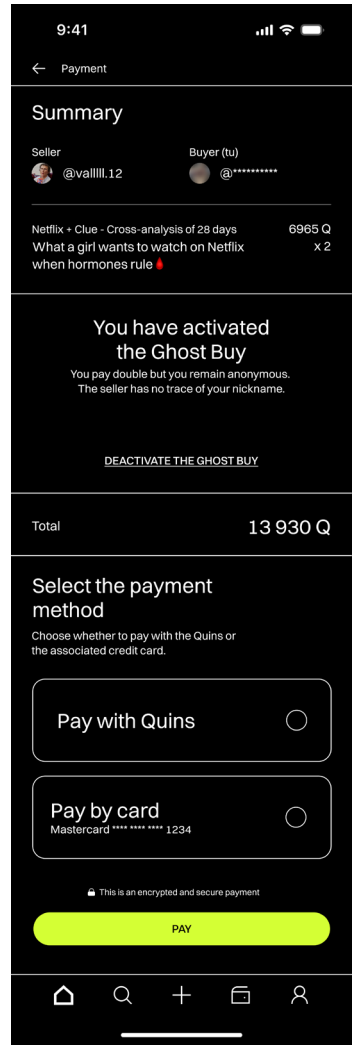
HOMEPAGE



PAYMENT



PAYMENT - GHOST BUY



GLINT CONSULTATION

9:41

Your purchase

You purchased from @vallllll.12 the Glint
Netflix + Clue - 28-Day Cross-Analysis

What a girl wants to watch on Netflix when hormones rule 🩸

See the data directly from here or download the full report

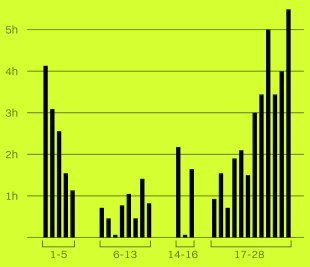
DOWNLOAD THE REPORT

Sequin's analysis

With these insights, you can understand much more from the Glints you buy! Analyze the history of what @vallllll.12 watched on Netflix and see exactly how her time on the platform is affected by her menstrual cycle.

Watching times

Menstrual phase (1-5)
Follicular phase (6-13)
Ovulatory phase (14-16)
Luteal phase (17-28)



The void on day 15 is an unmistakable sign: zero viewing minutes coincide with Val's peak offline social activity. Conversely, the vertical wall on day 28, with over 5 hours of streaming, does not indicate a marked passion for cinema, but is an evident symptom of hormonal insomnia.

Highlights in numbers

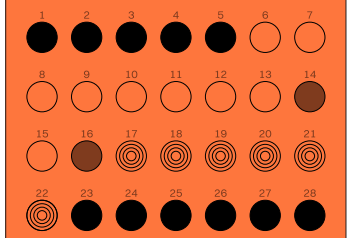
9h of content in which Robert Pattinson is on screen among the titles watched by Val

4 the titles of the "Spicy Romance" category that Val watched in the ovulatory phase

12 the consecutive days Val watched content containing scenes of violence

The menstrual cycle influences Val's taste! If during the menstrual phase she chooses to binge-watch movies with her favorite actor, in the follicular phase she explores new genres. While in the ovulatory phase she dedicates herself to the Spicy Romance category, the luteal phase is when to stay far away from her: she only watches violent content.

The devices, day by day



Menstrual phase (1-5)
Follicular phase (6-13)
Ovulatory phase (14-16)
Luteal phase (17-28)

- Val's Iphone 22
- Pero Family Smart TV
- Val's Ipad Air
- Val's PC
- No device

During the menstrual phase (days 1-5) and at the end of the luteal phase (23-28), @vallllll.12 retreats exclusively to her iPhone 22. A small screen indicates isolation and a desire to be alone: viewing becomes private, intimate, far from the eyes of others. The Smart TV? It's only turned on when ovulation pushes her toward social activity.

1. Twilight

Used device
Val's Iphone 22 (Screen Brightness: 20%)

Watching times
November 27, 2030 - From 6:30 PM to 8:35 PM

Breaks and rewatches
Rewind 45 seconds during the intense "clearing" scene, rewatching the key moment of revelation twice in a row.

Menstrual cycle phase
Day 1, menstrual phase

Mood swings (Clue)
Clue App, 8:40 PM: Recorded "Sensitive," "Sad"

Physical wellbeing
Clue App, 11:57 PM: Recorded "Strong cramps", "Tiredness"

@vallllll.12 started playback late in the afternoon on the first day of her cycle, keeping the device in a horizontal and stable position (presumably in bed). The absence of long pauses indicates immersive and passive viewing, typical of seeking immediate comfort. The rewind interaction on the main romantic scene correlates with the "Sensitive" mood registered immediately afterward, highlighting a need for emotional validation through familiar and reassuring content while physical pain was acute.

2. The Twilight Saga: New Moon

Used device
Val's iPhone 22 (Low volume, Bluetooth enabled with AirPods)

Watching times
November 27, 2030 - From 9:15 PM to 11:25 PM

Breaks and rewatches
Content paused for 8 minutes at minute 38 (forest abandonment scene), temporarily exiting the Netflix app. Fast-forward to the werewolf action scenes.

Menstrual cycle phase
Day 1, menstrual phase

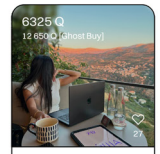
Mood swings (Clue)

EXPLORE

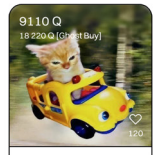
9:41

Search

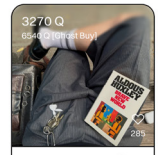
The music of a 23-year-old Audi driver
Audi + Spotify - Most played playlists



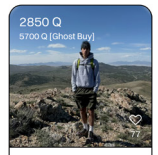
How much does a digital nomad spend on flights✈️
Ryanair - History airline tickets 1 year



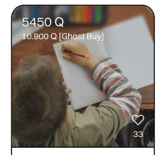
All the fines I got, thanks dad 👧
iLicence + Health - Cross-analysis



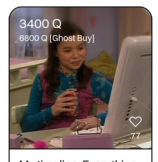
performative male 🤓 guida ai libri da leggere
Kindle - Reading History and Progress 6 months



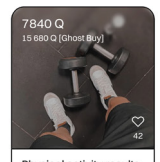
Technical equipment I would like 🏕️🔦
Amazon - Wishlist and Price Tracking (6 months)



How my son with ADHD got to 9+ ✏️
Schooly - Grades for 8-y. o student with ADHD



My timeline: Everything I'm not able to do
Google - Searches last week



Physical activity results after 2 months 💪
Health - Sport and Nutrition Monitoring

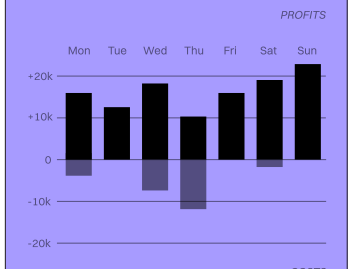
WALLET

9:41

Your balance
132 510 QUINS

Your Movements *(in Quins)*

week month year



Check out the Glints you bought

The Glints you buy are yours. Review the list of those you purchased and delve deeper into the analyses.

SEE ALL THE GLINTS

Last movements

All >

Movies I watch when I want to cry Dec 14, 2030	+ 5380
My November meals Dec 14, 2030	- 2530
What a 20-year-old punk listens to Dec 11, 2030	- 5700
Playlists that make my heart beat Dec 08, 2030	+3820

Convert to Coupons?

Spend your Quins on the app, or transfrom them in coupons and gift cards to purchase spendable experiences and products on your favorite platforms!

CONVERT YOUR QUINS

@il.drugo, a buyer of yours

Sloppy burgers with the girls

Why @il.drugo buys from you

From our analysis @il.drugo bought 7 Glints (including yours) of female users under 25 with geolocation.

@il.drugo isn't interested in knowing *what* you eat but *where*.

COUPON CONVERTION

9:41

Wallet

Your balance
132 510 QUINS

Select your coupons

Convert your Quins in coupons spendable on your favourite platforms!

€ 50 — 100 000 Q
Gift voucher
AMAZON

1 year — 100 000 Q
Annual subscription standard plan (value €70)
NETFLIX

€ 50 — 100 000 Q
Gift card
GLOVO

€ 10 — 100 000 Q
Instant transfer to current account
MYBANK

CONVERT

MY PROFILE

9:41

@vera.mente

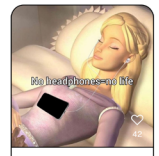
Vera 💅

10 Glints | 42 sales | 23 purchases

Vera in name and in fact. If you want to understand how Gen Alpha thinks, you're in the right place.

TikTok | Instagram | Netflix | Fiat | Google | Spotify
112 follower, 220 followed
4.8 stars out of 55 reviews

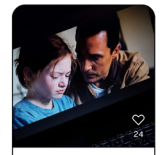
Active | Drafts



Playlists that make my heart beat 🍷
3820 Q
Sold 15 times

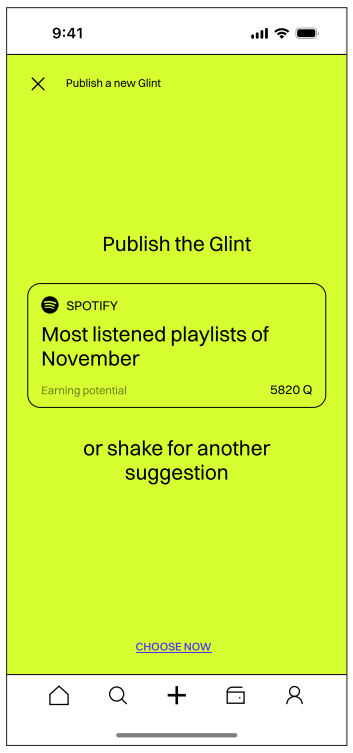
TikTok and memes that kill me ☠️
3570 Q
Sold 23 times

Sloppy burgers with the girls 🍔🍕
4200 Q
Sold 9 times

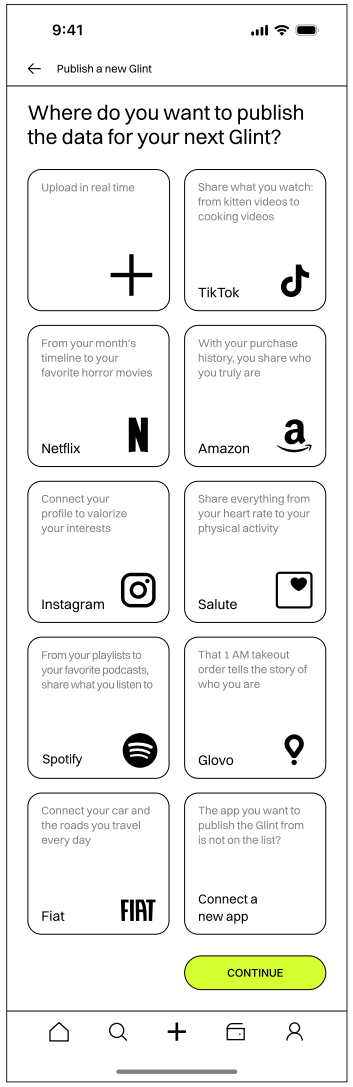


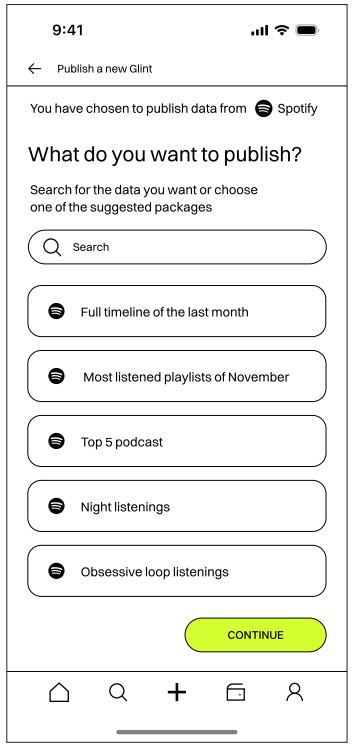
The movies I watch when I want to cry
5380 Q
Sold 16 times

ADD GLINT - RANDOM MODE

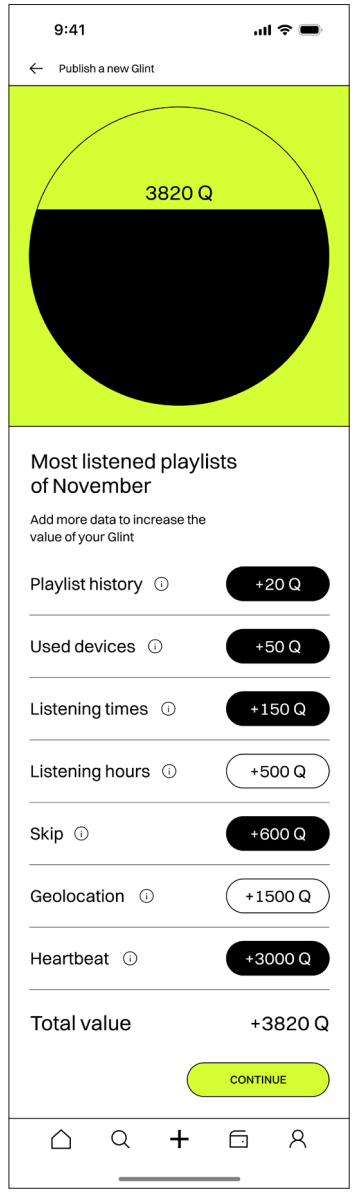


ADD GLINT - MANUAL SELECTION

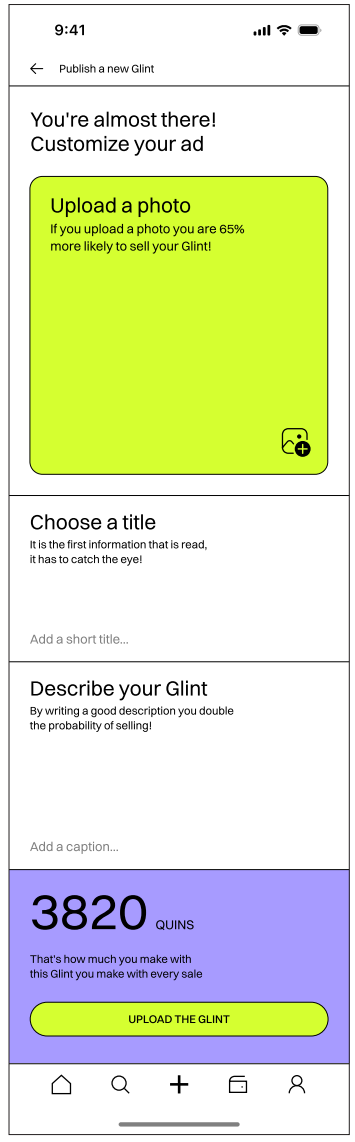




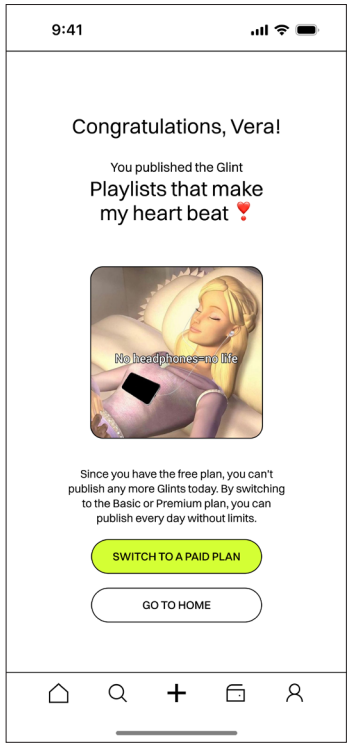
ADD GLINT - INFERRED DATA SELECTION



ADD GLINT- CUSTOMISATION



ADD GLINT - CONFIRMATION



Samsung Smart Washer - Wash Cycle & Consumption Log

How a 21-year-old student living away from home does laundry (spoiler: badly) 💀

Mom said "separate the whites from the colors," but I never listened. Everything at 60° and off we go...

Used Programs Log | Product Inventory | Before/After Photos of Ruined Clothes | Drum Overload

BUY

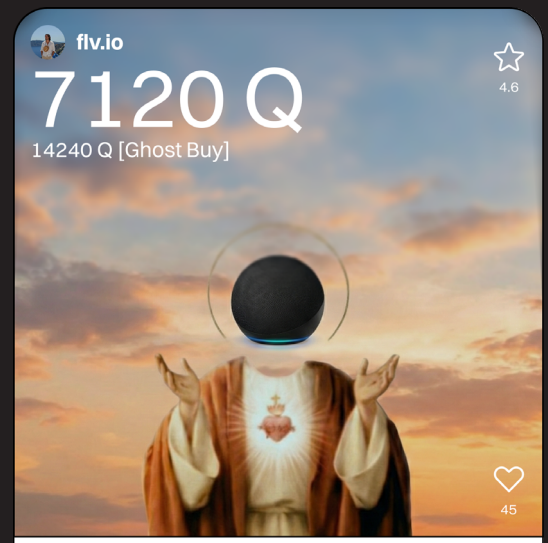
Instagram - Archive account active since 2024

Photo dump of a group of Design students in the distant 2025 🐔⬅️BACK

Selling historical photos, from when the Design department was still in Mirafiori. I documented all...

Photo Dump | Stories | Tag | Geolocation | 2025 Music Trends | Calendar

BUY



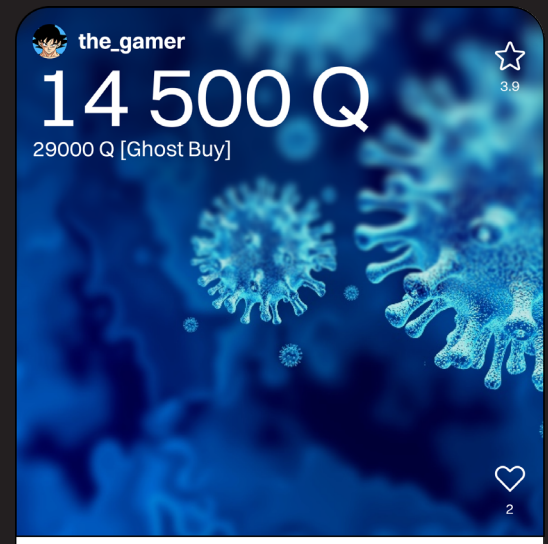
Alexa - Log of questions from the last 3 months

All the embarrassing questions I'm too ashamed to ask, like "Alexa, am I depressed?"

No music or weather here: only the heavy stuff. 🔥 From paranoid medical self-diagnoses at 3 a.m...

Original Voice Recordings | Health Questions | Emotional and Private Questions | General Knowledge Questions

BUY



Medical Record + Immuni - man deceased at 68 years old

COVID 19 - 10 YEARS LATER, my grandfather's complete health archive, up to his death

Selling digital documentation of my grandfather, who died in 2020 at 68 from COVID-19. Includes swabs...

Hospital Report | Geotracking | Swab Timeline | Green Pass | Contact Tracing (Immuni App)

BUY

3.2.4 Letting People Try Sequin

To assess how people might perceive the Sequin project, a series of user tests were conducted. The goal was not just to evaluate usability or functionality, but rather to observe emotional reactions, ethical dilemmas, and the overall acceptance of such a provocative concept. In addition some of to the previously interviewed participants (Maira, Michela, Francesca, Francis, Luis, Claudia, and Pio), three new testers (Chiara, Alice, and Cecilia) were involved to broaden the spectrum of feedback.

USER TEST

MAIRA

At the end of the test, Maira admitted she would download the app immediately, driven primarily by curiosity. She stated she would never publish her own Instagram or Google search history, but would be extremely interested in seeing others'.

→ **Key Insight:** The voyeuristic appeal of the platform is a powerful driver, even for users who are reluctant to share their own data.

MICHELA

Michela's interaction with the app was marked by frequent surprise and disbelief. She laughed at meme-ads but was shocked by the "Netflix + Clue" package: "Oh my god. So Netflix really has this data?"

→ **Key Insight:** She noted a stark contrast with her previous interview stance, stating: "This is practically the opposite of what we discussed in the interview!"

FRANCESCA

Francesca's reaction was less definitive and more hesitant. She appeared doubtful and unconvinced throughout the process. While she found the project interesting as a concept, she did not express a strong opinion on the specific act of selling data, maintaining a detached and skeptical stance.

FRANCIS

Francis reflected on the design's power of persuasion. She noted that the clean and simple UI made the act of uploading sensitive data feel "normal" and safe, masking the danger of the statement "I am selling my data". Seeing realistic data uploaded by others further reinforced this feeling of legitimacy.

→ **Key Insight:** Good design can normalize the uploading of data.

LUIS

Luis found the prototype extremely professional and intuitive, particularly appreciating the curation of the content and the photos of Mirafiori. Impressed by the speculative nature of the project, he ironically joked about the possibility of purchasing the Covid-related medical records, describing the feature as 'stunning'.

CLAUDIA

Claudia initially saw potential for medical research, but became hesitant upon seeing the "stalker" comment in the Wallet. This triggered a realization of danger: "Some maniac could exploit this app.

→ **Key Insight:** She concluded she might upload common data (like restaurants) but never personal movements, drawing a clear line based on perceived safety.

PIO

Pio interacted with the interface with noticeable hesitation, particularly during the Sign-In phase when asked to accept the Terms and Conditions. He stalled before accepting. This friction led him to a realization: "So companies really have all this data? They know everything we do?" He even questioned if a legal trial could access this information.

→ **Key Insight:** The app successfully sparked a realization about the extent of corporate surveillance.

CHIARA

Chiara was struck by the verisimilitude of the copy and the ads. She reflected on how the realistic tone made the speculative scenario feel immediate and possible, blurring the line between fiction and reality.

ALICE

Alice found the application's flow smooth, easy to use, and intuitive. Since she was the persona hypothetically uploading one of the Glints, she reacted with amusement to her own content, commenting with a laugh: "Ahaha, I love it".

→ **Key Insight:** The gamified and self-referential nature of the app can make users enjoy the process of commodifying themselves.

CECILIA

Cecilia highlighted the project's tonal balance. She noted that the design is "clear, very clean, almost formal", appropriate for a delicate topic, but that the images and copy bring out a "funny, sarcastic, and surreal" side.

→ **Key Insight:** The contrast between the serious UI and the ironic content creates a unique, engaging tension.

I can say that it's clear, very clean, almost formal (it's a sensitive topic anyway) but then the images and the copy bring out that funny, a little sarcastic and surreal part. *Cecilia*

So, it feels super clear and official, but really easy to use. I like that I have full control over what I upload, no one's forcing me. The clean UI and realistic photos make it feel very every-day, totally removing that "omg I'm selling my data" anxiety. Seeing others posting their stuff makes you think "whatever, it's fine". It feels way more chill and less serious than I expected just from the concept. *Francis*

Pio seeing the purchased glint *What a girl wants to watch on Netflix when hormones rule* states: "Basically, here they know everything you do, the reason why, down to the last detail, minute by minute, what you do, where you are?! So where did privacy go? There is no privacy. Here they know everything, everything, everything!"

"No, oh well, if it really existed I would definitely download it, but I would never put my searches on Google or the people I stalk!" *Maira*

"It's nice that everyone can post the photo they want. These are all photos that impress you!" *Francesca*

"In my opinion, this app flows super smoothly, everything is super clear!" *Alice*

"It is very detailed, practi-cally everything works. I found the content ama-zing, super interesting, especially the photo at Mirafiori." *Luis*

"No way girls, this is beautiful, everything is stunning. I'm obsessed with the copy and the care that went into writing it." *Chiara*

Michela, seeing the Glint *"What a girl wants to watch on Netflix when hormones rule"* and the present inferred data, asks: "Oh God, but so this remains on Netflix? So Netflix records all this stuff? And so with this app, one could literally buy from the people who upload!"

Claudia, reflecting on the wallet graph showing the Glint buyers, argues: "From what I get, some twisted mind could even figure out where a young girl is. It's actually kinda dangerous. Like, some creep could track down where these girls are... but I guess if there's money to be made, some people will do it..."

Beyond the Speculation

If Sequin were released today as a real application, its inherently provocative nature, designed to disrupt the tacit rules of the Data Economy, would likely generate deeply polarized reactions. On one hand, it is plausible to hypothesize an "uncritical" reception: millions of people, seduced by gamification mechanics and the promise of easy profit, might download the app and begin selling their own intimacy or purchasing that of others without full awareness, thereby definitively normalizing the commodification of the self. On the other hand, the very existence of the app could trigger outright rejection: the act of "not downloading it" would become a form of resistance. However, the project's critical potential lies precisely in the space between adoption and rejection: upon discovering Sequin, users might begin to educate themselves, questioning for the first time how their data is already being handled today by Big Tech companies. Usage dynamics would mirror current social fragilities: profiles would emerge consisting of buyers-only (driven by voyeurism), sellers-only (driven by economic necessity), or users dependent on the system, replicating the same mechanisms of addiction found in contemporary social media.

Regarding the future developments of this thesis project, the intention is to extend the speculation beyond the academic sphere and disseminate it to a wider audience. The next step involves publishing the project on a dedicated web platform, making the artifact accessible to the general public. In parallel, plans are in place to reconnect with all users and experts involved in the initial *User Research* phase to present the final design and gather their feedback. Ultimately, the project's goal is not technical implementation, but the ability to trigger that "allergic reaction" often aimed for in Speculative Design (Bleecker et al., 2022): a sense of discomfort and repulsion necessary to force the observer to pause, question the status quo, and critically reflect on the real value of their personal data.

Conclusions

Personal data has become the immaterial yet indelible extension of our physical body: a digital trail we ceaselessly generate, often without full awareness. Sequin emerges in this context as a bold project, conceived with the precise objective of igniting debate on a subject we interact with daily, yet question dramatically too little. We live in a behavioral paradox: while fearing for our privacy, we accept informed consents with a distracted click, driven by a mix of technical inability to grasp the implications and a sense of resignation, feeling compelled to accept the rules of the game to avoid exclusion from digital social life.

In this scenario of "voluntary servitude", the designed platform, Sequin, does not merely observe but critiques the current state of affairs through hyperbole. Architecturally positioning itself halfway between a social network and a marketplace, Sequin enacts the ultimate fusion of vanity and profit. On one hand, the application unveils and critiques the mechanisms of psychological addiction, such as the Slot Machine Effect or the Hook Model, through which today's platforms are scientifically designed to capture our attention; on the other, it returns, through the commodification of identity, a critical and ruthlessly current vision of our capitalist society, where every emotion, movement, or biological parameter is reduced to a tradable commodity.

The project's speculative strength lies in its ability to make the invisible tangible. This application compels users to literally reckon with the value of their own data. No longer a passive flow extracted by third parties, data becomes an object that the user must weigh and actively sell. Users thus find themselves having to handle their privacy, seeing it quantified in a virtual currency, forced to interface with the brutal reality of Surveillance Capitalism. In this process, Sequin considers and intertwines themes of significant sociological importance: from the algorithmic addiction that governs our downtime, to the constant social performance we undergo to feel validated, up to the total loss of privacy and the manipulation risks connected to deep profiling, ultimately revealing how the commodification of the self reshapes our very understanding of human dignity.

Ultimately, Sequin stands as a daring and fearless project. It offers neither consolatory solutions nor salvific utopias, but performs a radical act: it places users' data back into their hands, not to grant them true freedom, but to serve as a necessary warning to awaken consciences now lulled by technological convenience. The project acts as a distorting mirror that, by exaggerating the present, shines a spotlight on a future that is already here, inviting the observer to ask not if they will sell their life, but only what price they are willing to accept for it.

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Ringraziamenti

RINGRAZIAMENTI GENERALI

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Polytechnic of Turin
Academic Year 2024/2025

Department of Architecture and Design
Master's Degree
Systemic Design

Master's Thesis
December 2025

SEQUIN
What if Personal Data Became a Currency?
A Design Project Where Speculative Design
and Data Visualization Meet

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