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MASTER DEGREE THESIS

INFLUENCES BETWEEN TV SERIES, NEW TECHNOLOGIES, TERRITORY AND USER GENERATED CONTENT A PRACTICAL APPROACH

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This work is dedicated to: my beloved family; Mom and Dad, they always encouraged me to go on; Federica, for her love, her patience, her faith; all of my friends and everyone who supported me.

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Summary

Historically, fan culture has played an enormous role in the creation and development of science fiction and fantasy, and the genres have left a significant impact on the lives of their fans. The rise of the Internet has offered to fans a lot of new ways to communicate by creating online communities which help people to connect from all over the world, giving them the possibility to share their thoughts and enthusiasm about their passions with media, texts and creations.

The development of new technologies has provided new tools for creation of products inspired to the original (digital paintings, videos, fan fictions and much more) while the increasing popularity of social media has increased the diffusion of User-Generated Content (**UCG**) among the online fan communities.

For all these reasons we have created a small team for producing a fan-made video inspired to *Game of Thrones* opening titles sequence with some of the most famous Italian cities, completely made with the use of Computer Graphic tools and 3D modeling software.

We shared it on biggest social network (YouTube, Facebook, Instagram and Twitter) to understand their contribution for the diffusion of UCG and for collecting fans's reactions. This is a way to really touch being part of an online community.

The thesis will also show the production pipeline that we have followed to create the video, the strategy we developed to promote our work on social media and the results we achieved.

This thesis is divided into five chapters:

• Chapter 1

It provides a brief introduction to the topics of fandom. it also details the nature of the subsequent chapters.

• Chapter 2

It provides an overview of the UCG field. It also examines the motivations that brings users to use their creativity for the community they belong to, the uses of the new technologies and the relationship between fans and producers.

• Chapter 3

It explore the reasons behind the great popularity of **Game of Thrones** and it provides an overview of the online community reated by the popular TV show. It also includes a section dedicated to the main italian GoT fan group that supported us with the sharing of our product.

• Chapter 4

It explains the methodology and the workflow that we have followed for achieve the final result and the strategies we chose to share the content on social media.

• Chapter 5

It gives an analysis of the data gathered after sharing the short video on the most popular social media among the major GoT fan communities.

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Chapter 1 Introduction

The aim of this thesis is to explore the world of fandom related to TV series and how they influenced our society with their products such as books, memes, fan-movies and video clips, texts and images. Furthermore, we also wanted to analyze the reasons behind the creation of User Generated Content inspired by a particular media, the support offered by the latest technologies (i.e. Computer Graphics) and the way in which fans react to a particular production.

The modern media landscape has completely changed the way in which fans can relate to their favorite show, film or book; **Henry Jenkins** wrote that:

One person becomes a fan non by being a regular viewer of a particular program but by translating that viewing into some kind of cultural activity, by sharing feelings and thoughts about program content with friends, by joining a community of other fans who share common intents.

These cultural artifacts, such as fan fiction and fan art, are also modes of communication around which fans have crafted their entire community. The term culture may be ambiguous to many, but to fans the term refers to the activities and methods of communication that have given significance and importance to their existence. Despite the lack of acceptance of fandom by "the cultural hierarchy," the fan community has continued to thrive and has become a phenomenon that cannot be ignored.

This chapter provides a brief introduction to the topics of fandom. It also details the nature of the subsequent chapters.

1-Introduction



Figure 1.1. Meme for Fandom found on Internet

1.1 Meaning of Fandom and Fan Communities

Fandom (fan + suffix -dom): the term is generally used to describe a group of people who like or are devoted to a particular activity or subject. A group of fans, an organized subculture of fans characterized by a feeling with others with common interests shared. A fandom can grow around any area of human interest or activity like hobbies, watching tv-series, following celebrities or the fashions field. The community that surrounds a tv show/movie/book etc. Fanfiction writers, artists, poets, and cosplayers are all members of that fandom. Fandoms often consist of message boards, livejournal communities, and people.

The history of fandom, and its evolution to the big phenomenon it is today, can be easily traced in the science fiction and fantasy genres. While it is now used to apply to groups of people fascinated with any subject, the term can also be used in a broad sense to refer to the interconnected social networks of individual fandoms.

The relationship between fans and professionals in the fantasy field has always been close to each other, and the evolution of these genres cannot be fully described without including fan history as well. For this reason this typer of fandom is documented by its own community in a way that other genres are lacking, for example, it has its own language ("*fanspeak*) where words and phrases have been adapted to create a jargon that only other fans can fully understand, and there are also rules of society like levels of hierarchy or dress codes for events.

Fandom is a subculture built around the production of fan materials derived from an appropriated text and the communication of fans about this text. Fans do not see themselves as thieves or plagiarizers, but as active readers of a particular work of media in which can be expanded by them to involve notable ideas and details. Fans are using the creativity of others as the basis for their own creative endeavors and have produced "cultural artifacts" from this poaching", **Jenkins**, *Fans*, *Bloggers and Gamers*, *Exploring Participatory Culture* - 2006.

1.2 A short History of Modern Fandom

In history we can find three main generations for the growth of fandom groups. Due to its lack of uniformity of subject, the first generation is the least relevant set of research to this paper but should be noted for its contribution. Fandom has its origins in sports and theatre, where certain people would cheer on and support their favorite team, athlete or actor/actress rather than the sort or the play itself, and they were called simply **fans**.

During the second generation, fan studies became both more structured and focused on fans of visual texts. During this time, science fiction scholars began concentrating on the increasing number of fans, known as media fans, who had become solely devoted to the aspects of the genre related to film, television, and comics. At one time shunned by the literary facet of the fan community, media fans (or *mediafen*) are often the stereotypical image most people have of a traditional science fiction fan today. Mediafen have close working relationships with the producers of their preferred texts. Scholars of the second wave focused on how mediafen have literally been able to shape the face of science fiction on television simply through their continued dedication and inspiring love for the shows and for the genre. Throughout this decade, scholars have published works concentrating on topics ranging from the historical aspect of fandom to the consumerist analysis of fan culture to culture research on the reasons behind fan productions.

The third generation of fan culture study, called "cyber-fandom" due to the emphasis of the role of the internet (a.k.a. cyberspace) on fandom, is less comprehensive but growing rapidly and addresses the same topics as scholars in the second wave especially as they play out in cyberspace.

1.2.1 The beginning 1900

With the advent of cinema and the extensive growth of the film industry in the early 1900s, a surrounding fan and participatory culture also emerged. Science fiction fandom has been around since the birth of the science fiction genre itself. One of the first things that is mainly associated with fandom is the so-called *fanzine*, a fan-created magazine related to the contents of the fandom. Stephen Perkins on Zinebook.com claims that *The comet* is generally seen as the first fanzine in the history, it was printed in 1930 by *Science Correspondence Club* which was based in Chicago., but the founding of the fan community can be most noticeably traced back to Hugo Gernsback's science fiction magazines (often shortened to zines). Through outlets such as Gernsback's magazines, fans were able to actively participate in the science fiction community along with authors, editors, and other important people in the Science Fiction population.

In the late 30's the first convention was held and this can be seen as the real start of modern fandom, but the media-fandom (which centers around a particular piece of media instead of a whole genre like science fiction) did not appear until 1960's. A convention (con) is an event in which people of similar interests, both amateur (fan) or professional (pros) in nature, gather for business and social purposes. Conventions began to be held on a much larger scale, especially after the relative success of the first World Science Fiction Convention in New York in 1939.

The creation of forums via magazines and conventions just showcases the level of importance communication had to the overall formation of both the genre and its fan community. Without the establishment of this network, it is arguable that the cultural aspects of fandom would not be as highly developed today.

1.2.2 The start of Media Fandom '60-'80

Start trek (1966-1969) is often cited as the first media fandom, the first series which gained a huge number of followers. In F. Coppa's book A brief History of media

Fandom, we find these words:

"From the start, Star Trek fans produced not simply the critical discussion typical of science fiction fandom but creative responses to their favourite show. From the first, Star Trek zines included fan art – poems, songs, stories, drawings, teleplays [...] Indeed, a creative Trek culture rapidly developed through the proliferation of fanzines like Spockanalia, ST-Phile, T- Negative, and Warp Nine: A Star Trek Chronicle."

The 1980's are the years where the media fandoms really took off, spreading the interest in media artefacts in different genres, not only in the fantascientific field. So we can find a lot fan's products for films like *Ridley Scott*'s **Blade Runner** (1982) but also for the *Steven Spielberg*'s trilogy of **Indiana Jones** (1981-1984-1989), an adventure genre. This widened interest had much to do with the fact that more complex narrative and characterization became a household trend in media. While in the 1960's and 70's a lot of narrative and characterization was deepened by the fans themselves (through discussions in fanzines and on conventions, as well as through fan fiction), in the 1980's broad story arcs and deeper characterization was implemented in the media artefacts themselves.

Fan artists have been part of the much larger history of amateur film and video production. *George Lucas* and Steven Spielberg, were themselves amateur filmmakers as teenagers, producing low-budget horror or science fiction movies. **Star Wars** fans were among the first to embrace these new technologies, producing at last count more than 300 web movies. These fans exploited the various merchandise surrounding this blockbuster film franchise for raw materials to their homegrown movies. An important genre of fan filmmaking involves animating action figures. 1-Introduction

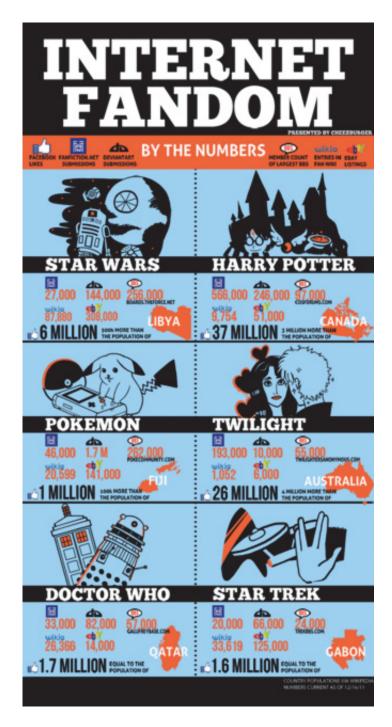


Figure 1.2. Infographic for the major fandom in history

1.2.3 The rise of Internet 1990-2000

Fandom has continued to grow and its resemblance to other, more commonly recognized cultural groups cannot be ignored. As stated above, fans have created their own forms of language, literature, art, etc. based around their preferred texts. Jenkins states they do not "reproduce the primary text," but instead "rework and rewrite it, [while] repairing or dismissing unsatisfying [and] aspects, developing interests not sufficiently explored" (Jenkins 1992, 162).

Although fan culture is as old as science fiction itself, it was not until the 1990s when fan culture studies became more unified and the research began to proliferate. With the birth of **Internet** the UCG (*User Generated Content* - content created by fans) anyone had the possibility for virtually sharing his/her creations.

If we look at the way early fandom (from the 1960's up to the late 1980's) developed there is a pattern where eventually the growth of media fandom destroyed itself. The amount of media fandoms and the fanzines and conventions attached to these fandoms was so enormous, that it was almost unthinkable for new fans to enter these fandoms. The archival function of the Internet (most websites dedicated to a certain fandom present a clear navigation to its contents) together with the introduction of improved search engines (which enabled people to search exactly for what they were looking for) made it so much easier to enjoy their fandom, but also to contribute and create to communities dedicated to a fandom. While the mailing-lists are disappearing in a rapid pace, other technologies come into being filling the gap.

With the introduction of the internet, several cultural concepts were forced to be reevaluated, and in particular, cyber-fandom and other forms of virtual communication/interaction have altered our perceptions of community and identity.



Figure 1.3. Sci-Fi Convention

1.2.4 Fandom in the new millennium

People now live in 'the age of the internet', and significant portions of our lives is spent online. This holds true for work, but also for free time and the way people carry out their fandom. For example, social media websites like Facebook.com give people more options of interacting with each other on the subject of their fandom. Blogging is another example of how people personalize their experiences with their fandom by creating fan fiction, posting news stories etc.. Websites like Fanfiction.net (dedicated to the creation and posting of every kind of fan fiction) and Deviantart.com, (dedicated, but not solely, to graphical art of media artefacts) enable people to share their creativity with the world in the easiest way thinkable. It is, like already mentioned, a perfect example of the way the internet archives its own contents while at the same way being completely open and searchable for users to find whatever it is that they are looking for.

Of course, these websites would not exist if it wasn't for the input of its users. Users shape these sites by the content they themselves create. Now more than ever, we see a participatory culture blossoming, where users take matters into their own hands; users who shape their media experiences the way they deem appropriate.

Fandom is progressive, particularly in regards to the use of cyber-space and technology that allows fans the use of engaging, problem solving, and creative communication. In *Digital Fandom*, **Paul Booth** argues that the distinction between 'web 1.0' and '2.0' – supposedly marking a move from 'static' online consumption to 'dynamic' interaction, where user-generated content becomes an everyday, ordinary practice – does not empirically engage with how the web is actually used.

The introduction of high-speed networked computing constituted a turning point in the development of collective intelligence. The new digital environment increases the speed of fan communication, resulting in what **Matthew Hills** calls '*just in time fandom*'. The speed and frequency of communication may intensify the social bonds within the fan community. Yet, fandom's expanded scope can leave fans feeling alienated from the expanding numbers of strangers entering their community.

With the introduction of the internet, several cultural concepts were forced to be reevaluated, and in particular, cyber-fandom and other forms of virtual communication/interaction have altered our perceptions of community and identity. Often, computer mediated groups use emoticons, abbreviations, and inside jokes to create a closer community and sense of belonging. The main reason fans participate in fandom is to find a place where they will be accepted for their activities that are considered "fanatic" by the normative society. Cyber-fandom in particular allows a diverse set of people to interact and to not be judged based on their social, racial, or economic backgrounds and instead on the merit of their commitment to their chosen fandom(s).

1.3 Fan's Works

Fans create their own forms of literature and art, called "fan fiction" and "fan art" respectfully, and they even have their own form of music, called *filk songs*.

Fan fiction is any type of fiction written using previously conceived characters, events, and/or settings to produce unique stories. This type of fiction is often published in fanzines. With the advent of the internet, though, fan fiction is no longer limited to fanzines and fans are now able to publish their stories on highly accessible websites, such as FanFiction.net, or other text-specific sites. Like normative literature, fan fiction has several conventional classifications like as romance, action/adventure, and drama. However, sub-genres have also emerged within fan fiction, such as the aforementioned 'Mary Sue' story and slash fiction.

Fan art is an artwork whose subject is a character, scene, or setting from a science fiction text. Like fan fiction, fan art has been around since the formation of the fan community though it became much more prevalent when the introduction of media science fiction. Originally, fan art referred to art created through traditional artistic methods like painting or sketching. Recently, however, the definition has broadened to include computer generated or altered images. Fan art has become a widely popular fan- ac and many fan artists showcase their work via exhibits.

Costuming is the wearing of clothing at a convention that usually resembles outfits or clothing worn by characters of an appropriated text. Costumers often design, produce, and wear their own costumes. A costume contest called a masquerade or costume call is an instance where costumers go on stage and compete for prizes based on their skill in assembling and presenting their outfits. Masquerades are also referred to as cosplay by some fans, particularly if the costumes are based on anime.



Figure 1.4. Cosplayers

A convention (con) is an event in which people of similar interests, both amateur (fan) or professional (pros) in nature, gather for business and social purposes. There are several types of cons including media cons, comic cons, and special interest cons. Fans who attend science fiction cons are also known as members of that convention while the pros are commonly known as guests. Science fiction cons usually consist of panels, where discussions of specific topics take place, as well as several special events, such as art shows,

filk concerts, costume contests, and other exhibits. Other organized outlets for fan activities are through clubs and societies and are usually on a much smaller scale.

By creating these cultural aspects and activities, fans have created a type of community that only fans can fully participate. Each of these activities is a mode of communication in which fans interact and relate to one another to create a diverse yet intimate community. While there are varying levels of participation by fans, fandom is a community where fans are able to construct "cultural identities through fannish attachment to media texts" (Hills, 1). It is clear that fandom must be considered seriously as a subculture, and after this acknowledge is made, one must then look toward cyber- fandom as the next step in fandom evolution.

1.3.1 New technologies and 3D for Media Creation

Similar to the evolution of technology, the perceptions of fan culture are continuously changing. New innovations in mediums, such as the advent of film and television, allowed the science fiction genre another way to reach their fans. In fact, fans influence in the television realm is extremely obvious and clear. Computer graphics and visual effects are an essential part of the commercials and movie industry nowadays. The development of computer graphics (CG later in the text) dramatically rocketed up since the first computer animation effect was used in a movie. One of the main reasons of such a fast computer generated imagery development was the growing interest of viewers and progress of computer technology.

The main possibilities that CGI provides (for the industry of cinematography and advertising videos) are different kinds of visual effects and 3D computer graphics, which are used in animated movies as much as in feature films and commercials. Currently, with the help of digital techniques it is possible to create a real looking environment in the movies, different ways of actions and even all kinds of creatures that animators and designers can come up with.

Digital technologies have also enabled new forms of fan cultural production. Photoshop collage has become popular as a means of illustrating fan fiction and now digital art may go to auction at cons alongside illustrations done in pen and ink, colored pencil, or oil. Game fans have produced short animated films using game engines, developed to enable *Quake* enthusiasts to record and replay their game play.

The fan filmmakers have used home computers to duplicate effects *Lucasfilm* had spent a fortune to achieve several decades earlier; many fan films create their own light saber or space battles. Some of these fan filmmakers have gotten offers for professional projects or had their films screened at international film festivals. As fan video makers have become more sophisticated, some fan artists have produced whole new storylines by patching together original dialogue. Whether it is their ability to keep a show running for several years, such as with *Star Trek* and the *Stargate* affiliations, to revive what is considered to be a classic, like *Battlestar Galactica*, *Dr. Who*, or *Bionic Woman*; to prevent the full



Figure 1.5. 3D for Media Creation

cancellation of cult favorites, such as *Buffy the Vampire Slayer* and *Roswell*, or to push for a series to be extended into a mini-series or movies, as in the case of *Farscape* and *Firefly*, fans are the most important aspect of the science fiction community.

In cyber-fandom, fans come together virtually rather than physically to share their interests and productions and create a virtual community and culture. Within cyberfandom, fans communicate with one another primarily through blogs. Blogs are websites that allow people to "post" written entries and for people to "reply" to these entries. In the future, amateur productions may initiate many innovations in popular culture which gain higher visibility as they are pulled into mainstream media, much as the fans appropriate and recirculate materials from commercial culture. Fans can also create and visit specialized websites that center around specific fan productions, like fan art or fan fiction, while clubs and conventions use these sites to promote their organizations.

Identity in cyberspace has been a subject of discussion because cyber-fandom has shaped the ways in which fans express their identities. While science fiction is stereotypically believed and portrayed to be a genre by and for men, cyber-fandom is dominated by women.

Finally the impact of worldwide communication via the internet is key to understanding the reasons behind changes in certain cultural aspects of fandom. For instance, the interactivity between fans has increased dramatically through the creation of forums and blogs. Fans are able to participate more readily and easily in multiple fandoms. However, these websites created to house fan discussions and productions are also easily accessible to everyone and problems have arisen due to age/maturity, race, gender, and cultural differences. The internet has impacted fandom in a momentous way, so it is no surprise that fandom, a subculture that is so dependent on communication for its survival and expansion, would utilize such a resource.

In the end, the fan community continues to thrive, grow, and gain influence and as long as the unceasing fan support of the genre exists, Science Fiction will also always exist.

1.4 Fan group in Italy in the Age of Media Convergence

The Internet has changed media fandom in two main ways: it helps fans connect with each other despite physical distance, leading to the formation of international fan communities; and it helps fans connect with the creators of the TV show, deepening the relationship between TV producers and international fandoms. To assess whether Italian fan communities active online are indeed part of transnational online communities and whether the Internet has actually altered their relationship with the creators of the original text they are devoted to, qualitative analysis and narrative interviews of 26 Italian fans of American TV shows were conducted to explore the fan-producer relationship. Results indicated that the online Italian fans surveyed preferred to stay local, rather than using geography-leveling online tools. Further, the sampled Italian fans' relationships with the show runners were mediated or even absent.

An Italian research has found that fans are a relevant group when performing both quantitative and qualitative analyses. The quantitative wide surveys conducted by Andó and Marinelli (2008), for instance, emphasize how the phenomenon of fandom is spreading in Italy, and the qualitative studies of Scaglioni and Benecchi (TV di culto. La serialitá televisiva americana e il suo fandom. Milan: Vita e Pensiero, 2006) and Richeri ('Online Italian fandoms of American TV shows', Transformative Works and Cultures, 2005) reveal the depth of fan devotion to specific cultural objects in Italy.

Guided by the subculture surrounding fandom, fans have abandoned mainstream broadcasting channels in order to experiment with unconventional pathways built by networks of fans and the most popular of all is **ItaSA** (www.italiansub.net), immediately followed by Subsfactory (www.subsfactory.it).

Statistical surveys report that from 1999 to 2009 approximately 94% of people of all ages in Italy watched television every day or at least several days a week (Istat 2010; La Stampa in Italia 2010: 33). This figure is consistent with the general European trend which states 97.6% as the percentage of television viewers across Europe in 2002, but a comparison with the data relative to book readers and newspaper readers in Italy3 shows that the percentages are lower and sometimes much lower than the ones relative to many other European countries. This data clearly shows that television is the vehicle of information and entertainment most favored by Italians.

The percentage of foreign fictional programs on Italian television is much higher than

that of Italian productions. Autochthonous programs only started appearing, gradually, from the 1990s, against the massive importation of foreign programs, especially from the US, that had been taking place since 1956 (Web 30). Foreign fictional programs on television have always been dubbed. Since the beginning of satellite television in 1994, cable television in 1997 and, more recently, terrestrial digital television in 2003, Italian viewers have been given the option to watch most films and serials in the original version with subtitles but the number of people who avail themselves of this possibility is very small and the large majority watches them dubbed in Italian. However, the increasing presence of audiovisual materials on the internet in the last few years and the spreading phenomenon of fansubbing among young people have started a process which will probably change, at least partially, people's relationship with subtitled programs in Italy and, presumably, in other countries too.

When asked to define their relationship with US producers, most of the fans interviewed talked about—even emphasized—the absence of a relationship. Only four of them believed that they were actually in a relationship with a creator of an American TV show, but they portrayed this relationship as distant and virtual. According to fans, this absence was the result of the physical distance, indicating that in this instance, the Internet does not transcend geographical distance.

Of course, fans everywhere vary in their desire to directly contact TV producers, but fans based outside the United States have far fewer opportunities to do so. Therefore, it is unsurprising that the fans I interviewed perceived American fans as being closer to the show runner, and thus more influential. The study sample also appeared to believe that fandom is deeply connected with interaction and participation, and therefore, they often described American fans as "big fans" and themselves as "normal fans".

In the eyes of the Italian fans interviewed, to be a big fan, a fan must not only make herself visible to the TV show's creators and to other fans, but she must also be willing to participate in international fandom activities. From this perspective, Italian fans are in a less than ideal position to become big fans because of their physical distance and the language barrier. Nevertheless, they do claim a right to define themselves as fans, even if that definition is different from what they perceive to be the ideal fan profile.

What is lacking, according to the interviewees, are not opportunities for interaction but rather the will of the producers to profit from them. Despite the presence of strong fan communities for American TV shows in European countries, including Italy (*Benecchi*, *Scaglioni*) show runners are believed to consider European fandoms as not worth the effort to start an actual interaction.

The lack of interaction between the Italian fans interviewed and the American producers was the result of a fan decision to stay under the radar—a decision characteristic of Italian fandoms, as other studies have found and as these remarks make clear.

Chapter 2

User Generated Content

Social media, especially user-generated content, is a relatively young field of research. A research community is just forming around the topic. There is no common understanding of the subject, yet. Therefore, the following Chapter begins with an introduction of the notion of user-generated content and related terms for the work at hand in section 2.1. The possibility for every user to publish content also causes a huge amount of information and the navigation through and classification of this information becomes a growing challenge for users. The user's possibilities to classify user-generated content today are presented in section 2.2. Then, the section 2.3, focuses on the creativity behind the great fan's product and the ideas of the people, and, the last section, explains how these ideas are influence by the modern TV series.

2.1 What is UCG?

There are several different terms that evolved around the subject of user-generated content and the technology that enables its creation. Although UGC became a popular idiom recently, the practice of amateur users in creating books, movies and TV series inspired content has a quite long history.

In the context of this work, the central characteristic for user-generated content is the possibility for users to publish content to others. **User-generated content** is content published on an online platform by users. The term *social media* comprises platforms that contain user-generated content. Users do not need programming skills to publish content on a social media platform.

The creation and dissemination of content has been a popular practice for hundreds of years, even though it was only with the advent of Web 2.0 and the democratization of information that ordinary consumers had the chance to communicate with a great number of users all around the globe. [9]

While in past years making content available to a large group once required printing and a publisher, the advent of social media granted almost everyone the possibility to make information publicly available without the need of a publisher.



Figure 2.1. User-Generated Content

2.1.1 Terminology

According to the Encyclopædia Britannica (2007, p. 415), publishing is "the activity that involves the selection, preparation, and distribution of written and visual matter". Examples for published matter are books, magazines and newspapers. But, since "electronic books and online newspapers" are also reckoned to be types of publishing, the printed form is no longer a requirement for publishing (Encyclopædia Britannica, 2007, p. 416). To apply the concept of publishing in the context of social media, it has to be rendered more precisely. In the context of this work, to publish means making information publicly available. To adapt the concept to social media, several levels of public are distinguished:

• General public

the content is available for everyone, so the audience is potentially unlimited.

• Limited public

the audience is limited due to platforms that require registration prior to reading. This can be subdivide into:

– Known-limited public

comprises the cases when no receiver is specified but the audience is limited to known people

– Unknown-limited public

describes the case when the audience is limited but not exclusively to known people

In social media, the user who contributes a piece of content does not need to define his audience, but he can limit the audience. Reach is the number of people who receive a message. The less the audience is limited by a contributor, the more potential reach the message has. This notion of public, adapted for user-generated content, replaces the concept of sender and receiver by contributor and audience.[10]

During the past several decades, the media landscape developed into a complex mix of both traditional and interactive media trying to satisfy the necessities of today's fast-paced lifestyles.

Mainstream media, including television, radio, and print publications, have undergone through a series of drastic changes. Similarly, the online media landscape has evolved into a robust information space that provides both marketers and consumers with the perfect tools for timely communication.

In this scenario, the Internet has emerged as a "place" in which traditional forms of media entertainment can converge and offer consumers content at the time and place most convenient for them. The rise of the Internet, by its very nature, has enhanced content and file sharing applications, thus shaping the creation and distribution mechanisms for UGC.

This category includes products and activities such as digital video, blogging, podcasting, mobile phone photography, wikis, and user's forum posts, among others.[9]

The history of UGC will show that the digital fandom productivity phenomenon should be considered as a fundamental part of general UGC media development, including periodicals in the 19th century, garage cinema, zine culture and home videos during the 20th century.

Entering the 90s, blogs, social networking sites, including Facebook and MySpace, represented a valid platform for user-generated-content publishing. Entering the 21st century, the notion of UGC was highlighted, especially thanks to the popularity of online services such as Facebook, Google, Wikipedia, Twitter, YouTube, Flickr, Blogger, personal Web pages and much more.

2.1.2 UCG

Whether content contributed by a company on a social media platform is considered usergenerated content, depends on the notion of user. In this context, user-generated content (UGC) refers to media content that is created and/or produced by the general public rather than by paid professionals and is mainly distributed on the Internet.

User can refer to the user of a social media platform. In this case, the content contributed by a company on a social media platform would be regarded as user-generated content. User can also refer to private individual as opposed to professional or business person. In this case, the content contributed by a company on a social media platform would not be considered user-generated content. In the context of this work, user refers to the user of a social media platform.

An interesting example of fans involvement in the production of UGC is represented by the Star Wars fandom. These fans exploited the various merchandise surrounding this blockbuster film franchise for raw materials to their home-made movies.

Other films used to take advantage of commercially available costumes and props or raid videos and sound track albums for their sound effects and music.

2 – User Generated Content



Figure 2.2. Star Wars UCG

In the future, amateur productions may introduce many innovations in popular culture which gain higher visibility as they are pulled into mainstream media.

According to a 2005 study [17] conducted by the *Pew Internet & American Life Project*, more than half of all American teens— and 57 percent of teens who use the Internet—could be considered media creators. In this specific case, a media creator was defined as someone who "created a blog or webpage, posted original artwork, photography, stories or videos online or remixed online content into their own new creations". Most have done two or more of these activities. Thirty-three percent of teens share what they create online with others. Nineteen percent remix content they found online (i.e. what we used to call poaching).

Many of these young people are being drawn towards fan communities, not because of their passionate relationship to media content but because those communities offer them the best network to show what they have made in front of a larger public.

2.2 Fan's products

As the videocassette recorder became more widely available, fans started re-editing series footage into music videos, using popular music to strengthen the emotional involvement of their favourite characters. Digital technologies have also introduced new forms of fan cultural production.

Soon, media producers realized that the audience's desire to interact and be a part of the process could be something to invest money on. In early cinema, this began with the photoplay scenario writing contests, which Fuller describes as popular in the Nickelodeon era where anyone could submit a script to be developed into a short film. It was a popular success amongst fans in the 1910s and 20s, and was second in the number of submissions only to jingle-writing contests.[12]

Furthermore, game fans have produced short animated films using game engines and, as fan video makers have become more sophisticated, some of them have produced completely new storylines by putting together original dialogues.[13]

According to Fiske[14], contemporary fans' productivity can be divided into three different categories:

• SEMIOTIC

productivity in a fandom creates "meanings and pleasures" [14] from the process of reading making it a solitary exercise within the fandom.

Fans'semiotic production "can take the form of meanings of social identity and of social experience" [14] as it may represent a way for self-discovery and reflection through a rediscovery of the text. [12]

• ENUNCIATIVE

productivity comes from fan consumption and fan interaction through communication, or through self-expression, such as dressing up as a character at a convention. A common enunciative production practice is the language of a fandom, known as "fanspeak"[15]. Fanspeak is a knowledge-based communication where fans use words, phrases, and facts known or understood only within a fan community thanks to a deep knowledge of the object of fandom. [12]

Fanspeak can contribute improve fans' status in the fandom.

• TEXTUAL

productivity, which leads to the creation of a physical product. This may be fan art, fan fiction or YouTube videos. Academic discourse during a panel at a convention or the contribution to a chapter to an edited collection may also be included into textual productivity category.

The creation of this kind of content has nothing to do with the pursuit of fame or professional gain except, perhaps, within the fandom itself. These works are not so often considered as the result of high artistic skills, because they appear to be subordinate to the original artist.

Fans do not seek for official culture approval, such as critical acclaim or gallery showings, they just want to express and share their passion for the source text ,especially with other fans. Through fan production such as fan music and fan fiction, fans have the power to form their own community of followers as their productivity creates a new fandom. Textual productivity can turn into an economic and cultural artifact of its own.[12]

Fans produce a great variety of content inspired by their favourite TV series, movies and books. Key activities and productions within fan culture are:

• the languages (fanspeak);

- dress codes (costuming);
- literature (fan fiction);
- art (fan art);
- music (filking);
- conventions and fanzines.

All these activities represent a way for users to communicate and express themselves within the fandom, thus creating fan community and culture and increasing the sense of belonging.

Fans do not seek for official culture approval, such as critical acclaim or gallery showings, they just want to express and share their passion for the source text ,especially with other fans. Through fan production such as fan music and fan fiction, fans have the power to form their own community of followers as their productivity creates a new fandom. Textual productivity can turn into an economic and cultural artifact of its own.[12]

2.2.1 Fan-Fictions

Fan fiction is a type of fiction written using already existing characters, events, and/or settings to produce unique stories. This type of fiction is often published in fanzines. With the rise of the internet, though, fan fiction is no longer limited to fanzines and fans are now able to publish their stories on highly accessible websites, such as FanFiction.net, just to mention one. As it happens for normative literature, fan fiction production is generally classified into many different categories such as romance, action/adventure, and drama.[1]

Fan fiction is often described as a derivative of a certain media artefact. This means that there has to be a source-text (if we see every artefact as text, be it literature, TVshows, videogames etcetera) which creates a response, fan fiction. Re-imaginations might be born out of fandom, an intense appreciation of an original artefact, but there is a difference in the goals set by authors. In that sense, fan fiction is first and foremost written for the fans, and not for a market of consumers.

Sure, these re-imaginations might be marketed as a "catering for the fans", but are meant to draw an audience as big as possible. The difference is clear: whereas reimaginations are aimed at a market with a general audience, fan fiction is aimed at a fandom and its fans.

2.2.2 Fan-Art

Fan art is an artwork whose subject is a character, scene, or setting from a science fiction text. Originally, fan art referred to art created through traditional artistic methods like painting or sketching. Nowadays, however, this category also include computer generated or altered images.[1]

Fan art can take many forms. In addition to traditional paintings and drawings, fan artists may also create web banners, avatars, or web-based animations, as well as photo collages, posters, and artistic representations of quotes from a work.

Due to the nature of fan art, there are many debated facets of the topic. One of the most prominent controversies surrounding fan art is its validity as art at all. Some people in the art community believe that since fan art is based on someone else's original content, it doesn't deserve to be considered "art." Their definition of art entails that it must be an expression of the artist, and artwork that is derived from already-existing content cannot fulfill this. A counter-argument to this statement is that fan artists add their own individual style to the art they create. Although the concept may derive from someone else's work, the content equally as individualistic and expressive as any other form of art.

2.2.3 Filk

Filk is a subset of folk music that is practiced in, by, and for the science fiction (and fantasy) community. Filk enthusiast can add new words to pre-existing music or can write completely original lyrics and music.[1] Filk music is a musical culture, genre, and community tied to science fiction/fantasy fandom and a type of fan labor. The genre has been active since the early 1950s, and played primarily since the mid-1970s.

Filk has been defined as what is sung or performed by the network of people who originally gathered to sing at science fiction/fantasy conventions. This definition might be summarized as, "We can argue what it is until we're red or green or blue, but when filkers get together it's the thing we do."

Yet another definition focuses on filking as a community of those who are interested in filk music and who form part of the social network self-identified with filking. The origins of filk in science fiction conventions and its current organization emphasizes the social-network aspect of filking. The social aspect of filk as contrasted with the "*performer vs. audience*" dichotomy of much of modern music was described in a speech by ethnomusicologist Dr. Sally Childs-Helton.

2.2.4 Costuming

Most of the fans use to wear clothing at a convention that usually resembles outfits worn by their favourite characters of an appropriated text. Costumers often design, produce, and wear their own costumes. During a costume contest costumers go on stage and compete for prizes based on their skill in creating and presenting their outfits. Masquerades are also referred to as cosplay by some fans, particularly if the costumes are based on anime.[1]

In this term we can obviously include also *Cosplayer*. **Cosplay**, a contraction of the words costume play, is a performance art in which participants called cosplayers wear costumes and fashion accessories to represent a specific character. Cosplayers often interact to create a subculture and a broader use of the term "cosplay" applies to any costumed role-playing in venues apart from the stage. Any entity that lends itself to dramatic interpretation may be taken up as a subject and it is not unusual to see genders switched.

Favorite sources include manga and anime, comic books and cartoons, video games, and live-action films and television series.



Figure 2.3. Torino Comics - Costumes/Cosplayers

The rapid growth in the number of people cosplaying as a hobby since 1990s has made the phenomenon a significant aspect of popular culture in Japan and some other parts of Asia and in the Western world. Cosplay events are common features of fan conventions and there are also dedicated conventions and local and international competitions, as well as social networks, websites and other forms of media centered on cosplay activities.

2.2.5 Fan-advertising

Recently a new kind of UGC has come to life and it is well known under the name of 'Fanadvertising'. In this process, the consumer becomes not only a fictional content producer, but also an advertisement diffuser.

Fan-advertising is an emergent form of advertising communication developed by the fan of a cultural product. There are three essential characteristics that define fan-advertising:

- 1. the author of the content must be a fan or a group of fans who must use a so-called canonic text, i.e. the original work, as a source of inspiration for their creation;
- 2. the fan's desire of speaking about this canonic text in a positive way;

- Image: State in the image: State in
- 3. the fan creation must become a viral message so it can reach the average spectator through conventional channels.[16]

Figure 2.4. UCG for advertising and money

Fan-advertising is a term that makes sense especially in relation to entertainment products, like TV series or books. In fact, the promotional strategy would be useless without the fan community.

The concept of fan-advertising is deeply related to the User Generated Content (UGC). This term 'refers to the systems of collaboration where the user is not limited to surf the information produced by others but he becomes producer himself' (*Delgado & Jiménez*, 2007: 945). Furthermore, fan-advertising transforms the fan into the key element of the conception and creation.[16]

An interesting example of fanadvertising id represented by the Ultimate Lost Fan Promo Contest, Since the idea was to advertise the final episode of the TV series Lost (ABC, 2004-2010), the official web site of ABC hosted a trailer maker tool that allowed every spectator of the show to create his/her own spot promoting the end of the series).[16]

2.3 Creativity

The Internet is basically a relatively democratic media where fans can be as active as ever, or as Jerkins writes [20]:

"fans[...] may sample dialogue, summarise episodes, debate subtexts, create original fan fiction, record their own soundtracks, make their own movies - and distributed all this worldwide via the Internet".

There may be different reasons behind the need of consumers to produce UGC. First of all the creation of UGC may be driven by the need to gain information to organize and understand their environment and themselves.

Furthermore, creators of UGC feel gratified with a sense of self-esteem because they have created content and a sense of belonging since they become members of an online community that shares the principles they consider important.

Some scholars, such as **Smith**, consider social adjustment as one of the main reasons behind the creation of UGC, since people may express attitudes or behaviour that are agreeable to others. In terms of the UGC, the concepts of sharing and interacting socially are fundamental so UGC creators and consumers might be motivated and influenced by the way their important reference groups would perceive their membership in an online community.

The act of creating UGC may also be strictly related to the attitude toward both previous experiences with UGC and the situation that involves its creation. his means that consumers must have positives attitudes toward UGC in general to feel at ease in a situation in which they can create their own UGC.

The reasons driving media consumption depend on the formation of positive or negative attitudes toward a medium.[9]

It is also important to notice that, given a positive interaction with a specific piece of UGC, a consumer's attitude toward its consumption and creation should be more positive.

As UGC becomes more prevalent, understanding why consumers are drawn to create and consume content becomes increasingly important, especially as the media industry moves toward a user-centric model of consumption, even though there are some noticeable differences in the reasons that drive content consumption and creation.

Consumers are involved to create blogs, post within discussion forums, and construct Web sites than simply to consume these forms of UGC. In contrast, UGC creators fight for self-expression by engaging in behaviors that provide them with a voice or showcase their individual thoughts. These differences may also simply reflect the impact of individual skills. For example, the creation of videos, production of music, and acquisition of necessary knowledge to post a wiki require more skills than simply using a computer keyboard (i.e., as required by an online discussion forum).

Whatever the reason that drives the production of UGC, creativity is one fundamental requirement even though scholars have completely different approaches toward common users skilfulness. For example, Fiske argues that there is no significant, necessary difference between fans' textual productivity and official media texts with regards either to production values or skill. For Fiske, differences 'are economic rather than being related to competences', since official texts are created to generate profit and can rely on high budgets. [24]

2.3.1 Drivers

It is of great interest to identify the different drivers which have enabled so many users to produce UGC in the age of World Wide Web. According to the *OECD* (Organization for Economy Co-operation and Development)[21], we can identify four major drivers which have shaped this change:

• Technological drivers

Since the late 90s broadband has rapidly been taken up by many households, thus enabled users to upload and download massive amount of data.

High speed internet has granted people the possibility to integrate large videos or pictures to their websites and make the use of internet much more enjoyable and interactive. High speed internet has granted people the possibility to integrate large videos or pictures to their websites and make the use of internet much more enjoyable and interactive.

Third point, maybe the most important, the development of interfaces and online applications allowed users to create, post and upload content in a very easy and rapid way.[23]

• Social drivers

A significant amount of people using internet nowadays are often referred to as "digital natives": people born with the new IT era, for whom watching TV over the internet or using Facebook to chat is simply the norm.[22]

These people have quite skilful when it comes to IT and are is also very often the most exposed category of people using social networks and following easily new trends.

• Economic drivers

As technology improves, internet connection or consumer electronics are affordable by a growing percentage of the population. Furthermore, many companies tend to use social media and UGC as a new way to market their brands, leveraging notably on viral marketing campaigns.

An interesting example is represented by the new advertisement strategy introduced by the ketchup company Heinz which has recently launched a campaign to let consumers create their own advertisement, with a valuable money prize for the best one.

These home-made advertisements were then uploaded on their website as well as one Youtube where they record a significant audience.[23]

• Legal and institutional drivers

Users producing UGC feel the need to make sure that his creation will remain theirs. In the same way it is also important giving property rights to creator without making it to restrictive as this would lead to a lower rate of sharing among users.

An interesting solution is represented by the Common Creative (cc) standard which requires the users to strictly mention the name of the actual creator of the picture, text or video but also let them freely share and distribute this content to any third party.[23]

2.4 Copyright problems

Fan production raised questions about intellectual property, fan management, and participation due to the issues associated with **Intellectual Property Rights** (IPRs).

UGC takes place in a kind of "gift economy" where most of fans create just to receive "pleasurable productivity" without any intent of financial compensation because they find fandom approval rewarding in non-financial ways. Even when fans recognise that they are being exploited it does not stop them from producing fan content.

As mentioned in **Megan DeSouza**'s *The Case of the Red Pants Mondays*, fans are rewarded in other ways from their engagement online, as within their fan community their fan work can gain them social capital. Furthermore, the fact that their production can be used for the good of their favourite media product by the producers is a bonus.

Fans are devoted to the text that they adore, not to the corporation that runs the product, but what profits the corporation profits the text, so fans are happy to support their favourite show/book/movie by having their activity used by the producers of the show.

This new model completely blurs the traditional divisions between producer and consumer, since consumers become **prosumers** who generate value for media corporations. This means that in recent years producers have become more dependent on productive fans than they had been in the past.

Current relations between studios and fans are generally more tolerant as there are significant pieces of fan fiction and fan-inspired works on the Internet without drawing legal action, and an argument in the **California Law Review** recognized that *if a creative work reflected the source material in comment or critique, it is still considered fair use as it is a unique body of work*'.[12]

Recently, the controversial proposal of an American bill called **SOPA** (Stop Online Piracy Act) confirmed that the power of the masses remains limited. In January 2012, the bill almost passed, but Google, Wikipedia and a number of other major websites started a protest that generated widespread attention concerning SOPA's possible violation of the American constitutional right to free speech.

In order to achieve the protection of American intellectual property, the bill threatens to blacklist 'rogue' sites (foreign websites that infringe on American copyright laws) and American websites that link to pirated content.

Laurence Tribe, a high-profile Harvard law professor and author of a treatise titled *American Constitutional Law*, has argued that SOPA is unconstitutional because, if enacted, "an entire Web site containing tens of thousands of pages could be targeted if only a single page were accused of infringement".[?]

This means that if the law had passed, websites such as YouTube, Facebook, Twitter or Wikimedia would be at risk of blacklist if a user posted copyrighted material. Consequently, online fan activity would have been strictly limited. For instance, fans would no longer have been able to share re-edits of film scenes, fan-made music videos using original soundtracks, or links to fan-made film merchandise.

SOPA was only one of many internet copyright protection laws to be proposed and could be the starting point of future process of the de-democratisation of the internet.

As **Suzanne Scott** explains, a gift economy ideally reflects fans attitude towards text productivity, since the free exchange of gifts evades copyright restrictions and builds a closed social network.

The fan-founded and managed Organization for Transformative Works (OTW) supports this flexible interpretation of copyright laws:

"Copyright is intended to protect the creator's right to profit from her work for a period of time to encourage creative endeavor and the widespread sharing of knowledge. But this does not preclude the right of others to respond to the original work, either with critical commentary, parody, or, we believe, transformative works."

(Organization for Transformative Works, FAQ)

According to the OTW:

"Transformative works are creative works about characters or settings created by fans of the original work, rather than by the original creators. A transformative use is one that, in the words of the U.S. Supreme Court, "adds something new, with a further purpose or different character, altering the [source] with new expression, meaning, or message."

2.5 The influence of TV Series

The Internet provides a platform from which fans can interact, and enter into fan discourse, but also one from which they can engage in media production and movements that can affect industry production. There are instances where fan production is read by industry creators, and then affects industry production.

A 'fan' refers to an individual who has a fervent interest revolving around a media artifact like a television show, film, or book. Fans may participate in group activities located in an online space or at real-world events. A fandom was "typically associated with the cultural forms that the dominant value system denigrates," such as popular music, comics, video games, and novels.[5]

If one is labeled as a 'fan', it implies a certain level of knowledge, passion, and a link to the text that a 'normal' person does not possess; it is this difference from the norm that defines their culture as a select club where the knowledgeable and the dedicated are accepted. Seeking a fandom, and evaluating it, is a vital element for building a fandom's culture, as the community is built on a relationship of sharing information, but also "competing over fan knowledge, access to the object of fandom, and status".[6]

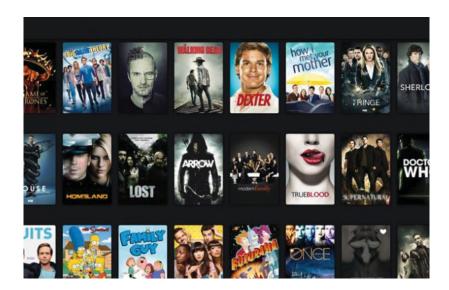


Figure 2.5. TV series influential on society

The universe surrounding TV series is received and assumed by fans as their own. And they become active agents that recommend the consumption of this product to other receptors through creations whose only intention is sharing with the community of users a series of personal interests and favorite products. The fan turns into a preacher and an advertising agent at the same time, certifying the quality of the product and disseminating this message through Internet and social networks.

We must talk about a new type of consumer, the 'prosumer', that helps to complete the concept of opinion leader. This term was coined by Toffler in his work The Third Wave (1980), where he made reference to a new agent of the 'global village' that not only works as a consumer but it can also offer goods or services to the net. According to the study carried out by the advertising agency Euro RSCG, Prosumer Pulse 2005, 'the prosumer is a proactive person, avid of information and opinions, that actively shares his points of view and experiences with others' (2005). For this reason, the official web site of ABC hosted a trailer maker tool that allowed every spectator of the show to construct his/her own spot promoting the end of the series.

2.6 Behind the use of new 3D technologies

Digital art has not always been considered as a truly form of art in the most traditional acceptation of the word. **New York's Whitney Museum** found itself at the center of a controversy about digital art when it recently included Web artists in its prestigious

biannual show. Critics didn't believe the computer could be really able to express the human spirit. But they were wrong!

The computer is simply a tool that offers artists new resources and opportunities for creating: it is human creativity that makes art, not the tools.

In 1925, leading literary and arts critic **Gilbert Seldes**, adopting what was then considered a controversial position, argued that Cinema and other popular arts were to be celebrated because they took the very machinery of the industrial age and found within it the resources for expressing individual visions. And these new forms were still open to experimentation and discovery. They were, in *Seldes*' words, "lively arts".[28]

In modern filmmaking, there are two basic methodologies for creating. The first, and more common (especially in independent film), is one in which the images are created in a physical environment such as a set or on location. Being able to create meaningful images in this way requires unique technical and artistic skills.

The other methodology of modern cinematography is one in which the images are created digitally putting together various elements and pieces of footage in order to create the final image.

While the characters are lit and framed by the cinematographer on the set, these decisions are often unrecognizable after the digital effects team has finished with the footage. In these cases, much of the lighting and composition actually happens in a computer.[29]

One of the main reasons behind the growth of CGI laid on the always increasing interest of viewers and progress of computer technology.

Currently, with the help of digital techniques it is possible to create everything your mind is able to imagine, from a real looking environment in the movies to different ways of actions and even all kinds of creatures that animators and designers can conceive.[30]

Recent accessibility of CGI software and increased computer speeds has given the possibility to individual artists and small companies of producing professional grade films, games, and fine art from their home computers.

2.6.1 Brief History of VFX and CG

At the beginning of movie industry history, all the props, fantastic environments or creatures in the science fiction films and horror movies were created for real using materials such as rubber, silicon and with the help of hydraulic systems and robotics.

Unfortunately the result was strongly limited by several constraints such as:

- Limitations
- Poor technlogies
- Big expenses
- Time consuming

- Unrealistic look
- Lack of movements

In addition, it is important to consider the fact that before the advent of CG, artists drew every single move for a character, thus meaning that a great number of frames had to be drawn to produce a proper cartoon. However, nowadays Computer Graphics Imagery (CGI), Visual Effects (VFX) and digital Special Effects (SFX) helps artists to create whatever character they want and give him a birth, expressions, emotions. There is almost no use of these materials anymore. It is much cheaper to generate the Pandora world with all its' "Avatars" using computer graphics than creating it for real.

Nevertheless, even now computer graphics artists face a lot of complications since modern technologies, high qualified hardware and up to date software are just tools in the hands of artists.[30]

Scott Ross, who served as the general manager of ILM (Industrial Light and Magic) in the '80s and co-founded the post-production studio Digital Domain, explains:

"There are limitations to physical models," he said. "But CG can do just about anything... set extensions, fire, water, snow, pyro, creature animation, matte paintings – virtually anything you can imagine. In fact, nowadays, anything you can imagine."



Figure 2.6. GoT VFX

One of the first and the most significant steps for digital effects was the legendary "Star Wars" in 1977. Spaceship battles in Star Wars were created using the motion-control photography technique and, moreover, it saved a lot of time for movie creators in contrast if they had done space wars manually. Afterwards, in 1991 the "morphing" technique was first used in "Terminator 2 - The Judgment Day". It was layered in the scenes of transformation from a human looking view to a liquid robot humanoid. And so on, as with "Titanic", "Jurassic Park", "Lord of the Rings" which got a place in the history of digital effects because of the colossal battle scene where the movie makers created the CG platform that produced intelligently moving and fighting warriors who battle against each other making movement decisions by themselves. It saved a lot of money in the movie production because it was not necessary to create thousands of costumes, weapons, equipment as also it reduced the work of operators and others.

Each step forward in computer hardware development provides new opportunities for computer graphics and the demand for the digital effects and all the other modern technologies is constantly growing up since the first time it was introduced in the movie industry.

The interest to computer graphics and visual effects is something that all types of spectators of all generation have in common. One serious problem is the lack of recognition of the CG artists regardless of the amount of work and passion required in the creation and production of movies, also considering the fact that the result of all this work is creative and innovative.

This situation led to the formation of the VFX Solidarity International. The purpose of this organization is to unite VFX professionals and the digital artists worldwide for fair and rightful international business standards and practices.

Every decade since CG was first applied in the movie industry was triumphal for the cinema industry and it is possible to assume that triumphs will last as long as technologies are improving, so even nowadays effects most probably will just become pieces of far history (in the meaning of CG leap) after some time.



Figure 2.7. The Walking Dead CGI

2.7 The sharing of UCG

Participatory, digital media is an ideal tool for a fan community, as it represents a resource for fans who desire access to immediate and unlimited information in a shared, interactive community. **Jenkins**[20] writes that fans are driven to exchange information, and are "motivated not by a simply pleasure in knowing but a pleasure in exchanging knowledge".[12]

The development of Social Media platforms such as Facebook and Twitter offered people new ways in which they can interact both personally and professionally, thus changing the way we communicate and create online communities. Through this new technology there is an opportunity to share opinions with more than just our friends, since they can potentially be shared with all users of the Internet.

Fans of television and film productions are an example of passionate interest-sharing communities. In the world of television and filmmaking the use of social networking sites such as Facebook have considerable potential for engaging fans.[32]

Kaplan and **Haenlein** [31] define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user generated content".

2.7.1 YouTube

In the post-broadcast era, User-Generated Content (UGC) has transformed from an amateurs' experiment to one of the most important phenomenon in the new media environment. Supporters of UGC state that participation and interactivity are able to empower the audience. With its encouragement of amateur video production, YouTube seems to be capable to transform the nature of media users, from passive audiences to active creators.

While YouTube's emancipatory power comes from amateurism, user participation and User- Generated Content (UGC), these qualities are compromised by opposite trends, including institutionalization and Professionally-Generated Content (PGC).



Figure 2.8. YouTube as convergence medium for UCG

You Tube is the result of media convergence between old medium(television) and new medium (the Internet) and media convergence not only represents technological transformation, but gives also evidence to the new ways in which people imagine social networks and define privateness and publicness. For all these reasons, YouTube can be considered as a convergence medium blurring the lines between narrowcasting and broadcasting, the private and the public, and UGC and PGC.[11]

It is a common myth of YouTube that anyone can be productive and profitable on YouTube. Reality is quite different since only a small portion of YouTube users create and of the small portion of creators, only a few gain fame. Furthermore, of the selective YouTube celebrities, just a handful of users make money.

At the very beginning of the development process, YouTube was an amateur-driven medium but as YouTube has been growing, PGC has become dominant. This significant change of YouTube approach to users' productivity reflects people's fascination with celebrity.[11]

Although the dominant categories in the popular clips on YouTube are entertainment oriented, "viralness" is the key word rather than a specific genre or characteristic. The concept of "viral video" comes from "viral marketing," a business strategy that "facilitates and encourages people to pass along a marketing message" (*Marketingterms.com*, 2009). Levy defines viral video: "video content that gains popularity through email sharing, blogs and other Internet websites".[33]

YouTube is the most used and visited web site for viral videos, but it is neither exclusive nor original: social networking media including Facebook and Twitter are also products of viral culture and the origins of online viral content reaches back further.

As a the result of media convergence between the Internet and TV, YouTube cannot be completely considered as a revolutionary medium because of its being influenced by traditional agents (i.e. network broadcasting and TV audiences), content (i.e. program genre and style) and institutions (i.e. copyright and advertisements).

This means that YouTube is becoming institutionalized in two ways: first, through its partnership with major media companies, such as Google, big record labels, TV networks, cable channels, and music companies; second, through censorship.

Although YouTube supports a philosophy of free speech, YouTube Community Guideline prohibits certain videos and provides categories for removal. After being purchased by Google, YouTube introduced ad-effective tools, including YouTube Video Identification (Video ID) for copyright holders and YouTube insight for video uploaders. In response to pressure from media companies, in October 2007 YouTube introduced a content management tool, Video ID, whose aim is to help copyright holders (mostly media companies) find copyright infringing materials and claim their rights. Infringing videos can be tracked by using Video ID.

Copyright owners have choices "whether to block, promote, or even – if a copyright holder chooses to partner with [YouTube] – create revenue from them, with minimal friction" (YouTube, 2007). In other words, the industry can claim the videos and remove them. Or, rather than removing the clips, the industry can put ads in the clips and share the revenue with YouTube.[34]

After being purchased by Google, YouTube has adopted a new e-commerce model; it puts banner ad in videos or in YouTube pages and shares the revenue with the copyright holders of the videos. Based on the number of views that the video receives, the ad revenue is split between service provider (YouTube) and content provider (copyright owners).[34]

Another problem of copyright on YouTube is that amateurs do not claim their copyrights, while major media studios protect themselves with severe application of copyright laws. This imbalance in the application of copyright law may be seen as the result of volunteerism of amateurs, but its explanation could also lay in the indifference of media groups toward individual rights and on the exploitation of self-expression on YouTube.[11]

Chapter 3

The Big Phenomenon: 'Game of Thrones' Fandom

This study explored fan-behavior within the online GoT-fandom. The online GoT-fandom intertwines with different areas of fandom and the novel series finds its roots in literature. This chapter outlines a short description about **Game of Thrones** and why it is so famous and look how it influenced the modern society with its story. Furthhermore, there's a section about the fan groups on Internet and the strategy used by the marketing on social media. At last, we dedicated a section for the major fan group in Italy.

3.1 About GoT

In 2010 was announced a new American fantasy television series produced by HBO and based on the novel series A Song of Ice and Fire, written by George R.R. Martin who also acted as a producer, creative consultant and scriptwriter on the TV show. David Benioff and D.B. Weiss created the television series and serve as executive producers, showrunners and the main writers.

The HBO-series was named **Game of Thrones** (GoT) and consisted in an adapted version of the first book in the novel series. During the first season HBO announced the second and third series. The second series was an adapted version based on A Clash of Kings. The third series was an adapted version of the first half of A Storm of Swords. The storyline of the television series shows close resemblance to the original work of the novel series but shows differences as well, such as the major presence of a character in the novel series and its minor presence in the television series.

Unlike Tolkien's adapted filmic visual representation of Lord of the Rings (2001, 2002, 2003) and The Hobbit (2011, 2013, and forthcoming), the author of the books is present at the film set and fulfills an active role in the visualizations of his imagination.

The series is set on a world where the seasons can last for years at a time. The main setting is the continent of Westeros, which was home to seven feuding kingdoms until they were united by the Targaryen family using dragons some three centuries ago. Three are



Figure 3.1. Game of Thrones title

the main storylines in the series:

- A dynastic civil war for control of Westeros between some of the most powerful families
- The rising threat of *The Others*, cold ancient creatures who inhabit the Land of Always Winter beyond an immense wall of ice, in the far north of Westeros
- The Journey of Daenerys Targaryen, the exiled daughter of the Mad King Aerys murdered in another civil war, to return to Westeros and claim her rightful throne.

As the series progresses, all the storylines become strongly interconnected and most of the characters come to meet each other.



Figure 3.2. HBO poster

David Benioff was sent a collection of the first four novels in the series by George RR Martin's agent and suddenly became a big fan of the books. He asked his friend D.B. Weiss to join him in the development of the project for a screen adaptation. When they met with George RR Martin, he was impressed with their enthusiasm and the way in which they already solved several key mysteries in the books. HBO officially pproved the production of the TV show on March 2010 while the filming for season 1 began on July 23 and aired on HBO on 17 April 2011, generating critical acclaim and regularly rising ratings.[36]

Game of Thrones is considered a vibrant example of multilayered narration, realistic and engaging, with supernatural elements to make the plot more captivating together with impressive production values. The series, in its 'attempt to tell the story not of a family, or even a country, but a world' (**Robert Colvile**, The Telegraph, 2012), has been able to gain audience enthusiasm despite the complexity of its storylines – or rather, because of it.

The show's imaginary universe allows different forms of audience engagement, where the complexity of the experience is based on the existence of three sub-worlds within the Game of Thrones' universe: the literary one, the one recreated on screen and one that makes use of the media extensions to intensify the storylines and the characters' profiles.

This multi-level architecture gives audience the possibility to develop many different ways of consumption beside that of using original media content in order to produce and distribute new fan-made one.[36]

3.2 Why Game of Thrones and the reasons behind its success

Game of Thrones has been named the most popular series of all time on HBO not only because swordfights, sex, nakedness and intrigue represent for the audience a way for a little escape from reality. As Alice **G. Walton** wrote on Forbes, there are several reasons why 'we are so hooked on Game of Thrones'. Some of them are listed down below:

1. It's the best "world-building" there is

Barna Donvovan, PhD, professor of film and media studies at Saint Peter's University, says that "Game of Thrones [...] basically does what serious science fiction and fantasy have always done, functioning as a symbolic commentary on the main social and political issues of the day."

In this vein, **Josué Cardona**, therapist and founder of *GeekTherapy.com*, says that "The show is super complex, with so many characters and storylines, and it has what I consider some of the best world-building ever done in a TV show. It's more engaging than most shows on TV, because it's cognitively engaging. While most dramas have multiple threads, none has done it to this extent in the fantasy genre before GoT".[37]

2. It's ridiculously smart: Your brain has no choice but to stay engaged. In a world of flat, personality-less characters on TV (mostly in the sit-com world), dramas, period pieces, and fantasies, *Game of Thrones* is arguably one of the smartest shows around in both plot and language.

Some critics have argued that shows like Game of Thrones address to the rising "mass intelligent" and have introduced a whole new genre of TV. With its wry

humor, complicated moral questions, cliffhangers and twists Game of Thrones makes its audience do some serious intellectual work.[37]

3. You can't bank on what's to come

Game of Thrones is filled with suspence. The twists and turns of the plot lock us in, and the developments that are impossible to anticipate generate excitement and a sense of 'newness'. Main characters are killed, psychopaths claim power, weddings become bloody murders, and bad guys develop consciences as time passes. [37]

4. Character complexity makes the concept of "good" and "bad" moot

Characters, are multi-faceted, they undergo substantial changes and appear to be deeply realistic in the development of their personalities. These elements generate feelings of identification and empathy among fans, making most of the characters more likeable, in some ways.

"I think we become so emotionally invested in the characters in part because they're more human ... But I think the real point is that save for a handful of truly wicked people—Joffrey Baratheon, Ramsay Bolton—even the best characters are flawed and even the worst have something redeeming" says Forbes contributor Erik Kain, who's written a lot about the show.

This psychological complexity makes characters a little bit unknowable since it is quite difficult to predict their actions, thus it is not that easy to decide who's a good guy and who's a bad guy.[37]

5. Archetypes are presented, destroyed, and rebuilt

"The interesting thing about Game of Thrones," says Donovan, "is the way it incorporates many of the archetypal characters and plots of fantasy and classic heroic and mythic storytelling, yet it does so by often altering them and even subverting them. This kind of experimentation with the archetypes makes Game of Thrones a truly superior piece of art".

There are a number of archetypes that are challenged by the narrative, and they all deserve discussion – but Tyrion is one of the best. "Called 'The Imp' or 'The Half Man,'" says Donovan, "Tyrion is also supremely intelligent and possessing of a quick, biting wit. [...] Despite his physical appearance that's an embarrassment to the family, he is smarter than his father and siblings. Tyrion uses jokes and mockery to expose others' shortcomings, hypocrisies, pretensions, and lies".[37]

Furthermore, this great variety of characters encourages identification in the projective form, especially with strong personalities who have to struggle and face many obstacles to achieve their tasks and/or being accepted by others (i.e.: Tyrion Lannister, Arya Stark, Jon Snow). It also encourages people to reflect on themselves and their own behaviors in comparison to those of the characters. The personal struggles and the public fights that characters have to face in order to survive represent a narrative strategy that puts under examination a wide range of human feelings.



Figure 3.3. Cast of GoT at Emmy Awards on september 2015

3.3 Influence on us

Since the first episode of the series aired on April 2011, Game of Thrones has since become a critical and commercial success. According to **The Guardian**, by 2014 it had become both "the biggest drama" and "the most talked about show" on television.

The great success of the TV show is the main reason at the core of the rising popularity of fantasy themes and mainstream acceptance of the fantasy fandom. On the eve of the second season's premiere, CNN.com wrote, "After this weekend, you may be hard pressed to find someone who isn't a fan of some form of epic fantasy".

The series' success in overcoming prejudices against fantasy was attributed by writers to a general desire to find an escape from everyday life, typical of popular culture. Furthermore, the series' ability to find a balance between light-hearted and serious topics, such as dragons and politics, is one of the aspects that make the show so popular.

The series' popularity greatly increased sales of the *A Song of Ice and Fire* novels, which remained at the top of bestseller lists for months. The Daily Beast wrote that Game of Thrones was a particular favorite of many sitcom writers, and, consequently, the series has been referenced in many other TV series.

Furthermore File-sharing news website TorrentFreak estimated Game of Thrones to be the most-pirated TV series every year since 2012. Illegal downloads grew to about 7 million in the first quarter of 2015, up 45% from 2014. Together with other fantasy series, Game of Thrones has been considered responsible for a considerable increase in purchases (and abandonments) of huskies and other wolf-like dogs.[38]



Figure 3.4. Meme for GoT

3.3.1 Effects on the locations

The production of the series is based in Belfast, Northern Ireland, mainly at the Paint Hall Studios, but filming for the series has also been conducted in *Malta*, *Iceland*, *Croatia*, *Morocco*, *Spain* and the USA.

Game of Thrones receives funding from Northern Ireland Screen, a UK government agency financed by Invest NI and the European Regional Development Fund. Tourism Ireland has a Game of Thrones-themed marketing campaign. According to Arlene Foster, the series has given Northern Ireland the most publicity in its history.

Tourism organizations in other filming locations also reported notable increases in bookings after their locations appeared in Game of Thrones. In 2012, bookings through LateRooms.com increased by 28% in Dubrovnik, *Croatia*, and by 13% in *Iceland*. In 2013, bookings increased by 100% in *Ouarzazate*, *Morocco*, the filming location of Daenerys' season 3 scenes.[38]



Figure 3.5. Filming Locations

3.3.2 Views

The first season of Game of Thrones had an average of 2.5 million viewers for its first Sunday night screenings and an average audience of 9.3 million viewers per episode, including all repeats and on-demand viewings.

For its second season, the series had an average audience of 11.6 million viewers, while the third season was watched by 14.2 million, making Game of Thrones the second mostviewed HBO series after The Sopranos.

In the fourth season, Game of Thrones had an average audience of 18.6 million viewers, thus becoming the most watched TV show ever on HBO.

An alleged 8.9 million viewers tuned in to HBO for the initial telecast on Sunday 26 April in the United States – 800,000 more viewers than the season five finale, Mother's Mercy, which held the series' previous ratings record. [38]

Furthermore, the last two episodes of the series, "Battle of the Bastards" and "The Winds of Winter" with a perfect 10/10 score on IMDB have become the highest-rated TV episodes ever.

In 2013, BBC News wrote that "the passion and the extreme devotion of fans" was at the core of the great success of Game of Thrones that has become a real cultural and social phenomenon if related to other popular TV series, manifesting itself in a very broad range of fan labor, such as fan fiction, Game of Thrones-themed burlesque routines, or people naming their children after characters from the series.[38]

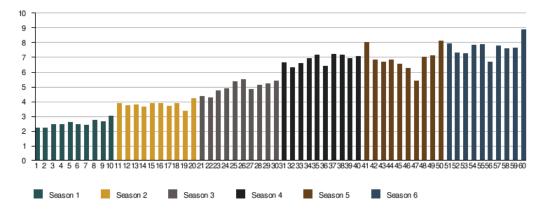


Figure 3.6. GoT viewers in millions

3.4 The media and the fans

A Song of Ice and Fire and Game of Thrones have a very large and active international fan base. In 2012, Vulture stated that the series' fandom was the most devoted in popular culture, ahead of *Lady Gaga, Justin Bieber, Harry Potter* or *Star Wars*. Fans include political leaders such as U.S. President Barack Obama, former British Prime Minister David Cameron, former Australian Prime Minister Julia Gillard, and Dutch Foreign Minister Frans Timmermans, who, in a 2013 speech, described the challenges of European politics in terms of quotes from Martin's novels.

As stated by Jerkins[39]: 'Fandom, after all, is born of balance between fascination and frustration : if media content didn't frustrate us on some level, there would be no drive to rewrite or remake it'.

Visual representations constitute a sub set of fan fiction most often referred to as 'Fan Art', since the reasons driving fans to produce visual art are identical to those behind the more common written story.

Working with the visual register requires more specialized skills and the act of creation allows the artist to occupy the narrative space, even if the result deviates from the vision of the original producer.



Figure 3.7. GoT fan's meme

Fans of A Game of Thrones began to slowly but surely post artistic rendering of their favorite characters and plot developments, in many cases to support the narrative during the multi- year wait between Martin novels. It was only with the great success of HBO's television adaptation Game of Thrones, however, that a true cult of images arose, with visuals from the show achieving a certain level of popularity and even iconic standing in popular culture.

Since the official merchandise sold by HBO doesn't include images from the show, by contrast fan art introduces new ideas and pushes the extra-canonical narrative in new and interesting directions. The most popular figures depicted in Game of Thrones Fan Art are Daenerys Targaryen, Jon Snow and Cersei Lannister, perhaps due to the fact that each has undergone quite a bit development throughout the series. They are also three of the most beautiful characters as both described by Martin and cast by HBO. Youth and beauty are prized, not only by the characters in Martin's medievalist world but also in the communities in which artists produce their art.

Furthermore, Daenerys, Jon and Cersei live in very different parts of Martin's fictional world – the desert of Essos, the frozen North and King's Landing – thus introducing a diversity to the backdrops in which they are portrayed and the objects and other characters with whom they interact.



Figure 3.8. GoT Fan Art

Another important aspect of Game of Thrones inspired visual production is that , in most of the fan arts and fan fictions the creative impulse meets the reader intention to carry the story forward into alternate plots or anticipated revelations.[40]

Beside the creation of Fan Art, other favorite Game of Thrones fans' activities are listed here[41]:

- Having GoT's style wedding;
- Having amazing GoT tattoos;
- Naming their children as GoT's characters There are nearly 150 children in the USA named Khaleesi, which isn't even technically a name, and the name Arya is constantly climbing up the rankings of most popular names);

- Taking the time to construct many different versions of the Iron Throne;
- Studying for a degree in Game of Thrones at University of Virginia;
- Dressing their animals with GoT's costumes.

A recent phenomenon related to User Generated Content exploded at the end of Game of Thrones season four, when fan-created "GoT" videos largely outnumber those on HBO's official "Game of Thrones" YouTube channel, by a ratio of 82 to 1, according to a Google analysis.

For all these reasons, the TV series has become the biggest on YouTube in terms of user- generated reaction videos, alternate endings and other content related to the show. And those fan videos generate 89% of all "Game of Thrones" views on YouTube, according to a new analysis by Internet video-software vendor Zefr.

The HBO official "GoT" channel has more than 172 million views to date, but it is a not so great result if compared to the estimated 1.4-plus billion of "Game of Thrones" YouTube videos uploaded by users, according to Zefr. "Once a new episode airs, fan communities breathe new life into the show, revealing the power of fans to turn a TV show into a cultural phenomenon," Zefr audience analyst Erik Weber said. "Because 'Game of Thrones' is so captivating, and frequently shocking, fan- made videos that get shared online are fittingly over the top themselves, demanding plenty of attention in their own right". This means that Game of Thrones fandom prefers to watch fan-made videos instead of the official clips by HBO or any other kind of fan production.

Increasingly, TV networks and other entertainment companies tend to use YouTube and social media to let user-created content become one of the most powerful promotion instruments. Google's research has found that TV-related activity on YouTube, including the user-created content, helps boost ratings.[42]

Game of Thrones fans are really active on social media and very numerous. In fact there are 5,493,248, according to Facebook likes and Twitter followings gathered by analytics firm SocialBakers. and the numbers are growing fast, at a rate of up to 32,000 new fans a day. Only a third of the fans are in the U.S., followed by those in Brazil.[44]

3.5 Their Social strategy

Game of Thrones is HBO most popular series ever and the most pirated one. It holds the record for the highest number of Emmy Awards for a single year (2015), winning 12 out of 24 nominations.

One of the things that make GoT so popular is the smart use of social media pages: 17 million likes on Facebook, more than three million Twitter followers, close to two million followers on Instagram, and over 200K followers on Vine are the result of an excellent social media- based marketing strategy.

GoT's social media pages spread the excitement after watching a shocking episode, or create anticipation around an upcoming season. In a recent article on **DrumUp** [44],

3.5 – Their Social strategy



Figure 3.9. HBO's social media strategy - Facebook page

Ashwini Pai tried to identify some of the reasons why Game of Thrones is conquering the Internet and that may represent some interesting lessons useful to follow.

• Add Image to Tweets to Increase Retweets

Tweets with photos boost retweets by 35% while those with videos drive up retweets by 28%. GoT's Twitter feed is a collection of images, GIFs and videos that get at least a couple of hundred retweets. In this way, even non- fans become curious about characters and plotlines and may start watching the show.[44]

• Leverage Facebook Quiz Marketing to Encourage Fan Interaction The inclusion of quizzes as part of Game of Thrones official FB page content helps to generate a healthy number of Facebook comment threads and increase potential for virality.[44]

• Make Brand Advocates Out of Employees

Many members of GoT's cast are active on social media. They're highly accessible to fans and offer a glimpse of their lives off-the-set and hangouts on set with other cast members. The social media popularity of individual GoT stars only serves as additional publicity for the show. Make Brand Advocates Out of Employees : Furthermore GoT stars are also invested in their show's content marketing campaigns. During the release of mini vinyl figures of GoT characters, most of the stars posed with their individual figurines on their Instagram page.[44]

• Stay Consistent With Social Media Marketing

The GoT Marketing team has a regular posting schedule, with the intent to promote the latest news and happenings around the show, including video clippings of GoT stars on popular news programs, media mentions, sharing fan art, or retweeting tweets from social media influencers who are fans of the show.[44]





Figure 3.10. HBO's social media strategy - numbers

Another interesting aspect that has emerged throughout this study is the strong connection between the producers of a TV show and fan communities. In fact, while the communities that build themselves around specific interests and hobbies are increasingly independent of brands, they also tend to be more engaged, the success of a movie or a TV series strongly relies on the enthusiasm of fans : the more engaged they are, the more they tend to act as brand ambassadors without even being asked. In an interesting article [45] the author tries to identify the many aspects behind the producers-fandom relationship as follow:

• Passion makes the difference:

Fans are really in love with "Game of Thrones.", that's why you can find a huge amount of content and creations inspired by the show all over the Internet. Characters, memes and quotes from the snow have become part of inside jokes and everyday conversations. Furthermore, most of the fans are incredibly creative.

• It takes a village:

Creation and collaboration are what makes fan communities work, especially because this helps community members and potential contributors feel at ease. A way to ensure that their work will not be rejected or attacked is to promote a "be nice" policy with the aim of attracting more users to become constructive members, but also to guarantee that users treat each other with respect at all times.

• Your personal army:

The support of an online community is of great importance since its members are likely to promote and share the content they love. In the case of "Game of Thrones," 89 percent of Youtube views for show-related content came from UGC. By giving up just a little control and creating a safe, flexible place for truly enthusiastic fans to create, you put the basis for more than just another audience. You are creating a loyal army.

3.6 Italian GoT fans

The popular American TV series Game of Thrones is a key example of media projects that use different medium, both traditional and new ones, to create a new fictional and deeply immersive experience.

In a recent publication on The Journal of Audience and Reception Studies, Carmen Spanó, PhD student at the University of Aukland in Media, Film and Television, explored the deep relation between Game of Thrones and its Italian fans, bringing some interesting results out.

The development of the technological infrastructure has been spreading across Italy at a different speed than the one of other European countries and the United States, so it is reasonable to assume that the target audience of the TV show act in different ways.

All foreign media products are dubbed in Italy. This process requires time so that broadcasting of films and series on the official TV channels is quite delayed. This make fans look for the alternative sources in order to find the media content they desire.[36]

Italian fans who have a SKY subscription can watch the episodes live on SKY Atlantic , while the others use the Internet (both streaming and downloading services) to retrieve the episodes to watch at a time and place of their own choice (usually, at home during the evening/at night).

Even though Italians tend to watch foreign media programs dubbed, most of the Italian fans admit they prefer to watch GoT in the original language with Italian subtitles. The reason behind this choice lays in the fact that the dubbed version of the series is perceived as a limitation to the full appreciation of the narrative because, according to fans, the Italian translations of characters' dialogues and lines are not faithful to the original.[36]

A great number of Italian fans prefer to use the TV as their first option to watch the series' episodes, while second for this purpose is the laptop. The viewing activity is considered as a moment of relaxation and a form of entertainment, thus television represents the best way to fully appreciate the high quality production of a cinematic TV series like GoT. Most of the fans, indeed, thinks that both sound ,music and visual effects appear to be very important elements in Game of Thrones, so that it is fundamental to watch the show at least on a screen sufficiently large.[36]

Furthermore, the complexity of the series in terms of the development of the storylines, characters and subplots, is the reason why watching Game of Thrones is considered a focused activity, since it is fundamental to pay attention to what happens during every episode.

Most of the show's Italian fans usually follow the online posts and comments about the series on the social media (Facebook, Twitter, Instagram) but do not post personal comments, but they prefer to comment in person or via technological devices with friends at the end of every episode.

YouTube and Wikipedia are the most used websites when fans need to look for extra material and information about the show and the books or to discover the latest fan-made production: detailed information on the storylines and the characters, trailers, interviews with the cast and crew of the show, backstage and making of videos, fan-made videos.[36]

GoT Italian fans don't usually buy the HBO official merchandise, but they prefer to collect: 1) George R.R. Martin's books (80%); the series' T-shirts (35%); and 3) the series' DVD box sets (25%).



Figure 3.11. Game of Thrones - Italy

The thing that is most appreciated by Italian viewers, about Game of Thrones, is the level of emotional involvement that it is quite difficult, if not impossible, to find in the typical Italian TV dramas, which present more predictable stories and characters with flat personalities. The most captivating feature of the show is considered to be the depiction of a world where the boundaries between good and evil appear to be so blurred that it not always easy to understand which category a character belongs to.[36]

When we asked the team of Game of Thrones – Italy their opinion about the lack of such phenomenon in the Italian landscape, they said that unfortunately, Italian TV series and movies always deal with the same themes, without introducing anything new, but producing something far from the international standards we are getting used to. These are the reasons why Italian productions are scarcely able to raise the interest of a wider audience and give birth to such phenomenon as Game of Thrones.

"It's a pity because our country is full of talented artists, our history and literary tradition represent a great source of inspiration to create captivating stories, great characters and epic tales. Our hope is that the diffusion of works as GoT could lead to an awakening of creativity and give new life to TV productions. Gomorra is the only Italian TV show that has been able to engage international audience, most of all Game of Thrones fans who usually compare the characters from the two series and send us funny pictures with GoT characters quoting Gomorra's lines, since the two shows shares almost the same brutality level, except for the fact that there are very few characters to sympathize with. For example, the picture with Sansa saying a quote from a famous Italian series (Gomorra hit 700K views in two days."



Figure 3.12. Sansa italian meme

3.7 Game of Thrones – Italy : the Facebook page and official website

Game of Thrones – Italy is the most famous Italian Fb page related to Game of Thrones where fans can find whatever content they are looking for about the series : latest news, interviews, fan arts , curiosities from both the books and the show, and much more.

We decided to interview the team that manages the page to get an insight into the world of Game of Thrones Italian fandom, but also to better understand how social media really works.

3.7.1 A brief history of the page and the reasons behind its success

The team members (*Alex, Aranel, Ila, Quinn*) told us that at the beginning there was only "A Song of Ice and Fire – Italian Addicted ", the fan page dedicated to the series of novels written by George R.R. Martin.

Later on, when the news of a TV series inspired to Martin's work started spreading, they decided to create a brand new page to deal with the show's content, so Game of Thrones – Italy became one of the first Italian pages in this category.



Figure 3.13. Game of Thrones - Italy's image

As the TV series' success continued to rise, so did the popularity of the Italian FB page until they decided it was time to create their own website to collect every kind of news and information about the show and offers different types of services to their followers.

In our opinion, one of the many aspects that makes this page so popular is the relationship between the team and the fans : being part of an online community is like being part of a big family, where you can share your thoughts and feelings with people that will understand your enthusiasm and make new friends and none writes rude or mean comments.

Furthermore the team is composed of people working in the marketing, graphics and illustration fields, so they have a deep knowledge of the importance of social media and the fact that they are incessantly evolving. This made necessary the development of a strict management strategy of the Facebook page, a task that requires daily efforts.

Furthermore they make sure to share different kind of contents that they select all together: pictures of the actors, news, fan arts, interviews, infographics and much more, not just funny memes.

"We always try to make the fans interact with the page and with one another as much as possible, making questions about the cast, talking about the actors, their lives and the other movies and TV series they played in. Furthermore, we also arrange contest and discussions to increase this kind of interaction." Then they continue :" In the las three years some important Italian companies such as Sky Atlantic (series broadcasting) and Mondadori (novels publishing) invite us at meetings or promotional events since we are the major and most active Italian page dedicated to Game of Thrones [...] We must admit that if we look back at how everything started, we couldn't have expected all this success "

3.7.2 How to manage a successful Facebook page

Through the years the team has developed its own strategy to manage the page in the best way possible. Collaboration is the core of this strategy since everyday they decide together what contents to post and when to post them.

"We use the tool provided by Facebook that gives you the possibility to schedule posts throughout the day, varying their number according to the moment of the day and the affluence to the page : during the series broadcasting we usually publish a post every two hours, while after the end of each season there is a post every three/four hours".

Every day the team always tries to share interesting posts about different topics and characters just to avoid being boring and to keep the fans attention high. Collaboration is important not only when it comes to take decisions about the things to share, every member of the team gives its contribution according to his/her skills. For example three of the four admins are responsible for writing/editing the articles and creating the contents to publish. Those who work as illustrators or graphics, take care of the website and FB page design and look.

The team is helped by other 'external members' whose tasks are the translation of articles and interviews and creation of subtitles because "we want to offer a translation service to all the followers who want to keep up-to-date with the series' latest news even though they don't understand English."

Most of the interviews and articles are taken from:

- international online magazines: Volture, EW, The Hollywood Reporter
- HBO official blog: Making Game of Thrones (http://www.makinggameofthrones.com/)
- George R.R. Martin's official blog: http://grrm.livejournal.com/
- the main GoT fan sites: Winter is Coming (*http://winteriscoming.net/*) and Watchers on The Wall (*http://watchersonthewall.com/*)

And sometimes they are used just as a starting point for new discussions about a specific matter.

3.8 Attitudes and behaviors of the typical GoT Italian fan

Most of the GoT fans were born on the Internet and social media, that's way they are keen to publish every kind of content about the series just to keep in touch with the show itself and the other fans. In recent years we have also witnessed the diffusion of a new form of art, the so called meme : a virally transmitted cultural symbol or social idea. Most of the memes are pictures with some writing on created with the intent of being funny.

"Fans of the series and of the page send us every kind of fan-made products, from the musician composing new versions of the soundtrack to craftsman creating props and weapons inspired to those in the show, funny pictures in the typical comic style and fanmade videos with scenes taken from the TV series [...] That's the reason why some years ago we decided to dedicate a special section called "Game of Fans" where we publish pictures of gadgets, fan art, cosplay and handmade creations."

Game of Thrones is a global phenomenon and its undeniable and continuous influence on our culture has triggered fans creativity and encouraged the production of any kind of fan-made work. The idea of Game of Thrones- Italy team is that the possibility to create something inspired by the series, gives them the chance to feel part of a world they love, thus strengthen the bond that connects them to the show and books' universe and characters.

Furthermore, the immediacy of social media has given a great contribution in the diffusion of User-Generated Content among online fan communities, easing the interaction between fandom, media texts and different forms of art.

Chapter 4

The Big project

This chapter explains the work we have made to achieve the results give in chapter five, starting from the idea through the entire production pipeline typical of 3D professional environment of to the post-production steps to assemble all the scenes and put on it the effects for giving the sense to the project. In the specific case of this thesis, we chose the TV show 'Game of Thrones' as a case of study, since it has become the most popular TV show ever on HBO and can count on a vast online fan community.

4.1 GoT Italy

The idea of the project came from prof. Riccardo Antonio Silvio Antonino, who had always wanted to create something similar to the original *Game of Thrones* intro since the show's first episode aired in 2011, and so, he started thinking out this project in his head and then he found me and Chiara, two students of the Polytechnic University of Turin (Politecnico di Torino) with the same passion for the series and the 3D field. Students of "COMPUTER ENGINEERING - Graphic and computer animation" and "CINEMA AND MEDIA ENGINEERING".

In this case the aim was to realize a tribute to Italy in the same Retro-Futuristic style of the main titles, introducing some of the most important cities in the history and culture of our country. Furthermore we felt the responsibility to produce something that the show's fan would have loved despite the undeniable differences from the masterpiece created by Elastic, since this work was going to be a special dedication to Game of Thrones fandom and to the staff of Game of Thrones - Italy.

4.1.1 Our Project

The first thing to do before starting any concept or storyboard was to choose the historical period that would have served as a background to the story we wanted to tell. We decided to go back in time when Italy was still divided into several kingdoms just like the world of GRR Martin's 'A Song of Ice and Fire'.



Figure 4.1. GoT Italy main sigil

The early history of Italy is that of Rome and the Roman Empire, a martial and cultural administration which left its mark on the language and history of the Western World. During the Middle Age, our country became a pattern of feudal states and fiefs which changed allegiances and led to many internal wars and tyrannic dynasties.

Renaissance followed, bringing an artistic and creative period which led to the preeminence of Italian merchants throughout western Europe and the Levant. The development of power of Venice into the control of the Adriatic and Aegean with services to many of the islands which they controlled saw the spread of Italian merchants towards the east, while the Florentines moved north.

In the 17th and early 18th centuries, Italy became the battle grounds for the political interests of Spain, France and Austria. The War of the Spanish Succession began in Italy in 1701 and the country was divided into kingdoms and dukedoms at the Peace of Utrecht in 1713. In 1720, the Duke of Savoy became the King of Sardinia.

With the advent of Napoleon Bonaparte, Italy was invaded by France in 1796 and then it became a kingdom within the French empire in 1805. Later on, the boundaries of the dukedoms and kingdoms were ratified by the Congress of Vienna and the scene was set for the unification which finally began in the 1850s.

Referring to the map, we chose one or two cities for each of the most powerful kingdoms our country was made up between 18201848:

- Kingdom of Sardinia \Rightarrow Turin (Savoia);
- Kingdom of LombardyVenetia \Rightarrow Venice (Asburgo);
- Grand Duchy of Tuscany \Rightarrow *Florence* (AsburgoLorena);
- **Papal State** \Rightarrow *Rome* (Pope);



Figure 4.2. Italy in 1800

• Kingdom of Two Sicilies \Rightarrow Naples and Palermo (Borbone).

Selecting only six cities was not that easy, but we were limited by the same time and resources constraints that the team at Elastic had to face while developing the original intro : we were only four, our computer were not as efficient as those of real studios and we only had four months to complete the project in order to share it on the Internet before the end of Season 6.

Added to this, the sequence couldn't last more than 120 seconds, otherwise the audience wouldn't have watched it until the very end and we would have been forced to render an excessive number of frames. Every location in our video has the corresponding one in the Game of Thrones intro:

• ROME

the capital, is **King's Landing**, the site of the *Iron Throne* and the *Red Keep*, currently ruled by an alliance between The Faith and The Crown. In a similar way Rome can be considered the symbol of both religious and political power of our country;

• NAPLES

the towers of *CastelNuovo* in Naples resemble those of **Winterfell**, the great stone castle in the North, even if the italian city is in the South ahah;

• VENICE

with all its islands is the italian version of the free city of **Braavos**

• TURIN

is the counterpart to **Castle Black**: as the *Night's Watch* fort, the Mole has an elevator that we decided to animate just like the one in the titles. Furthermore, Castle Black lays at the foot of *The Wall* and Turin is located at the bottom of the Alps;

• PALERMO

his Cathedral with its towers and pointy roofs, reminded us of Pentos;

• FLORENCE

the "golden florin" of the *Republic of Florencewas* the first European gold coin struck in sufficient quantities to play a significant commercial role since the seventh century. As many Florentine banks were international supercompanies with branches across Europe, the florin quickly became the dominant trade coin of Western Europe for large-scale transactions. Similarly, the *Iron Bank of Braavos* is the most powerful financial institution in the Known World, with clients both in *Essos* and *Westeros*.

Each city was built taking old maps as a reference to place every house and, for each location, some of the most famous monuments and buildings were recreated in the most detailed way possible. Every single element is animated : domes, columns, roofs, everything comes out of the floor driven by lots of interlocking cogs.

As in GOT title sequence, each city's sigil becomes its main cog as a symbol of its political and economic power and its influence in the history of Italy.

We also decided to stay faithful to the original intro taking it as a source of inspiration for our animations and camera movements, such as:

- the coin in the Free City of Braavos and the one rolling on the roofs of the Old Bridge in Florence;
- St.Peter's and The Eyrie's dome have similar animation;
- most of the roofs are animated in the same way as those in Riverrun;
- CastelNuovo Bridge looks like The Twins'one;
- the cameras flying over Palermo's Cathedral and the towers of Pentos.



Figure 4.3. GoT Italy compared to the original sequences

The look we wanted to achieve was that of handmade models made of different kind of wood, stone, paper, leather and metal, so that one of the most important goal of this project was to create photorealistic textures. Furthermore, things like the trees scattered over the surface are just simple shapes (cones or pyramids), and the mountains are simple parallelepipeds made of flat wood panels, keeping in line with the 'hand-built' nature of the original sequence.

As in GOT opening credits we created an Astrolabe inspired by the original concept - the so called Dyson Sphere : in the middle of the of the sphere there's the sun and all around the sun there are bands with relief sculptures taken from the Trajan Column in Rome, representing some important events of our past history.

4.1.2 Brief History of the original Intro

The title sequence was created by Elastic, the company known for the creation of the title sequences for Rome, True Detective, Big Love and Carnivale. Both Carnivale and Game of Thrones opening credits won them an Emmy Award.

As Creative Director Angus Wall stated in an interview:

"Title sequences can do a lot of different things, and besides taking you on a journey, this one offers a lot of information about the world you're going to see. It allowed us to really create our own little world... We didn't want to create something that's been done before like what you've seen in **Harry Potter** or **Lord of the Rings**. Those things are wonderful, but we wanted to do something different."

In the original pilot script - the one that was re-shot - the executive producers *Dan Weiss* and *Dave Benioff* had written a title sequence in which a raven flies from King's Landing (the capital of the Seven Kingdoms) to Winterfell (the most important castle in the North, seat of the powerful House Stark). This first concept was then rejected because people tended to be confused about where the action took place in the story. No one wanted the characters to be the focal point of the title sequence since the audience would have discovered them and get their development from watching the show.

The idea of the map came from the necessity for showing people where they were and was inspired by the maps of Westeros that precede each novel in the series. It was initially inserted during each episode and cut every time the show went from one place to another, thus interrupting the narrative flow, that's the reason why it was pushed back into the title sequence.

Angus Wall and his team wanted to create something never seen before, not just a simple and flat map, but a world inside a sphere that had to look like it was hand-made by craftsman in the time of the story, that's why a great source of inspiration were *Leonardo da Vinci's machines*, full of interlocking cogs.

As A. Wall declared in an interview: "I had initially thought, okay, the shape of this thing... imagine it's in a medieval tower and monks are watching over it and it's a living map and it's shaped like a bowl that's 30 feet in diameter and these guys watch over it, [...] they're the caretakers of this map" and then "Everything is made of wood, metal, leather, fabric, all natural materials...stuff you could see human hands hammering out and molding".

What is interesting about this project is that all the elements are built in a way that they could be 3D-printed and actually work. The main concept for the opening title was inspired by "Retro-Futurism mixed with a dash of 'medieval steam punk' for flavour. The Retro-Futuristic inverted planet gave us a great foundation to build on. It allowed us to move from location to location and gave us a much more elegant way of departing and arriving at locations. A big benefit was that we could look anywhere on the map and never have to think about a horizon line. It also allowed us to show a large portion of the map while we were traveling between cities". (*Kirk Shintani*, CG Supervisor)

In the original intro, we explore the places that we will visit during each episode in Westeros and Essos, the fantasy world where all the events happen. The focal point of each location is the family crest "that becomes the main cog that triggers the animation, so the model of the place emerges out of the floor of the map and comes to life" - says Angus Wall, Creative Director at Elastic, in an interview to The Hollywood Reporter.[47]



Figure 4.4. Original GoT intro

The creators didn't want just to build something visually interesting and captivating : the sequence, with all those cogs beneath and above the surface of the map working together, is a metaphore of the machinations of the show's most powerful families fighting for the throne, something that we can find in every age and place.

The map also reflects the attitude and climate of each place, something that can be seen in the material used for every single location: Winterfell is a bit worn, The Wall is weathered and King's Landing is much more pristine. The larger land masses are made basically made of layered wood panels with lots of cracks and they start looking a little bit whitewashed while travelling North, to represent the change in climate : from the temperated South Westeros and the Mediterranean Essos, we move North, to the cold Winterfell and The Wall, a continent-wide wall of ice.

If you accurately watch the title sequence, you will also notice the history of Westeros and Essos told in pictures through the detailed bas-relieves engraved in the bands of the Astrolabe, which also represents the only light source of the world inside the sphere with a burning sun at its centre.

The concept for the Astrolabe was strongly influenced by the same retro-futuristic atmoshpere that permeates the whole project: it had to look like and work like a **Dyson Sphere**, an hypotetical megastructure that completely encompasses a star and captures most of its power output to satisfy the growing energy needs of a technological civilization.

The idea was first developed by Olaf Stapledon in his science fiction novel Star Maker (1937) and became popular in the Sixties thanks to Freeman Dyson. While developing the opening credits, the team had to follow some fundamental rules about which locations appear in each episode's intro.

- every episode's map must contain King's Landing, Winterfell, The Wall and "wherever location in Essos Daenerys is at the moment even if she doesn't appear in that episode". In this way while the camera travels and crosses the Narrow Sea from Westeros to Essos, "it communicates the expanse of the show, and it helps to remind the audience of the entire world in which the show takes place". This first rules also aims to ground the most important parts of the narrative : King's Landing is the capital city, The Wall is meant to defend people from the return of the White Walkers and Winterfell is home of all the Starks.
- the team at Elastic didn't always have time and resources to create specific model and animation for every minor location, thus the capital of a region is chosen to represent the rest of the territory. Budget was also a constraint for the animation of many important cities which only appear once or twice (Pentos), so they preferred to invest money in all those location that would have been visible most of the times.
- the intro only lasts 90 seconds so they can show just a limited number of places. The duration is fixed due to the length of the main theme song, and the animations are always the same, there will never be speed up or slowing down. Added to this is the time the camera needs to zoom in , zoom out and pan across the globe which can vary depending on the distances between the locations appearing in a specific episode. As a result, in Season five no opening title contained more than six cities because there is not enough time to fit more in, due to their position on the map.

The team of 24 professionals and experts worked for 8-9 months before they got to production - as reported by CG Supervisor Kirk Shintani on a recent interview on Area Autodesk website while the actual production lasted for about 4 months - *Kirk Shintani* on ART OF VFX.

One of the most interesting aspects of Game of Thrones opening sequence is that it is full of details, since the buildings are modeled in the most accurate possible way and the cogs animation has a logic in it so that they actually work as in a real machine. Unfortunately, most of the details remained unseen for many years, due to the fact that the sequence is only 90 seconds long, until a couple of months ago when HBO and Elastic released the Facebook 360 video version of the original title.

"The VR version allows the user to pause it and have a look around, so a lot of the stuff that you only glimpse really quickly in the TV version, here, you can actually stop and take it all in." (Kirk Shintani)

Furthermore many easter eggs were added in the 360 video, such as all the dragons, some direwolves and white walkers and a raven too. The production of this new project brought the team some new challenges to face due to the lenght of the video and the number of frames. It was 4K with single camera move and everything was pre-rendered and pre-composed because all the locations and buildings should have looked like they were in the same world as the main titles. This solution made it possible to show most of the fans that the world of the original intro was just built within an inverted globe, giving them the chance to explore every single location and feel part of that world for a while.

4.2 **Production Pipeline**

A pipeline is a natural concept in everyday life, it is just a chain of different stages and every stage corresponds to a particular action or activity. The stages of a pipeline are generally linked together in a linear way, so that the output of a single step is the input for the next one so that data flow only in one direction.

When it comes to make an animated movie, be it the next Hollywood blockbuster or just a simple amateur short movie, most of the time the steps to follow are the same. We can distinguish three fundamental moments in the creation process of an animated sequence : Pre-Production, Production and Post-Production, each one divided into multiple stages.

4.2.1 PRE-PRODUCTION

The first process in the animation pipeline, and also one of the most important, is preproduction. It begins with the main concepts which are initially turned into a full story, and then, once the story has been finalized, other things such as the script, shot sequence and camera angles are worked on. This is the phase where concepts for style, look, sets and characters are created in order to help everyone make it through the pipeline.

1. Story Boarding

The Storyboard is made up of drawings in the form of a comic strip, and is used

to both help visualise the animation and to communicate ideas clearly, in order to better develop the story. It is often accompanied by text notes describing things occurring within the scene itself, such as camera movements.

2. Layouts

Once the storyboards have been approved, they are sent to the layout department which then works closely with the director to design the locations and costumes. At this point it is already possible to stage the scenes, showing the multitude of characters' positions throughout the course of each shot.

3. Model Sheets

Model sheets are accurately drawn groups of pictures that show all of the possible expressions that a character can make, and all of the many different poses that they could adopt. During this stage the character designs with all their details are finalized so that when production starts their blueprints can be sent to the modeling department as reference for creating the final character models.

4. Animatics

In order to give a better idea of the motion and timing of complex animation sequences and VFX-heavy scenes, Animatics are simplified mock-ups created by the pre-visualization department within the VFX studio. In this way it is possible to have a better idea of the motion and timing of a scene and it is also useful to help the Director to imagine how the animated sequences will be linked together , as well as how the visual effects will be integrated in the final shot.

4.2.2 PRODUCTION

Once the storyboard and animatics have been approved and the concepts for characters and locations are ready, it is time to start the actual work following the guidelines developed during the pre-production phase.

1. Modeling

This phase takes all of the concepts from pre-production and starts bringing them to life. Modelers are usually split into two or more departments:

- **organic modelers** usually have a sculpture background and specialize in building the characters and other freeform surfaces. They often use sculpting software such as Zbrush or Mudbox to digitally sculpt assets or add more detail to the basic model.
- hard-surface modelers often have a more industrial design or architectural background, and as such they model the vehicles, weapons, props and buildings.

Modelers work closely with the Art Directors, VFX and Animation Supervisors, but they also assist the Technical Animator and Enveloper as the model has a skeleton put in place and the skin is developed. Following this, the modeler will be able to sculpt all the facial expression and add any specific muscle shape that may be needed. Once the model is approved , it will be made available for the next steps and with a bit of luck, it will never come back from modeling fixes, but it will move through the production pipeline until the final stages of animation and rendering.

2. Painting and Texturing

In this step, colour and textures will be added to the model, thus taking the place of the gray default shader. A Texture Artist will have to work with and possibly write what is referred to as shading material that, once applied to a 3D model, gives the artist the ability to control parameters such as color, reflectivity, shiningness and much more. Textures are created in the form of maps which are then assigned to the model and can be derived from scratch or through editing an existing image.

3. Rigging

Rigging is the process of adding bones to a character or defining the movement of a mechanical object, and it's central to the animation process, since it make possible to control the movements and create life-like or stylized animations. Before an animator can begin the animation process, it is important to tell the computer how the 3D models can move, by also setting the range of motion for each part of the model. This is done by creating control points that can be used by the animator to move every single part of the character/object and create the animations. A character TD will also make test animations showing how a creature or character appears when deformed into different poses, and based on the results corrective adjustments are often made.

4. Animation

Even in a 3D production pipeline, animation has to follow the basic principle and aesthetic guidelines that were first developed for 2D and stop-motion. In this phase, rigged assets are animated using controls to match the desired shot so that everything starts taking life. Using a timeline, an animator will set movement in frames that play back as animation. Instead of drawing each pose on each sheet of paper, 3D animators create posed on a series of still images known as frames, giving the illusion of movement when the frames are played back. If motion capture is used at the studio to digitize the motion of real actors, then a great deal of an animator's time will also be spent cleaning up the motion captured performance and completing the portions of the motion that may not have been digitized during the process.

5. Dynamics

Dynamics make it possible to create simulation real world forces such as smoke, dust, water and explosions, saving time and producing better results than those that may be achieved by hand animating everything.

6. Lighting

Lighters have a wide range of tasks, including placing lights, defining light properties and how light interacts with different types of materials. They also have to take decisions about the qualities and complexities of the realistic textures involved, how the position and intensity of lights affect mood and believability, as well as color theory and harmony. Among all these responsibilities, they also have to establish direct and reflected lighting and shadows for each shot and make it sure that each scene fits within the continuity of a sequence.

7. Rendering

This step is the step that creates the final image from the 3d scene. Rendering can take anywhere from a few seconds to hours or even days, depending on:

- quality of the rendering;
- complexity if the scene;
- efficiency of the computer it is being rendered on.

Before start rendering the scene, it is of great importance to set up an environment, tweak the render setting and adjust the quality until we get the desired result.

4.2.3 POST-PRODUCTION

It is the third and final phase in a film creation and it includes the editing of raw footage to cut scenes together, inserting transitional effects, working with the voice and sound and so on.

1. Compositing

The compositing department brings together all of the 3D elements produced by the previous departments in the pipeline, to create the final rendered image ready for film. It is also responsible for the compositing of fx elements and general color grading.

2. Sound Editing

The tasks of this department include the selection and assembling of the sound recording in preparation for the final sound mix, ensuring lip sync and adding all the sound effects required for the final film.

3. Video Editing This process consists in manipulating shots to create a seamless final sequence and is at this stage that any unwanted scenes are removed. Other tasks include titling and adding any other effects to the final video.

For the specific case of GOT Italy - The Project, the Production Pipeline was slightly different due to some practical problems.



Figure 4.5. Our production pipeline

In fact, at the very beginning of the process the team was made up of only one member and it was not that easy to find someone who could have worked on the UV mapping and textures of the models. Since all the cities have already been modeled, it was decided to go through the rigging and animation process while looking for some texture artists in order to save time, thus inverting step 2 with step 3 and 4 in the Production Phase.

This change is generally not a problem, since if someone is rigging and animating the model it might also be getting rigged at the same time someone else is texturing it. The main difficulty we had to face was strictly linked to the UV mapping , a process that projects a texture map onto a 3D object. In this way polygons can be painted with color and other surface attributes from an image, using the UVs as a template map. In fact all the separated pieces that composed every building were combined into one single mesh in order to have one single map instead of creating multiple ones for the various sections in the model, thus loosing every rigging information.

To solve this problem, we used the 'Transfer Attributes' tool from Autodesk Maya, the 3D modeling software adopted for this project. It is useful to copy an UV set from an object to another so that if the UV from the primary object are edited, all the others that have the shared UV will be modified. In this way, we only had to import in our scene the models with textures and UV maps on and use the Transfer Attributes tool, by making sure that the original mesh and the destination one were made up of the same number of separate pieces.

Anyway, we will go deeper into the process of creating the UV map of a 3D model in the following paragraphs, while analyzing all the different steps involved in the production of the final video.

4.3 Our work's pipeline

As already stated before, the pre-production phase is one of the most important since it puts the basis for all the following steps in the development of the final product. It is during pre-production that the ideas start coming to life, after an intense and continuous activity of data gathering, brainstorming, references and inspiration research, sketching and much more. At the very beginning of this project there was no team, I was the only one working on it, so I had to focus on all these significant aspects that will be described in details in the following pages.

4.3.1 Concept

To me concept is fundamental, nothing can be built without an accurate study and development of the basic idea. In this case the idea was to create a video inspired by the opening sequence of the world- famous show 'Game of Thrones' and set in Italy, so the first thing to do was to look for as many information as possible about my source of inspiration.

It was important to understand the story behind the titles, how the initial concept was developed into the final intro, how it was created, the reasons behind every decision the team at Elastic made, the difficulties and challenges they had to face, what inspired them and the message and feelings the producers wanted to communicate.

• Cities

First of all it was necessary to choose the historical period and the cities that would have been the focal point of the video, trying to associate every location of our animated sequence to one in the original intro. The condition of Italy before Unification was the perfect scenario for the story I wanted to tell, so I finally selected six cities after evaluating all the technical, time and resources constraints I would have to face all alone. The cities, monuments and buildings selection process was not that easy since most of the Italian cities played a fundamental role in the history, culture and economy of our country and are appreciated all around the globe for their architecture and beautiful landscapes.

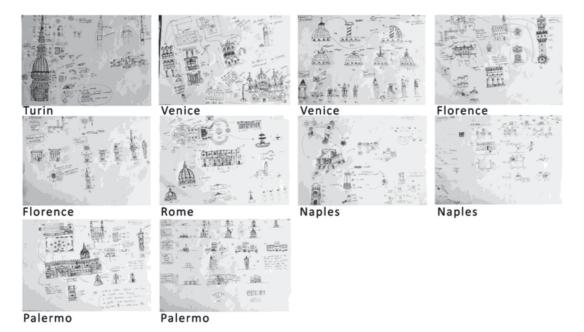


Figure 4.6. Sketch of the cities with indication for animations

- Rome as King's Landing St. Peter's Square
- Naples as Winterfell CastelNuovo
- Palermo as Pentos The Cathedral
- Venice as Bravos St. Mark's Square
- Turin and the Alps as Castle Black and The Wall The Mole
- Florence as Braavos The Old Bridge, The Uffizi Gallery and The Old Palace

The next step was to imagine how to bring everything to life, just like in the original sequence where all the buildings come out of the floor driven by a multitude of interlocking cogs.

• The Sigils

The show is based on GRR Martin novels from 'A Song of Ice and Fire', where the most powerful families of Westeros fight against each other to conquer the Iron Throne and rule over The Seven Kingdoms. That is the reason why the creators of the show and of the opening sequence decided to give a great importance to each house crest that becomes the main cog that triggers the animation of every location. Furthermore, the last seconds of the intro show the Astrolabe's plate surrounded by the representative animals of the families involved in the 'Game of Thrones'. While choosing the cities, Chiara Sapio also wanted to pick up those whose badge might be related to the ones in the show and on the Astrolabe, thus the parallel between:

- Rome She-Wolf and House Stark (Winterfell) Direwolf and King's Landing;
- Naples Rearing Horse and The Dothraki (Vaes Dothrak) Horse and Winterfell;
- Palermo Eagle and House Arryn's (The Vale The Eyrie) Falcon;
- Venice Winged Lion and House Lannister (Casterly Rock) Golden Lion and The Twins;
- Turin Bull and House Baratheon (King's Landing) Stag and Targaryen's sigil;
- Florence Lily and House Tyrell (Highgarden) Rose and Casterly Rock.

For the creation of the main cog of each city Chiara used the original concepts from the show as a reference since she wanted to stay faithful to the opening sequence style as much as possible. The final result is showed in the following pictures.



Figure 4.7. Comparison sigil - King's Landing vs Rome



Figure 4.8. Comparison sigil - Winterfell vs Naples



Figure 4.9. Comparison sigil - The Eyrie vs Palermo



Figure 4.10. Comparison sigil - The Twins vs Venice



Figure 4.11. Comparison sigil - Targaryen vs Turin



Figure 4.12. Comparison sigil - Casterly Rock vs Florence

• Storyboarding

The Storyboard was developed by Chiara Sapio. A storyboard is a graphic organizer in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence. The storyboarding process, in the form it is known today, was developed at Walt Disney Productions during the early 1930s.

For this project, the storyboard is focused on the animation of all the components of a specific building in order to show the evolution of the construction in detail. The fact that this description is based on drawings, images and text notes really helps the pre-visualization of the final result. While watching the Intro there were several animation that caught our attention, so the storyboarding was quite easy for which elements to animate and how animate them.

One of Chiara's favourite moment in the original sequence is when the wood elevator of Castle Black climbs along the wall until it reaches the very top, so she immediately thought about the one in the Mole Antonelliana in Turin, and it became the focal point of the scene and the driver of the animation of the whole structure. Other animations that Chiara absolutely wanted to be in the video were the bridge at The Twins and the great dome in the Eyrie. The former was recreated in the sequence of CastelNuovo where the bridge that connects the Castle to the main road is animated in the same way , the latter served as an inspiration for the rise of the St. Peter's Dome. Furthermore, most of the domes evolve like the one in Braavos, the roofs are generally animated as those in Riverrun and the way in which the Arpy in Mereen comes out of the Pyramid inspired me for the animation of many elements in the cities sequences.

• Animatics

At its simplest, an animatic is a series of still images edited together and displayed in sequence with rough dialogue and/or rough soundtrack added to the sequence of still images (usually taken from a storyboard) to test whether the sound and images are working effectively together.

In our specific case, this step involved the selection of the framings from the "Game of Thrones Map Intro - Ultimate Cut", available on YouTube, that would have been later recreated.



Figure 4.13. Original sequence frame taken as a reference

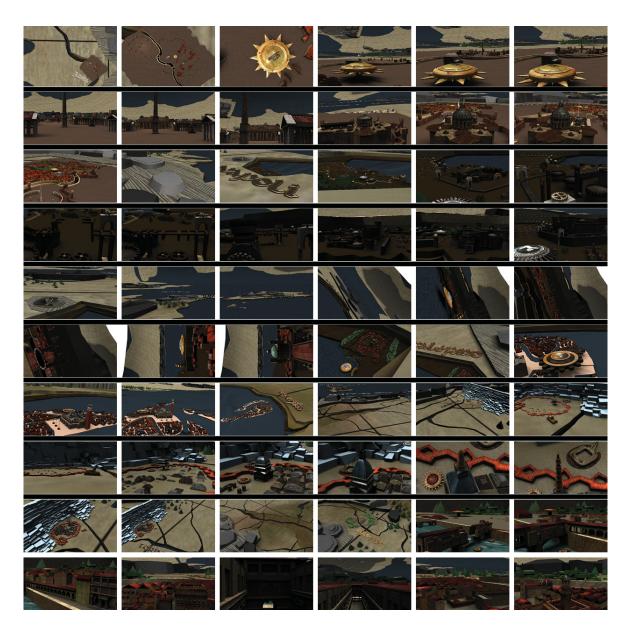


Figure 4.14. Example of image seugence

4.3.2 Production - MODELING

Once the storyboard and animatics were completed, it was time to start the actual work, following the guidelines developed during the pre-production phase. At the beginning of the production process Chiara was still the only member of the team. Later on Filippo and Mara joined the crew as textures artists and me as modeler and virtual camera operator. I was responsible for the modeling of the map (with three-levels and all the rivers, seas and lakes of Italy), the modeling and the positioning of trees and rocks, the positioning of the cities in the curved map, the camera movements and the modeling of the entire astrolabe with the main sigil with the four animals and the write of *Game of Thrones* - *Italy*. Filippo's task was to create the textures for all the locations while Mara focused on those of the map and the Astrolabe.As it happens in the movie industry where every company has its own pipeline, we had to made some changes in the production process according to the size of the crew available at each stage.

In this stage I had to create all the 3D models written above from various image taken from Internet as a reference. A 3D model is a collection of points in 3D space, connected by different kinds of geometric entities such as triangles, lines and curved surfaces. There are three popular ways to create and manipulate a model:

• Polygonal modeling

uses polygons to create an object. Points in 3D space, called vertices, are connected by line segments to form a polygon mesh. For each mesh we can distinguish vertices, edges and faces.

A model can be manipulated by:

- translating vertices;
- translating, rotating and scaling faces and edges.

Furthermore it is possible to delete these components from the original mesh, making sure that each polygon on the surface of the model has no more than four edges. The only problem is due to the fact that polygons are planar and it is only possible to approximate a curved surface using many polygons.

• Curve modeling

This method uses curves to define surfaces and every curve is influenced by a certain number of weighted control points, so that the curve follows the points. Increasing the weight for a point will pull the curve closer to that point. Every transformation applied to a control point affects the shape of the object. Curve types include nonuniform rational B-spline (NURBS), splines, patches, and geometric primitives.

• Digital sculpting

This has become very popular in recent times. The most popular technique uses a dense model and stores new locations for the vertex positions through use of a 32 bit image map that stores the adjusted locations.

Modeling can be usually performed with the use of a dedicated program, in the specific case of GOT Italy - The Project, the software adopted was Autodesk Maya 2014, the same used by A52/ Elastic for the creation of the intro of Game of Thrones.

Autodesk Maya is a 3D computer graphics software that runs on Windows, OS X and Linux, originally developed byAlias Systems Corporationand currently owned and developed by Autodesk, Inc. It is used to create interactive 3D applications, including video games, animated film, TV series, or visual effects. Users define a virtual workspace (scene) to create and manipulate media of a particular project. Maya is based on a node graph architecture where scene elements are node-based, each node having its own attributes and customization. As a result, the visual representation of a scene is on a network of interconnecting nodes, depending on each other's information. The software also offers several additional features as Fluid Effects, Cloth Simulation, Fur and nHair.

We didn't use any model sheets specifically drawn for these 3D models, but just pictures taken from various websites. To create the map I referred to the old maps of Italy stored in Palazzo Vecchio in the Uffizi museum of Florence. I've taken the shape of Italy and the mediterranean sea with Adobe Illustrator (a 2D vector software) and then transposed it to Maya where I was able to extrude the 3D model.



Figure 4.15. Map of Italy 1578, designed by S. Bonsignori% Palazzo Vecchio Museum Florence

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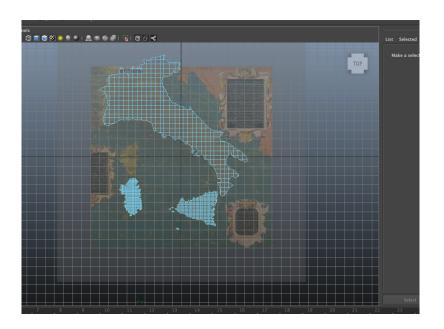


Figure 4.16. Maya 3D shape of the old map FIRENZE

For converting the vector shape made in Illustrator to Maya, i needed to export the file into *Illustrator 8* type of file. After that, I was able to import the file as *Adobe (R) Illustratore (R) object* curves, and so the shape appeared in Maya as outlines. The I needed to make the outlines like a planar surface selecting the output settings (Polygons and the count of subdivisions), finally a simple extrude of the surface let me to have 3D model of the old Italy's map.

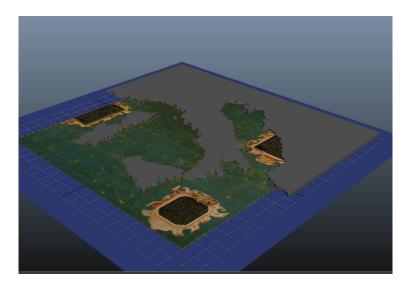


Figure 4.17. 3D model of Italy

For creating the main rivers and the main lakes of Italy I used the *boolean difference* option to create the holes in the 3D map model. This is not a good way to do the work, it is a not precise way to create the holes and the shapes and it may brings a lot of problems, but if it works, is the easiest way for doing the map.



Figure 4.18. Map with major rivers and lakes

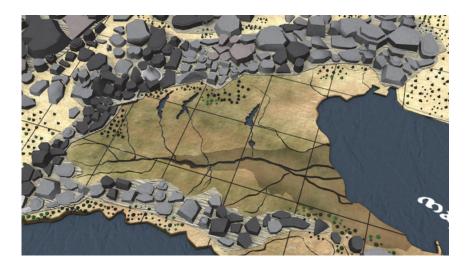


Figure 4.19. Focus on the Po river's basin

For the trees and the rocks I referred to the same objects in the original video, so only watching hundreds of times the sequence and stopping it when the trees and rocks appeared. The models are quite simple:

• TREES

the trees are various types of pyramid with four to seven vertices at the base and various heights.

• ROCKS

the rocks are not realistic rocks, but they seems like little rough and unrefined pieces of metal or wood, with a segmented shape - a low poly model.

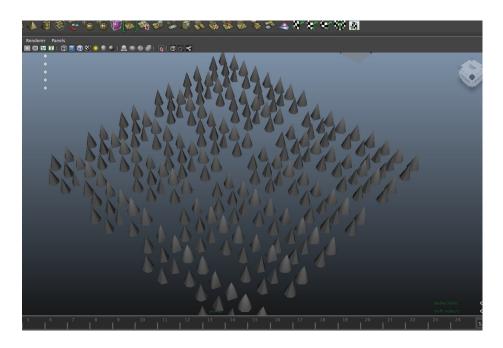


Figure 4.20. 3D models of trees

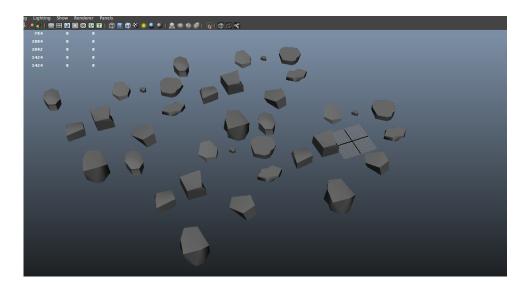


Figure 4.21. 3D models of rocks

The look we wanted to achieve was that of handmade models made of different kind of wood, stone, paper and metal. Since all the scenes will be made up of a great number of elements, it is of great importance to limit as much as possible the amount of polygons,



Figure 4.22. Trees and rocks positioned

otherwise the file will become too heavy to be opened and rendered. In order to limit the number of polygons for each element, it is useful to delete all the faces that are not visible.

Other items that I've modeled are the name of the cities! Also in this case I've used the convertion from Illustrator text shape to Maya and also the Maya's inside texting option to create the 3D models of the names of the six cities in GoT's style as you can see in the image 4.23.



Figure 4.23. 3D models of the names of the six cities



Figure 4.24. Names of the six cities rendered

As in **GoT**'s opening credits we created an Astrolabe inspired by the original concept - the so called *Dyson Sphere*: in the middle of the of the sphere there's the sun and all around the sun there are bands with relief sculptures taken from the Trajan Column in Rome, representing some important events of Italy's past history.

I created six concentric rings with external borders extruded, large enough to put the image along the ring and without loosing quality. Each rings then needs to be rotated, so Chiara set up the rigging and the animation.

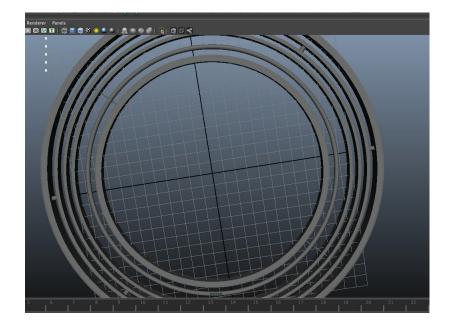


Figure 4.25. Rings for the Astrolabe

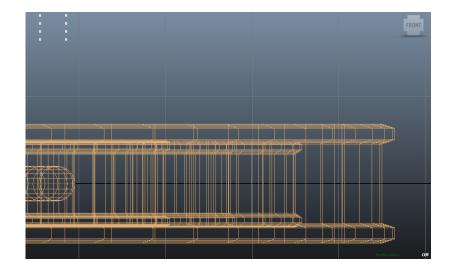


Figure 4.26. Front wireframe view of the rings of the Astrolabe

Inside the internal ring there is the sun, a simple sphere, then illuminated with incandescence, and its flat rays. For this astrolabe I used only images from the internet and something may be not equal to the original sequence idea.

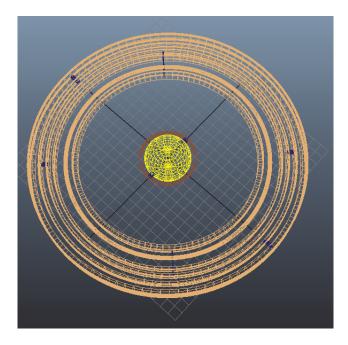


Figure 4.27. Astrolabe in wireframe

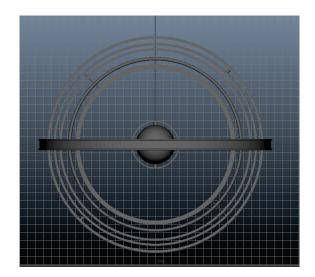


Figure 4.28. Top view of the Astrolabe

4.3 – Our work's pipeline

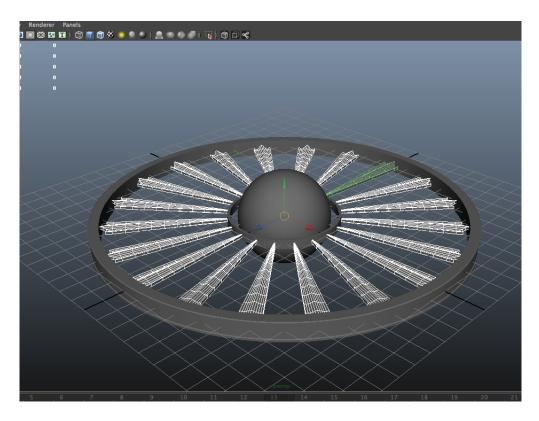


Figure 4.29. Rays for the internal sun

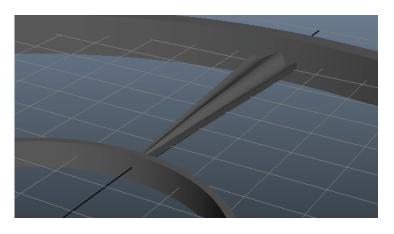


Figure 4.30. Focus on a ray

The astrolabe also features a main sigil with the name of the series inside it, so I needed to create it taking as a reference the original one, but with some differences like the adding of the Italy's name and the obvious change of the animals on its side with our cities animals. Same for the map, I used Illustrator to create the shape of the animals copying them from the images found on the internet about the emblems of the six cities chosen.

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Figure 4.31. Main sigil of the Astrolabe

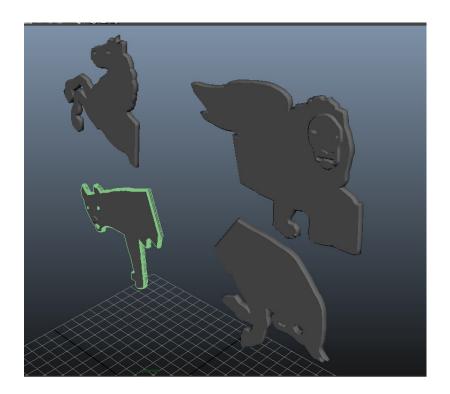


Figure 4.32. Four of the six animals of the six cities



Figure 4.33. The Astrolabe

I also modeled the main mountains and the two major vulcanoes of Italy, even if they may not be seen in the short movie because they are in the background, but they are still present! I've modeled the Monte Bianco, the Monte Cervino, the Monte Rosa, the Etna and the Vesuvio. All these items are modeled starting from cylinder or torus ring and by following the shape of the relatives original items shape taken from image from the Internet. I wanted to create these mountains and vulcanoes more realistic as possible but also with the GoT intro's style.

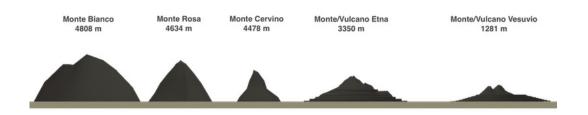


Figure 4.34. The three major mountains and the two major vulcanoes of Italy

For the Vesuvio I've also developed the internal smoke, so I needed to study the fluid simulation. After a lot of attemptions I achieved the result we wanted.

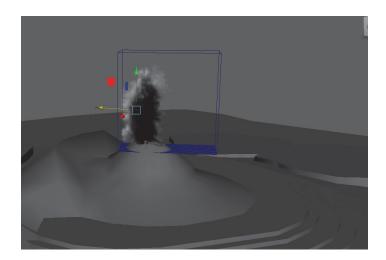


Figure 4.35. The smoking Vesuvio

Fluid animation refers to computer graphics techniques for generating realistic animations of fluids such as water and smoke. Fluid animations are typically focused on emulating the qualitative visual behavior of a fluid, with less emphasis placed on rigorously correct physical results. Fluid animation can be performed with different levels of complexity, ranging from time-consuming, high-quality animations for films or visual effects, to simple and fast animations for real-time animations like computer games.

Maya Fluid Effects is a technology for realistically simulating and rendering fluid motion. Fluid Effects lets you create a wide variety of 2D and 3D atmospheric, pyrotechnic, space, and liquid effects. You can use the Fluid Effects solvers to simulate these effects, or you can use fluid animated textures for more unique, distinguishing effects. To simulate fog, smoke, dust, or other atmospheric effects with Maya software rendering, you create a volumetric primitive (shape) and assign one of Maya's volumetric materials to the shape.

After the modeling step we need to give a realistic view to these items, so we asked Mara Guarneschelli to create the texture. She worked for the map and the sea, the Vesuvio and the Astrolabe. The smoke, the rocks, the trees, the name of the cities have simple material and texture made by me.

4.3.3 Production - Animation

Animation is the process of creating and editing the properties of objects that change over time. In this project all the palaces animation are set by Chiara, so for a detailed explanation for the animation step you should check her thesis.

When it comes to animation, it is important to choose the right timing so that everything evolves with the right speed. Animating is not a simple process, it requires years of study and practice to reach excellent results. The basic way to animate a 3D model is to use the Keyframe animation that lets you transform objects or skeletons over time by setting keyframes. Keys are arbitrary markers that specify the property values of an object at a particular time. Setting keys is the process of creating the markers that specify timing and action in the animation. Once you create an object you want to animate, you set keys that represent when the attributes of that object change during your animation.

We used the 24fps timeframe, so for a near two-minutes short movie we need to create about 3000 frames, multipled for three, as we can see later.

I personally use the animation methods and the Keyframe to animate the cameras for seeing the cities growth. Sometimes the camera movement was set only with keyframes and their positions and sometimes with path which the camera needs to move for particular effects.

4.3.4 Production - Texturing

Once Filippo and Mara joined the team , it was time to start creating and applying textures to the objects in the scenes. Filippo worked on the cities while Mara on the Map and Astrolabe. Before assigning textures and shader to a 3D model it is fundamental to calculate its UV map. UV coordinates can be generated for each vertex in the mesh. One way is for the 3D modeler to unfold the mesh at the seams, automatically laying out the polygons on a flat page. Once the model is unwrapped, the artist can paint a texture on each polygon individually, using the unwrapped mesh as a template. Each UV mapping technique produces UV texture coordinates for the surface mesh by projecting them onto the surface mesh based on the corresponding projection method. As a result, the UV texture coordinates have an initial 2D spatial correlation to the vertex information in the 3D world space coordinate system. The initial mapping produced using one of the aforementioned techniques does not usually generate the final UV arrangement that is required for a texture. This means that it will often necessary to perform further editing operations on the UVs using the UV Editor.

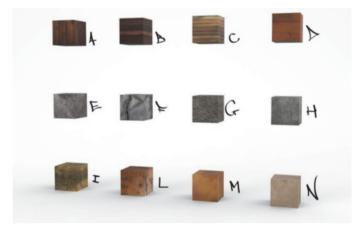


Figure 4.36. Materials and textures samples

Before starting the creation of textures and shaders, Filippo sent to Chiara some

material samples so that she could choose to assign to a particular object and related to this Filippo created three texture maps:

- **Color Map**: basically defines all of the surface color of the materials, without any for lighting or shading information. It can be derived from real-world material and can be also used as a starting point to create other texture types, such as bump or specular, since color often changes in the same area due to changing in other aspects of the material
- Normal Map: it is used to add details without using more polygons, to fake the lighting of bumps and dents . It is an image that stores a direction at each pixel and these directions are called Normals. The red, green and blue channels of the image are used to control the direction of each pixel's normal. A normal map is generally used to fake high-resolution details on a low-resolution model. Each pixel of the map stores the surface slope of the original high-res mesh at that point. This creates the illusion of more surface detail or better curvature, while the silhouette of the model doesn't change
- Specular Map: it is a map that controls the intensity/color of the specular highlight from real-time lights. It usually controls the brightness of the highlights for each area of the model, but if the shader supports RGB, the map can be used to colorize specular highlights. It can be created manually, painted interactively in programs like Mudbox . It is also possible to start with the color map and then adjust the levels or curves to create the desired specular map.



Figure 4.37. Example of texture - Color Map

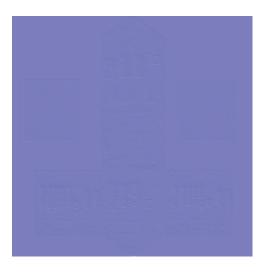


Figure 4.38. Example of texture - Normal Map



Figure 4.39. Example of texture - Specular Map

Once the texture maps are ready they can be applied to the material parameters to drive the color, reflection and surface bumps. Since the rendering engine was **Mental Ray**, we used the *mia_material*, a monolithic material shader designed to support most materials used by architectural and product design renderings, such as materials such as metal, wood and glass. It is especially tuned for fast glossy reflections and refractions and high-quality glass.

4.3.5 Production - Lightning

There are many different ways to light a scene in Maya since it provides different kinds of lights and lighting technique, from the three point lighting to Maya Physical Sun and Sky and Image Based Lighting.

After trying several set up, we chose the third one because it was the best solution to have a uniform lighting going from one scene to another. In addition to this, Image Based Lighting produced the best visual results when it came to textures and material.

Image-based lighting takes the light (and light color) represented in an image you provide to illuminate the scene. It is based on the use of HDRI (High Dynamic Range Image) that is like several images with different exposures combined to show the full range of light (highlight and shadow). Furthermore, HDR images are able to describe light accurately - with the use of floating point numbers - because they store the amount of light represented in pixel. The aim is to present the human eye with a similar range of luminance to that which, through the visual system, is familiar in everyday life.

4.3.6 Production - Rendering

3D rendering is the 3D computer graphics process of automatically converting 3D wire frame models into 2D images with 3D photorealistic effects or non-photorealistic rendering on a computer. Rendering is the final process of creating the actual 2D image or animation from the prepared scene. This can be compared to taking a photo or filming the scene after the setup is finished in real life. Several different, and often specialized, rendering methods have been developed. These range from the distinctly non-realistic wireframe rendering through polygon-based rendering, to more advanced techniques such as: scanline rendering, ray tracing, or radiosity. Rendering may take from fractions of a second to days for a single image/frame. In general, different methods are better suited for either photo-realistic rendering, or real-time rendering.

Rendering is the final step in the production process. Maya offers a selection of rendering engines and the one we chose is Mental Ray, the same used by Elastic to render the Game of Thrones opening sequence. So, we need to render 1 minute and 55 seconds of video (excluding credits not in 3D), we used the european framerate so 24fps, having said this the amount of the frames that we needed are 120*24=2880, but we need 3 different types of image of the same sequences as we will see next, therefore the total number of frames we rendered is about 8640. Actually, we have renedered over 9000 frames because some sequence needed a little bit more time. The final video is composed of three different levels that we rendered separately:

• DIFFUSE

is the one where the scene appears with its colors and material;

• AMBIENT OCCLUSION (AO)

creates the deep shadows you find between cracks and seams and helps to create a more realistic render;

• DEPTH MAP

represents the distance from a specific light source to the objects the light illuminates.

Diffuse reflection is the reflection of light from a surface such that an incident ray is reflected at many angles rather than at just one angle as in the case of specular reflection. An illuminated ideal diffuse reflecting surface will have equal luminance from all directions which lie in the half-space adjacent to the surface. A surface built from a non-absorbing powder such as plaster, or from fibers such as paper, or from a polycrystalline material such as white marble, reflects light diffusely with great efficiency. Many common materials exhibit a mixture of specular and diffuse reflection. The visibility of objects, excluding light-emitting ones, is primarily caused by diffuse reflection of light: it is diffusely-scattered light that forms the image of the object in the observer's eye. Diffuse reflection from solids is generally not due to surface roughness. A flat surface is indeed required to give specular reflection, but it does not prevent diffuse reflection. A piece of highly polished white marble remains white; no amount of polishing will turn it into a mirror. Polishing produces some specular reflection, but the remaining light continues to be diffusely reflected.

Ambient Occlusion is caused by indirect light's inability to bounce around and illuminate areas that are blocked by a nearby object that absorbs the light rays. These variations in lighting are fundamental for our eyes to detect surface details and distinctions that would otherwise be washed out and unnoticeable. Ambient occlusion adds realism to the scene by adding shadows in crevices, nooks and crannies, and so on. For each surface point, it calculates how much light is blocked by other geometry. A fast way to generate the AO level uses the occlusion preset offered by Maya and follows some fundamental steps:

- 1. select all the elements in the scene you want to have the ambient occlusion applied to and create a new render layer from selection
- 2. in the AO layer select attributes to go into the layer attributes menu and then assign the default AO shader to all the objects in the layer that will become completely black
- 3. the last thing to do before rendering is adjusting some material parameters in order to achieve better result, like increase the number of samples to help smooth out the shadows or modify the max distance value in order to make the scene look brighter.

In this case we only decided to set the number of samples to 256 leaving the default values for the other parameters.

Depth map are useful to recreate the *depth of field* because it can prove to be a very effective way to add an overall sense of depth to the final renders, and also helps to draw the viewers focus to a specific area of the image. The gray values within a depth map represent the distance from the camera, where white is near and black is far. The range in Maya units that this represents is based on the rendered camera's clipping planes. The steps for the creation of a depth map are similar to those of the ambient occlusion except for the preset material assigned to the objects in the Depth Map Layer and its attributes.

1. Select all the elements in the scene you want to have the depth map applied to and create a new render layer from selection

- 2. in the AO layer select attributes to go into the layer attributes menu and then assign the default Depth Map shader to all the objects in the layer
- 3. the last thing to do before rendering is adjusting some material parameters in order to achieve better result.

In this case the two parameter to set are the Old Min and Old Max i.e. the nearest and furthest clipping planes. The values for this two attributes were set after many tries until we reached the desired grayscale map.

Now that we have all the layers, we are ready to render each one separately. At this point, if we render the same frame for each level we obtain the three layers that will be used for compositing in the post-processing phase, the DIFFUSE, the AMBIENT OCCLUSION and DEPTH MAP. Last but not least, it's time for the Batch Render to render the entire animation, frame by frame. The output will be a sequence png images and will be saved in the images folder.



Figure 4.40. Diffuse

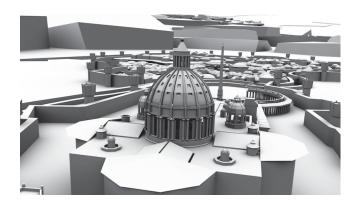


Figure 4.41. Ambient Occlusion

4.3 – Our work's pipeline



Figure 4.42. Depth Map



Figure 4.43. Combination of Diffuse - Ambient Occlusion - Depth Map

4.3.7 Post-production

Post-Production is the third and final phase in film creation and includes a series of tasks such as the editing of raw footage to cut scenes, insert transition and color correction effects, working with voice and sound and much more. The software used is Adobe After Effect that is also listed among those that helped the team at Elastic in the post-production phase of the Game of Thrones opening credits. First of all import the three sequences in After Effects : Diffuse, Ambient Occlusion and Depth Map. The next thing to do is to apply the Ambient Occlusion to the Diffuse Layer in order to enhance the shadows. The resulting image will appear darker so we can apply two different color correction effects to a couple of Adjustment Layers:

- **CURVES** to adjust the brightness of the image
- HUE/SATURATION to reduce the saturation of the image.

The last thing to do is using the Depth Map to simulate the blur introduced by a camera lens, this tool simulates the blur of a real life camera that depends on a black and white depth map as well as simulated iris settings. The depth map rendered with Mental

Ray will be used as a guideline to indicate which elements in the image are blurred (white) and which ones are not (black). In the Camera Lens Blur menu it is possible to tune some important parameters such as:

- Blur Radius : the size of the iris, i.e. the amount of blur in the scene
- Blur Map > Layer : the control layer from which the depth map is taken
- Blur Map > Blur Focal Distance : Depth of the focal plane, where pixels are in focus

With this settings the back-groud appears blurrier than the foreground. Then we need to apply a Vignetting effect, a Gaussian Blur filter and further color corrections effects for achieve the final result!



Figure 4.44. Final frame example

4.4 Sharing the work...

Social media represent one of the most interesting phenomenon of the 21st century, since the rise of the Internet introduced new ways of communication to spread information and connect people worldwide. Blogs, social networking sites, content communities, virtual worlds or collaborative projects all represent groups of people that create and share content inside and outside of professional routines. Furthermore, recent studies show that people usually spend 10 billion minutes on social media and blog sites and that the number of social media users increases every year, thus giving evidence of the great influence of social media on everyday life.

The statistic published on Statista website provides information on the most popular networks worldwide as of April 2016, ranked by number of active accounts. Market leader **Facebook** was the first social network to surpass 1 billion registered accounts and currently sits at 1.59 billion monthly active users. Eighth-ranked photo-sharing app **Instagram** had over 400 million monthly active accounts. Meanwhile, blogging service **Tumblr** had more than 555 million active blog users on their site. Based on the following statistics we selected three social network to share the video, test and collect information about users' reactions.

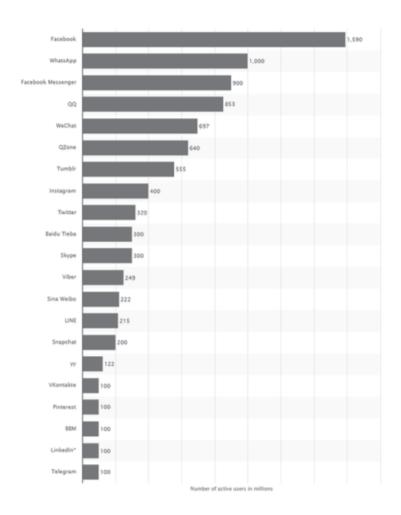


Figure 4.45. Social Media Number in Millions

Furthermore, the proliferation of social media makes anyone who has access to the Internet or mobile networks become a medium by sharing information with a great number of people at once. According to the report by the Pew Research Center [85], as of 2009, 38% of 12-17 year-olds and 30% of 18-19 year-olds share self-created content online, including photos, videos, artwork, and stories. These contents are shared their social networks, and some of them end up being viewed or read millions of times.

4.4.1 When?

The initial idea was to upload the video on April 25th when the first episode of Game of Thrones season 6 would have aired. Unfortunately we had to delay the publishing of our work because of the high amount of time required to render all the frames and the various technical problems we had to face. Once the project was completed we were ready to share it on the Internet but we had to choose the right moment in order to quickly reach as many users as possible. As explained in a blog post on its site, Twitter started gathering Tweets with keywords related to Game of Thrones in the 24 hours after each episode first aired. Tweets contain many interesting aspects: distribution over time, sentiment, frequent terms, but they decided to focus on the characters and extract the characters that were mentioned in these Tweets to find patterns and insights. This decision gives evidence to the fact that Game of Thrones fans are more active on the Internet in the 24 hours after each episode airs on Sundays.

Considering the fact that most of the Italian fans watch the new episode between Monday and Tuesday we agreed on Wednesday as the best day of the week to start sharing the video on social media. In fact this is the moment in which users tend to talk about the show, look for and share Game of Thrones related content. Furthermore, with the series coming to its clou, we didn't want to delay too much the publishing of the video since fans would have been more engaged with the events of the final episodes rather than paying attention to our work. For all these reasons we planned the sharing of our video on Wednesday June 8th before episode 8 of season 6 aired on next Sunday. Different promotional strategies were used according to the way in which people use a specific social network and taking into account each social network's features.

4.4.2 Where?

This choice was made because the aim of this thesis project was not only to create a tribute to Italy using CG, but also to examine User Generated Content phenomenon by publishing the video on social media, especially those related to the Game of Thrones fandom. The video was uploaded on my YouTube channel and then mainly shared on **FACEBOOK - TWITTER - INSTAGRAM**.

A number of websites and dedicated smartphone apps have emerged in recent years, to support the creation, hosting and sharing of videos (YouTube; Tumblr etc). Many of these are in relation to the social media phenomenon, where users create and share multimedia for professional or personal/leisure use. There are numerous platforms that allow users to publish video content: we selected YouTube as the unique home for the video.

When sharing a video You Tube the first thing to do is help people to find it by associating to the published content some keywords that users generally use in their researches. In this way, if someone types the keywords in the search toolbar on You Tube website, your video will appear among the results. In our case we chose Film & Animation as category, while the selection of the keywords, both English and Italian, was related to the type and subject of the work.

Furthermore, it could also be included in the playlists that YouTube automatically creates about a particular subject connected to the genre and keywords of our content, thus giving it more visibility. It is of great importance to follow some basic guidelines showing what features a video must have in order to become popular: **UNEXPECTED** - **ORIGINAL - SHORT**.

In this way the video will be discovered mainly by both Computer Graphics and Game of Thrones enthusiasts, since these two categories of users were the main addressees of the work. The popularity will then be measured by diverse criteria: views, subscription, favourites, discussion, response, time period, region, genre and user type. While the number of views simply indicates how many times the clip has been watched and the site has been accessed, other categories such as favourites and comments show a degree of user participation and how much he/she is struck by the video.

4.4.3 How?

Facebook was the medium we used the most to share our video because it gave us the possibility to directly reach the Game of Thrones fans all around the world by just subscribing to groups and following GoT based pages, in fact, when your subscription request to a FB group is approved, you effectively become a member of that group so that you are allowed to share images, videos, magazines' articles and write posts, thus participating to the virtual life of the community you belong to. The more you share contents and write in the group, the more the sense of belonging grows up.

To make our video become popular on Facebook, we decided to subscribe to all the Game of Thrones inspired groups in order to post our graduation project and collect fans' likes and comments. We also asked to GoT theme pages to post the video so as to share it with all their followers. Once the video became viral on YouTube we didn't need to ask anymore since users, GOT related and non-related FB pages started sharing our graduation project, while magazines started writing about our work and asking for interviews.

The main supporter of our work was the staff of Game of Thrones-Italy(159.624 followers), the official Game of Thrones Italian FB page that represents the first source for the show and novels' related news, information and user generated content. All the Italian fans of the TV series follow the page and its support was of great importance to help us to fulfil the graduation project's requirements and aim : analyze the influence of User Generated content on a specific fandom, evaluate fans and common people reactions to the video and share it as much as possible on the Internet.

4 – The Big project



Figure 4.46. Post of Game of Thrones - Italy to share our work

Another important result achieved on FB was having our video shared on the official Sky Atlantic Page(237.263 followers), the TV channel that airs Game of Thrones episodes every year.



Figure 4.47. Post of Sky Atlantic (Italy) to share our work

Another social that we used a lot is Instagram. Instagram is essentially based on the sharing of pictures and the use of hashtags which are fundamental to spread your posts

worldwide. Recently, the social network has introduced the possibility to share short videos that last for a limited amount of time, oppositely to what happens on You Tube where the duration of a video is not so strictly constrained. Taking into account all these aspects, we decided to focus on the sharing of stills from the video or images showing the making-of process of a building and short clips from our work. Furthermore, the use of hashtags was of great importance since it helped us to make our posts reachable by all CG enthusiasts and Game of Thrones fans.

Once you hashtag a word all account users can see it, thus allowing users who are not following you to see the content that you put out on your 'profile'. So to keep it simple, people are only one hashtagged word away from possibly being seen by thousands, if not millions of people through social media. Some people use hash-tags for fun, but some businesses go viral off of hashtags gaining this way nation-wide attention. The hashtags where chosen not only according to the topic and category of our work, but the selected ones were also the most popular, i.e. the most used and searched in relation to Game of Thrones and Computer Graphics. Furthermore, when choosing the Game of Thronesrelated hashtags, we also took into account the most important event of an episode and which characters played a central role, even though the main ones were always used among our keywords.

Hashtag	Number of posts per hashtag
. #gameofthrones	4.378.130
2. #got	4.203.554
8. #winteriscoming	1.963.193
ł. #jonsnow	493.588
5. #daenerystargaryen	219.535
5. #asongoficeandfire	201.232
7. #aryastark	142.348
8. #sansastark	133.874
9. #gameofthronesfamily	131.696
0. #housestark	131.365
1. #tyrionlannister	124.991
2. #hodor	116.145
3. #winterfell	111.585
4. #gotseason6	63.842
5. #holdthedoor	45.183
6. #gameofthroneshbo	36.495
7. #jonsnowlives	19.852
8. #gameofthronesfanart	11.994

Figure 4.48. Table of best hastags related to GoT - June 2016



chiara_k89 Sneak Peak - city 1 of 6 -#gameofthrones title sequence inspired graduation project #got #asongoficeandfire #gameofthronesfamily #gameofthronesart #gameofthronesaddict #jonsnow #jonsnowlives #gotseason6 #housestark #3dmodeling #3d #computeranimation #computergraphics #cg #vfx #rome #italy #autodeskmaya #autodesk #animation #daenerys #tyrion #houselannister #hodor #holdthedoor

Figure 4.49. Example of Instagram post on Chiara's account

Another great social used by Chiara to share the work is Twitter. Users can group posts together by topic or type by using hashtags and they can also mention or reply to other users and repost their tweets : the more a tweet is liked or shared, the more its popularity grows. In order to be successful on twitter it is important to share simple but efficient short messages, filled with content with the use of only 140 characters to direct the user back to your website or link that you are promoting. People usually tweets a lot during major media events, especially entertainment spectacles, sports matches or TV series, thus increasing the use of hashtags. Twitter's own research into hashtags confirms that there is significant advantage to using them. Individuals can see a 100 percent increase in engagement by using hashtags. Engagement, as measured in these studies, can include clicks, retweets, favorites, and replies, yet if it's only retweets you're looking for, hashtags still would be a smart bet.

Following these simple rules, we only used #GameofThrones in our tweets, so as that all the users looking for the TV show related contents could discover our tweets.



Figure 4.50. Twitter posts

Chapter 5

Data Collection and Analysis

The following chapter will mainly show the data collected since the video was published on You Tube on 8th June 2016, but also those related to the sharing of promotional pictures on both Instagram and Twitter even before the video was online.

It will also analyze the acquired information in order to understand fans behavior on social media, the way social media and new communication tools affected the popularity of our product, but also to demonstrate whether the aim of the project was achieved or not.

5.1 ...Gathering the results

Collection of video data is often used when studying how people interact with each other and with technology or artefacts. It can provide research communities with a powerful way to collect, share and analyze complex processes of human interaction. A number of tools have been developed to assist human analysis of shared video, but we focus only to the YouTube Video Manager and Analytics system.

5.2 YouTube

You can monitor the performance of your channel and videos with up-to-date metrics and reports in YouTube Analytics. There's a ton of data available in different reports, like the Watch time, Traffic sources, and Demographics reports.

At the top of many reports, use the filters to get the information you want:

- Content
- Geography or location
- Date or time frame
- All uploaded video content or just playlists
- Subscriber status

- Playback type (live or on demand), *if available*
- Traffic by YouTube product, *if available*

Line charts show how your video data has changed over time. You can customize the following options:

• Date granularity:

Charts can be displayed with data points in daily, weekly, or monthly increments

• Compare metric:

Select a second metric for comparison, which will be displayed on the graph. For example, you can plot "Unique Cookies" next to "Views."

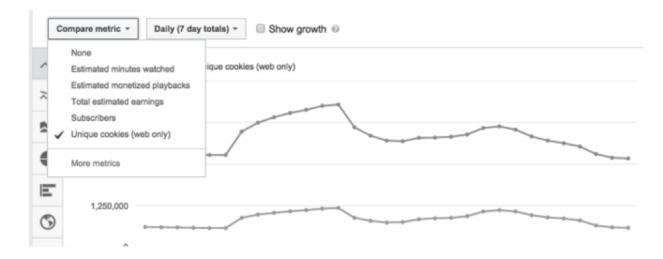


Figure 5.1. Compare Metric

Multi-line graphs allow you to compare the performance of up to 25 items (like videos, channels, geographies) and other information from different reports over a specific time period to see at a glance.

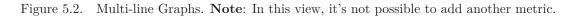
By default, the top five line items are selected and displayed in differently colored lines, but you can customize your selection to view all the content you're interested in. You can compare your selected items to the total value by selecting *Show totals* in the top right.

The stacked area view shows how data you select relates to the total. This lets you easily compare performance and determine trends. By default, the top five line items are selected and displayed in different colors, but you can customize your selection for up to 25 items to view all the content you're interested in.

You can use a bar chart to display the data you choose in horizontal bars that represent their values by length. If you select the date as a dimension, the bar chart will show as a







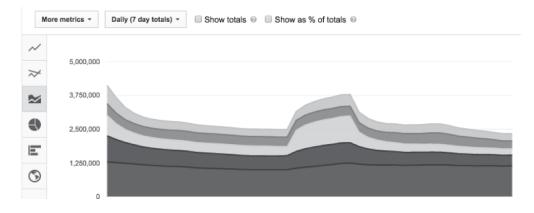


Figure 5.3. Stacked area

line graph.

The following pages will show the charts provided by YouTube Analytics in order to analyze the variation of some fundamental parameters over the time.

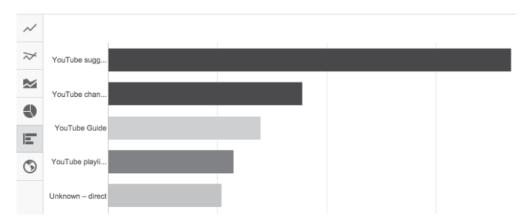


Figure 5.4. Bar chart **Note**: In this view, it's not possible to see the date dimension or to compare the selected data to the totals.

5.2.1 Views

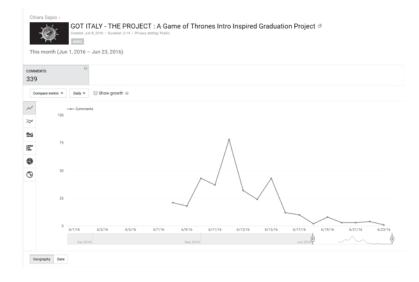


Figure 5.5. Number of Views (June 2016)

All these numbers and dates are referred to june-july 2016. Taking a look at this first chart it's easy to notice a boost in the number of views between June 11-13, then this value starts decreasing , even though it is still possible to see other two peaks between June 19-21 and June 25-27.

The real importance of this information stands out if we take into account that the last three episodes of Game of Thrones season 6 aired on : June 12, June 19, June 26. This means that GoT fans tend to be more active on social media in the days that precede and follow each episode, probably because they look for the latest news about the series and the latest events.

5.2.2 Likes

If we consider the curve trend in the case of the number of likes, it's easy to see how they significantly increased during the first week after the publishing of the video (June 8-15), since it was especially during this week that it was shared on many Game of Thrones related FB groups and pages and on Twitter too. It is then reasonable to say that this can be considered the time interval during which fans came more easily in contact with the product, than in the rest of the month.

As it happened for the number of views, smaller peaks can still be noticed between June 19- 21 and June 25-27, thus strengthening the link between the airing of an episode and the reachability of the video.

5 – Data Collection and Analysis

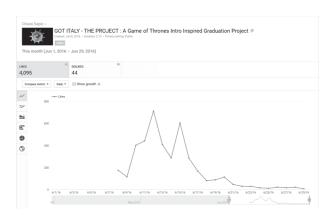


Figure 5.6. Number of Likes (June 2016)

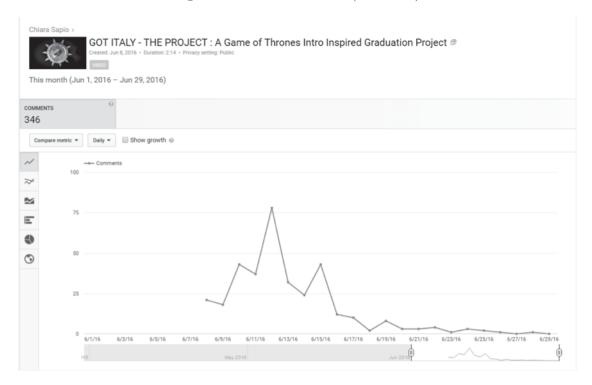


Figure 5.7. Number of Comments (June 2016)

5.2.3 Comments

The curve trend for the number of comments is quite similar to the one related to the number of likes, thus meaning that most of the comments were registered during the first week after the publishing of the videos when the enthusiasm for our work was at its maximum. It is possible to find many different kinds of comments : nice comments, rude ones, people complaining about the absence of their hometown in the video (especially those from Milan) or users starting a discussion to offend each other.

5.2.4 Shares

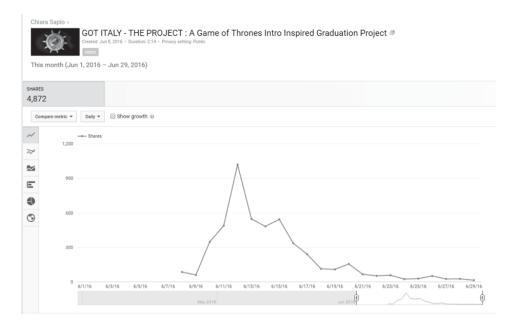


Figure 5.8. Number of Shares (June 2016)

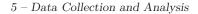
This chart, together with the other ones, gives evidence to the fact that the maximum activity level on the video was registered on June 12, when episode 8 aired, the first one after the publishing of the video.

This is just a demonstration of the fact that Game of Thrones' fans tend to look for information about the show especially during the weekend or on Mondays, when the interest about the events of Sunday's episode is high. During their search , it is possible that they came into contact with the video and watched, liked and shared it.

In a world dominated by social media, sharing is fundamental in order to increase the popularity of whatever kind of User Generated Content a fan created. When a video or a fan art is shared on Facebook, the members of a group or the followers of a page or of a common user, will watch it and maybe share it again on their personal accounts, thus reaching a great number of people all around the world : the more the shares, the more the success.

It is of great interest to take a look at another chart provided by YouTube Analytics in the Sharing Services section, since it shows where the video was shared and could be useful to understand the way in which fans use social media and new technologies.

Most of the users shared the video on Facebook or WhatsApp, thus meaning that Facebook is the most used social media and that a great number of users watched the video on their mobile phones, sending the link to their friends through the mobile messaging app.



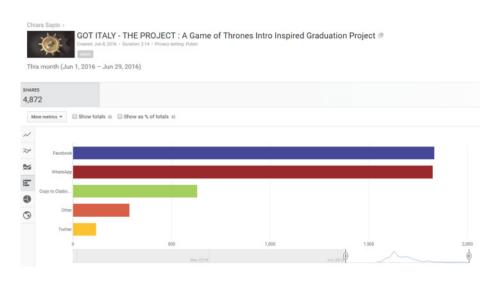


Figure 5.9. Number of Shares Bar Charts (June 2016)

5.2.5 Devices

		5 – Jun 29, 2016)				
vatch	TIME (MINUTES)	views 174,329	θ			
Mor	e metrics 👻 📃 Show t	totals 🛛 🔲 Show as % of t	otals 💿			
/						
*	_					
	Mobile phone					
1	Computer					
	Tablet					
	_					
	Unknown					
	TV					
			50,000	100,000	150,000	200.

Figure 5.10. Device Types Chart (June 2016)

As already stated before, most of the users watched the video from their mobile phones, since it appears to be the most used device type, followed by the computer.

This result perfectly pictures the habits and behavior of modern society, where people can take their smartphone everywhere and stay connected to the rest of the world and access to every kind of media content whenever they are, whatever they are doing and in every moment of the day. The computer stands as the second most used device type probably because a bigger screen guarantees a better appreciation of the visual content, its details and sound.

5.2.6 Traffic Sources

This month (Jun 1, 2016 – Jun 29,	2016)		
ATCH TIME (MINUTES) VIEWS 292,811 174,33	e 29		
More metrics • Show totals @	Show as % of totals 🐵		
-			
≫ External			
Suggested vide			
YouTube search			
Direct or unkno			

Figure 5.11. Traffic Sources Chart (June 2016)

Another tool provided by YouTube Analytics is able to track the traffic sources, i.e. how the users reached the video. The chart shows that most of them came to know its existence through external sources, thus meaning that the rising popularity of our video was strongly supported by posts on social media or articles written on online magazines.

Female							
				24.6%			
					5.00		
18-24 25-34	4 35-44 45-5 Years	4 55-64 65+					
Views 4	13-17	18-24	25-34	35-44	45-54	55-64	65+ Gender
141,703	1.7%	32%	46%	14%	4.1%	1.5%	1.2%
6,164	1.7%	28%	48%	13%	5.6%	2.2%	1.8%
3,913	2.0%	27%	55%	11%	2.5%	0.8%	1.4%
2,176	1.8%	26%	56%	11%	2.6%	0.7%	1.7%
2,087	0.8%	29%	47%	14%	4.7%	2.9%	1.3%
1,863	1.6%	27%	51%	15%	3.1%	0.8%	2.0%
919	3.0%	43%	45%	6.5%	1.0%	1.0%	0.5%
915	0.6%	25%	55%	13%	1.7%	1.7%	2.2%
873	2.3%	28%	49%	11%	3.9%	3.4%	2.6%
	Views 4 141,703 6,164 2,913 2,176 2,087 1,863 919 915	Yees Views 4/ 15-17 141,703 1.7% 6,164 1.7% 2,913 2.0% 2,017 1.8% 2,087 0.8% 1,863 1.6% 919 2.0% 915 0.6% 873 2.3%	Years Views 4/ 13-17 18-24 141/203 1.75 32% 6,164 1.75 28% 3913 2.0% 27% 2,07 0.8% 29% 1,863 1.6% 27% 919 2.0% 42% 915 0.6% 25% 973 2.3% 28%	Yann Yann J 13-17 18-24 25-34 141,703 1.7% 22% 46% 6,164 1.7% 22% 46% 3,913 2.0% 27% 55% 2,076 1.8% 26% 56% 2,087 0.8% 29% 47% 1,863 1.6% 27% 51% 919 2.0% 25% 55% 915 0.6% 25% 55% 973 2.3% 28% 49%	18-24 25-34 35-44 45-54 55-64 55- 18-24 25-34 35-47 18-24 25-34 35-44 141/703 17.75 3225 405 144 6,164 1.775 2875 455 145 2,013 2.05 205 455 115 2,017 0.85 205 565 115 2,087 0.85 205 565 115 1,863 1.05 205 455 155 919 2.05 4275 515 155 919 2.05 4275 515 155 919 2.05 4275 555 125 915 0.05 255 555 125 873 2.25 285 495 11%	18-24 25-34 35-44 45-54 55-64 65+ 12-24 25-34 35-44 45-54 65+ 12-24 25-34 35-44 45-54 65+ 121/703 17.75 22% 465 144 41/54 141/703 1.7% 22% 465 145 55+ 2013 2.0% 27% 565 11% 2.6% 2017 0.85 2.9% 47% 14% 4.7% 1.863 1.6% 2.7% 51% 15% 3.1% 1.863 1.6% 2.7% 51% 15% 3.1% 1.863 1.6% 2.7% 51% 15% 3.1% 1.863 0.6% 2.5% 55% 1.0% 1.7% 1.85 2.5% 4.5% 1.5% 1.7% 1.86 0.6% 2.5% 6.5% 1.5% 1.7% 1.915 2.3% 2.6% 4.0% 11% 3.9%	18-24 25-34 35-44 45-54 65- 18-24 25-34 35-44 45-54 65- 18-24 13-17 18-24 25-34 35-44 45-54 55-64 141/203 17.75 22% 46% 14% 41% 1.2% 2013 2.0% 2.7% 56% 11% 2.6% 0.7% 2.017 0.8% 2.9% 47% 14% 4.7% 2.9% 1.083 1.04% 2.2% 56% 11% 2.6% 0.7% 1.083 1.04% 2.2% 51% 15% 3.1% 0.8% 1.084 2.5% 55% 11% 0.5% 0.5% 1.084 2.5% 55% 1.5% 0.1% 0.5% 1.084 2.5% 55% 1.5% 1.7% 1.7% 1.085 2.5% 55% 1.5% 1.7% 1.7% 1.085 2.5% 55% 1.5% 1.7% 1.7%

5.2.7 Demographics

Figure 5.12. Demographics Chart (June 2016)

In this chart , the first thing to stand out is that most of the users watching the video are males and the most active ones belong to the age range between 25-34 years old, followed by 18-24 years old . This result is probably strongly linked to the gender and age

of Game of Thrones fans or Computer Graphics enthusiast, since the tag we used were related to both these categories.

Last, but not least, these three charts show how most of the views, likes and comments belong to Italian users, thus demonstrating that we were able to reach the Italian fans of the show and winning their support and enthusiasm.

Ch	lara Saplo >		DO IFOT I O	-		
		Jun 8, 2016 · Duration: 2	ROJECT : A Game of 14 • Privacy setting: Public	Thrones Intro Inspired G	Fraduation Project @	
Th	is month (Jun 1, 201	6 – Jun 29, 2016)				
LIKES 4,0		DISLIKES	0			
N	lore metrics 👻 🔲 Show	totals 🛛 🗌 Show as	% of totals 🐵			
~						
\gtrsim	Italy					
*	United Kingdom					
E	United States					
0	Germany					
٩	Spain					
	o niego		1,000	2,000	3,000	4,000
			May 2016		Jun 2010	-

Figure 5.13. Likes for country(June 2016)

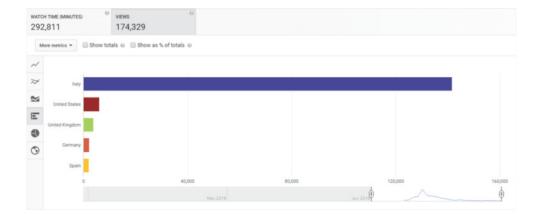


Figure 5.14. Views for country(June 2016)



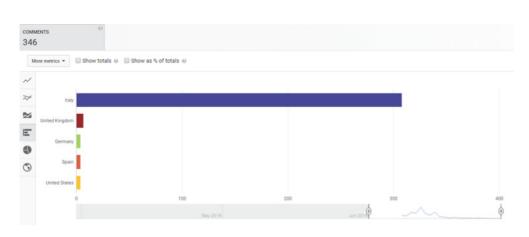


Figure 5.15. Comments for country(June 2016)

5.2.8 Comparison with other videos

This project was conceived not only with the intent to explore the world of fandom and how fans react to User Generated Content, but also to understand whether the connection between UGC and a specific territory increased the enthusiasm towards a particular product or not.

In the case of GoT Italy – The Project, YouTube statistics made it clear that Italians shown a great interest towards our video, especially because most of the users enjoyed watching the 3D models of the cities they live in or come from.

While looking for reference and information about Game of Thrones original intro, we noticed that there were other videos inspired to the show's opening sequence but also related to specific cities or countries, just like ours.

For all these reasons we decided to make a comparison between this video and GoT Italy the project, taking into account that ours is the most recent of them all. The parameters we considered are:

- Number of views
- Number of likes
- Number of comments

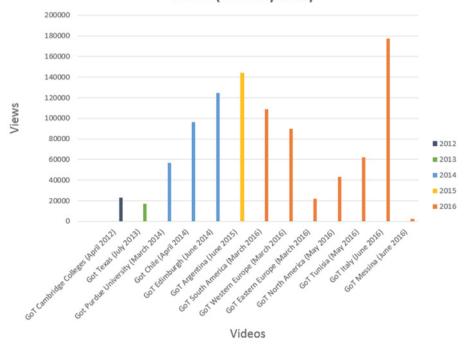
Since these are some fundamental factors to be considered when evaluating the popularity of a video on YouTube.

5.2.9 Charts

First of all, the following three charts show how much Game of Thrones has influenced our culture and fan's production, since there are so many different video tributes to the series and the city/country the author/s belong to , except for the creators of Game of Thrones Argentina who also produced a series of videos including:

- Game of Thrones South America
- Game of Thrones Western Europe
- Game of Thrones Eastern Europe
- Game of Thrones North America

Furthermore , our video is the first in all the categories. We couldn't have achieved this result without the great support of GoT FB fan pages and fan groups, but also the articles and interviews published by lots of online magazines, especially those related to the cities in the video.



VIEWS (06th July 2016)

Figure 5.16. GoT Italy - The Project is the most viewed video - 177383 views (June 2016)



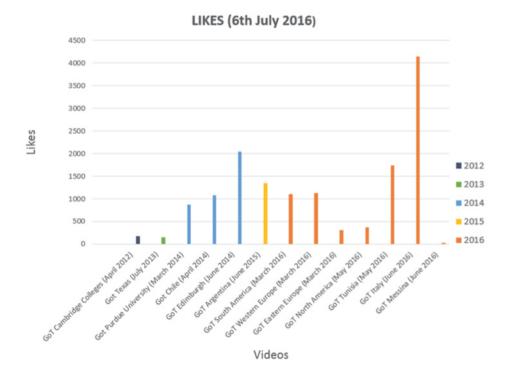


Figure 5.17. GoT Italy - The Project is the most liked video - 4142 likes (June 2016)

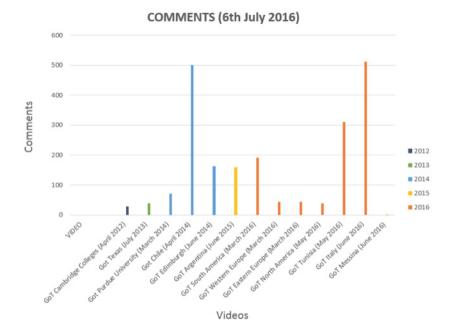


Figure 5.18. GoT Italy - The Project is the most commented video - 512 comments (June 2016)

5.3 Facebook

Facebook Insights is a tool of Facebook offered to see the analytics of the pages by page administrators. It is said that the Facebook insights is moving the usual web analytics like Google analytics to the next level and it gives more detailed demographic information (refer to Appendix 3 to see an example of how the demographic data of a page could look like on Facebook), and it also shows for example if a user shares something, what effect it has, for example the reach which shows how many users have seen users shared posts, or just have seen that page on their news feed.

We used also the Wolfram Alpha Personal Analytics for Facebook to see the analytics of our personal profile page, which is not covered by Facebook Analytics. Wolfram Alpha — a site that was created by **Stephen Wolfram**, the creator of the highly important Mathematica software — is the gold standard when it comes to calculation on the internet, so it's no surprise that its Facebook analyzer is awesome.

Your Facebook report can show you:

- What are the groups of friends that make up your network? How do these groups relate to one another?
- Where do your friends live? Where are their hometowns?
- Who lives furthest from you?
- How many friends do your friends have?
- See a word cloud of your commonly used terms
- When are you the most active?
- Explore the structure of your friend network and how your friends connect to one another.
- What are your most popular photos.

The following pages will show a statistics of the most liked and commented post on Facebook in order to explore fans behavior and reaction to our video, also taking into account the fact that it was shared on FB pages belonging to several different categories, not only those related to Game of Thrones' fandom. This great diversity in the nature of the source page made it possible to make the video reachable not only by fans, but also by different users' categories.

5.3.1 The results, an overview

The following chart shows an overview of the total amount of like, comments and shares collected by all the different posts published on the social network and related to our video.



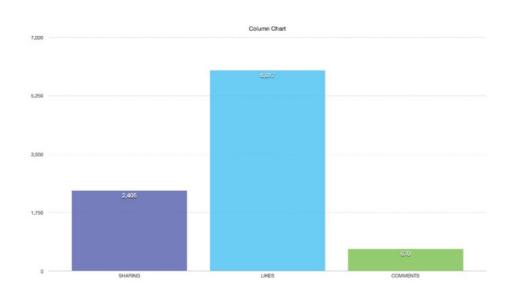


Figure 5.19. Facebook total number of likes, shares and comments

From this first chart we can notice that the easiest way for users to interact with a post is to take a look at it and like it. The most Game of Thrones enthusiasts shared it too on their personal accounts or on other groups, while just a small part of all the users who liked the video, also left a comment.

This result reflects the fact that Italian users don't usually tend to comment too much a post, especially outside the fan group they belong to since they would feel unprotected and under judgment.

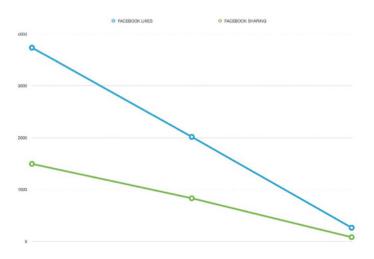


Figure 5.20. Facebook trend

This chart shows how the enthusiasm towards our work was kept high by Facebook

posts and articles on online magazines during the first two weeks after the publishing of the video. Then, as already expected, Game of Thrones' fans focused on the events of the last two episodes of the series, since they usually are the most exciting ones : they easily capture fans' attention and represent a starting point for new speculations and fan theories about what will happen next.

For all these reasons Game of Thrones related websites, FB pages and groups were more interested in writing and sharing articles, interviews, clips and memes about the season finale, rather than paying attention to our fan-made video. That's why after 'Battle of The Bastards' the number of shares and likes started decreasing.

5.3.2 Most Liked, Shared and Commented Posts on Facebook

Taking a look at these tables, it's easy to notice that GoT Italy and Sky Atlantic posts are always in first and second place, respectively and independently from the publishing date.

GoT Italy is the most famous Italian Game of Thrones' FB page, while Sky Atlantic is the official FB page of the channel where the show is broadcasted every year.

As a result, the video enjoyed great popularity among GoT Italian fans since the aforementioned FB pages are the most followed ones among those related to the show.

The fact that our work was also shared by pages belonging to different categories, such as news or technology, made it possible to reach a wider range of users, not just the series' fans, raising interest for our creation even among 'common' people.

	LIKES
GoT ITALY	
	1340
SkyAtlantic	1210
Corriere della Sera	1210
	682
Wired Italia	
Huffington Post Italia	607
	429
Torino Today	
Politecnico di Torino	274
	241
Wired Italia	
Game Time Tv	235
	212
Firenze Today	
	183

Figure 5.21. Top ten - most liked posts



Figure 5.22. Top ten - most shared posts

	COMMENTS
GoT ITALY	
	135
SkyAtlantic	12.221
Corriere della Sera	115
	100
Wired Italia	
	60
Huffington Post Italia	
Casa Stark - L'inverno Sta Arrivando	50
	36
Game Time Tv	
Wired Italia	30
Wired Italia	25
Tom's Hardware Italia	25
	20
Politecnico di Torino	
	18

Figure 5.23. Top ten - most commented posts

5-Data Collection and Analysis

Published between

June 8-15 2016

June 16-22 2016

June 23-July 1 2016



	June 8-15	June 16-22	June 23 -July 1
FACEBOOK LIKES	3739	2015	263
FACEBOOK SHARING	1494	831	80
YOUTUBE LIKES	3153	816	143
YOTUBE SHARING	3576	1071	262

5.3.3 YouTube vs Facebook

Figure 5.25. YT vs FB comparison

On both social media, the number of shares and likes was quite high during the first two weeks from the publishing of the video, then it started decreasing seriously because of the season finale getting closer.

Furthermore we can notice that these two parameters are always higher on Facebook than on YouTube, probably because most of the users just watched the video on FB and liked the post, without clicking on the link and watching the video directly on YouTube.

5.4 Instagram, Twitter and others

We started posting pictures of the making of the 3D models on our personal Instagram and Twitter accounts since the real production process began between January-February 2016.

Later on, when the work was done, it was time to share captures from the video itself showing the six cities and their sigils in order to raise interest toward our product before its release on YouTube.

5.4.1 IG

Becoming popular on Instagram is not that easy because your pictures are only seen by your followers and by people looking for the hashtags used in the post.

In the case of Game of Thrones fans on Instagram, I think their attention is easily caught by memes, short clips from the show, fan arts of the main characters, pictures of the actors and from the episodes. That's the reason why my posts didn't stand out from

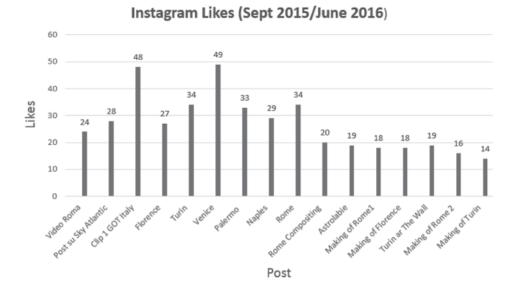


Figure 5.26. Instagram likes from September 2015 to June 2016

the rest.

The most liked pictures, though, were those showing the 3D models of the six cities and if we try to rank them all, we obtain the following result:

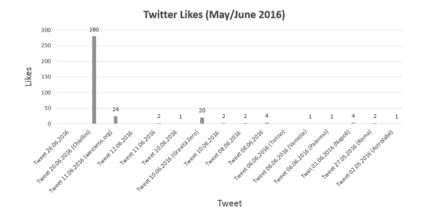
- 1. Venice
- 2. Rome and Turin
- 3. Palermo
- 4. Naples
- 5. Florence

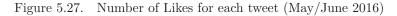
5.4.2 TW

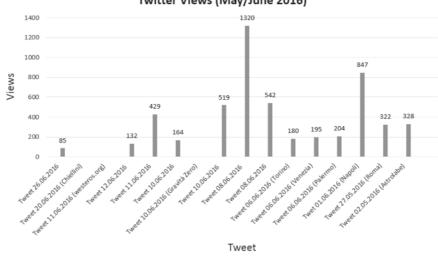
These two charts show how the number of views was really high when tagging actors, official fan accounts and official Game of Thrones accounts into a post, beside using the official hashtag #GameofThrones.

In contrast, the number of likes boosted when the video was posted by some well-known accounts, just because they have much more followers than we do (*Giorgio Chiellini*, Juventus Football Player : 1.85 Mln Followers).

At the end of this analysis we can certainly say that , if we take into account the total number of likes and comments, Facebook appears to be the most used social media and







Twitter Views (May/June 2016)

Figure 5.28. Number of Views for each tweet (May/June 2016)

the way in which users prefer to interact with one another and to stay up-to-date with latest news from their favorite TV show, books, movies or whatever they love.

Chapter 6 Conclusion

Its now time to present the conclusion of this study, and we can answer to the question about technology and UCG and link between them for improve the quality of the fans products. When we analyse the history of fandoms we found that creativity is the most important thing for supporting tv series or the film they are related on.

Fandom is progressive, particularly in regards to the use of cyber-space and technology that allows fans the use of engaging, problem solving, and creative communication. Such communication will continue to allow this special community to increase in number as well as have influence on major issues in our society. While fans may not be accepted by all members of the current recognized normative society, it is important for people to be appreciative to the progressive nature of fandom.

From these modes of communication, fans have been able to redefine the definition of community and identity to fit their own standards, as Henry Jenkins states:

To speak as a fan is to accept what has been labeled a subordinated position within the cultural hierarchy, to accept an identity constantly belittled or criticized by institutional authorities. Yet it is also to speak from a position of collective identity, to forge an alliance with a community of others in defense of taste, which, as a result, cannot be read as totally aberrant or idiosyncratic..

Despite the lack of acceptance of fandom by "the cultural hierarchy," the fan community has continued to thrive and has become a phenomenon that cannot be ignored. When we analyse the creativity of fanfics as they relate to the artefact the creativity clearly ramps up.

Fans have altered the concept of community and opened the doors to creating a culture in which a diverse population of people can interact without fear of discrimination.

This research has shown that we had to release our imagination, according to the series, for create a product that is ne and also interesting. While working on the video, we were responsible for most of the steps in the production pipeline, from concept to storyboarding, modeling, rigging and animation and I benefited from the use of digital technologies and 3d modeling software that help me to speed up the production process and be more creative.

The process that led to the realization of this project granted us the possibility to understand the importance of fan culture and social media in modern society, but also to experiment the way in which new technologies represent a powerful tool for common users to create UGC. Computer Graphics has given artists the chance to bring everything they have in mind to life, with no limits except for their imagination. Furthermore accessibility of CGI software and increased computer speeds has given the possibility to individual artists, small companies and common people to produce movies, games, and fine art from their home computers.

In the specific case of this thesis, we chose the TV show 'Game of Thrones' as a case of study, since it has become the most popular TV show ever on HBO and a worldwide phenomenon, and can count on a vast online fan community.

Of course, Game of Thrones has one of the best opening credits out there, including that awesome piece of music composed by Ramin Djawadi. As we've said before, Game of Thrones fandom gives the series the ultimate promotion.

According to fans, its success is mainly due the great variety of characters with multifaceted personalities, the complexity of the intriguing storylines and subplots, but also the effective social media strategy that has granted the show an army of loyal fans.

In fact, it is among Italian fan communities that our video has been gaining most of its success, while online magazines have spread the news among common users at a later time.



Figure 6.1. Game of Thrones

The need to develop a social media strategy to promote our video on the Internet , has shown us the great impact they have on everyday life and how they have changed the way in which we communicate. The immediacy of social media has given a significant contribution in the diffusion of our product among online fan communities, easing the interaction between fandom, media texts and different forms of art. HBO made the campaign an evergreen initiative and continues to ask fans to submit their own artwork to be used for the promotion of coming episodes.

The transition from a UGC campaign to an evergreen social phenomenon of its own was a natural one, but HBO did kickstart this tradition by investing in UGC - a wise strategy that would please the Iron Bank. User-generated-content has carried Game of Thrones through the off-seasons like Hodor carries Bran. In addition to this, we have noticed that if a particular UGC is inspired to a popular media texts, it is able to catch the attention of a huge number of people and become successful among online fan communities.

In addition to the strategies above, fan theories and conspiracies are assets when shared on social media. They are user generated, provocative, and incredibly engaging. Just ask George R.R. Martin who responded to R+L=J in Time Magazine last July:

"So many readers were reading the books with so much attention that they were throwing up some theories and while some of those theories were amusing bulls**t and creative, some of the theories are right."

These fans have proven themselves incredibly creative as they demonstrate the raw, diverse talent that amateur producers can bring to the table. Its no wonder user generated content has carried Game of Thrones through the off-seasons like Hodor carries Bran.

Unfortunately, in our case, a great limitation was represented by the time. A huge amount of time was required to render all the HD frames in the video when the release deadline was getting closer. Since we weren't provided with enough and suitable devices for such a task, we had to pay for an online renderfarm to do the work for us.

What we noticed is that common users were focus more on the absence of a particular city or on little details instead of looking at the huge amount of work required to produce the video, and the many similarities with the original one. In our opinion this attitude is correlated to the fact of Italy has not been touched yet by this kind of technological progress, a country where artists are underestimated because people stay stuck with the idea of traditional professional figures and methods, forcing new generations with innovative ideas to move abroad where they can find more support to their creativity and ambitions. The approach of CG and technology enthusiasts and Game of Thrones' fans all over the world was completely different.

A community is just a big family, where people coming from every part of the world share the same passion for a particular media text, become friends and feel free to speak their mind. Fans are supportive and encourage the creation of fan-made content. During the last four weeks they have been showing great enthusiasm towards our video, appreciating the originality of the idea, especially because , for a couple of minutes, it was like the country we live in became part of the fascinating world of Game of Thrones that they love so much.

Thanks to the precious support of fans and the invaluable contribution of social media and online magazines, Game of Thrones Italy – The Project, has become the most viewed, liked and shared video on YouTube, among those inspired to the series' opening sequence and dedicated to a particular city, country or local institution.

After all, fandom is a way of life, which fans of course have a term for: **FI-AWOL**.

6.1 Future?

This works help us to improve our skills in the field of 3D animation, but it doesn't stop here! We are so proud of or work, made completely from a *four-people-group* including three students that re-created the original video made by a team of over fourty professional artists, and this should not be seen as a provocation, but as a emulation and as a will for us to work with these masters! So, the works it is not finished yet.

User-generated content gives you, as a business, the chance to benefit from content produced. In the next future we hope to continue working on this project in order to add the other cities that have been left out because of technical and time constraints, especially if we will be able to count on more powerful devices and a bigger team.

There are so many things that we want to improve to demonstrate our skills to the world!

Everyone needs a boost of inspiration once in awhile, so we need the right motivation from the fans, from our friends and family.



Figure 6.2. A newer version of the video is coming? GoT Italy The project

Appendix A

GALLERY



A - GALLERY





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A - GALLERY





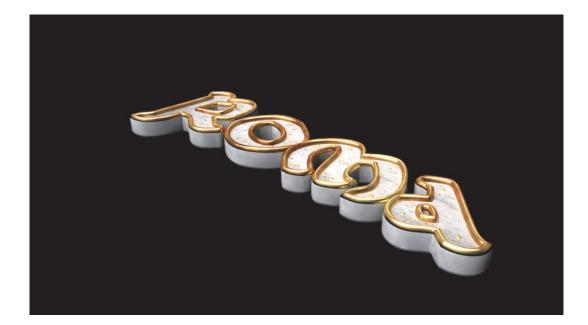
A - GALLERY





128







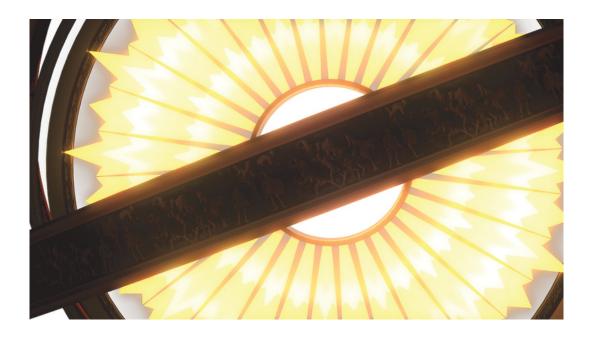














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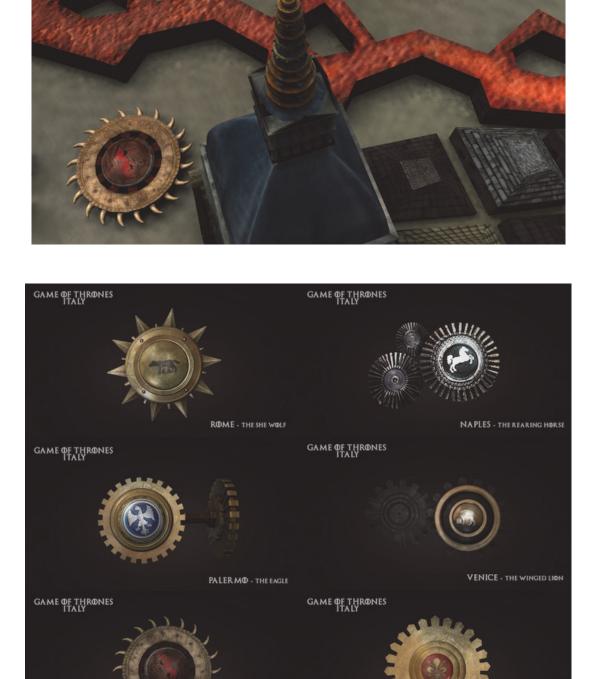








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Bibliography

- [1] B. Gooch, The Communication of Fan Culture: The Impact of New Media on Science Fiction and Fantasy Fandom, Georgia Institute of Technology.
- [2] P. Guldenpfennig, Fandom, Fan Fiction and creative mind
- [3] F. Coppa, Brief History of media fandom. In: Hellekson, K., Busse, K. (Ed.). Fan Fiction and Fan Communities in the Age of the Internet, Jefferson: McFarland, 2006
- [4] H. Jenkins, Fans, Bloggers and Gamers, Exploring Participatory Culture, New York university press, 2006
- [5] J. Fiske, The cultural economy of fandom. The adoring audience: Fan culture and popular media, New York: Routledge, 1992
- [6] M. Hills, Fan Cultures, New York: Routledge, 2002
- [7] E. Benecchi, Online Italian fandoms of American TV shows', Transformative Works and Cultures, 2005
- [8] M. Scaglioni, TV di culto. La serialitá televisiva americana e il suo fandom. Milan: Vita e Pensiero, 2006
- [9] T. Daugherty, S. Matthew, L. Bright, Exploring Consumer Motivations for Creating User-Generated Content, 2008
- [10] Shneiderman, User-Generated Content in Preece & Pirolli (Ed.) Realizing the value of social media requires innovative computing research
- [11] J. Kim, User-Generated Content (UGC) revolution?: critique of the promise of YouTube, University of Iowa, 2010
- [12] M. Parke, Incorporating and Considering Fans : Fan Culture in Event Film Adaptations, bangor University, 2012
- [13] H. Jenkins, Interactive Audiences? The 'Collective Intelligence' of Media Fans, http: //web.mit.edu/21fms/People/henry3/collective%20intelligence.html
- [14] J. Fiske, "British Cultural Studies and Television" in Channels of Discourse, Reassembled, R.C. Allen (Ed.), 1992
- [15] C. Bacon-Smith, Enterprising Women : Television Fandom and the Creation of Popular Myth, University of Pennsylvania Press (Ed.), 1992
- [16] J.L. Delmar, V. Hernandez-Santaolalla, M. Ramos, Fandom-generated content : An approach to the concept of 'fanadvertising, 2013
- [17] A. Lenhart, M. Madden, Teen Content Creators and Consumers, http://www. pewinternet.org/2005/11/02/teen-content-creators-and-consumers/
- [18] H. Jenkins, Afterword. The Future of Fandom in NYU Press (Ed.) Fandom, 2007

- [19] M. Hills, Media Fandom, Neoreligiousity, and Cut(ural) Studies, University of Texsas Press, 2000
- [20] H. Jenkins, Convergence culture : where old and new media collide, NYU Press (Ed.), 2006
- [21] Participative Web and User-Created Content: Web 2.0, Wikis and Social Networking, OECD, 2007
- [22] S. Bausch, L. Han, User-Generated Content Drivers Half of U.S. Top 10 Fastest Growing Web Brands, according to Nielsen // Netratings, 2006
- [23] N. Balasubramaniam, User-Generated Content" in Florian Michahelles (Ed.) Business Aspects of the Internet of Things, 2009
- [24] J. Fiske, The Cultural Economy of Fandom in Routledge (Ed.) doring Audience : fan culture and popular media, 1992
- [25] C. Shirky, Cognitive surplus : creativity and generosity in a connected age, The Penguin Press (Ed.), 2010
- [26] M. Hills, Fiske's 'textual productivity' and digital fandom : Web 2.0 democratization versus fan distinction?, 2013
- [27] R. Pearson Fandom in the Digital Era, 2010
- [28] H. Jenkins, Art Form for the Digital Age
- [29] R. Hardy, Have Computer Generated Images Changed the Definition of Cinematography?, http://nofilmschool.com/2014/01/ digital-technology-changed-definition-cinematography, 2014
- [30] A. Polozuns, *Computer Graphics in Cinematography*, Helsinki Metropolia University of Applied Sciences, 2013
- [31] A. Kaplan, M. Haenlein, Users of the world, unite ! The challenges and opportunities of Social Media, 2010
- [32] J. Zhivov, H. Scheepers, R. Srockdale, *Facebook The Final Frontier for TV Fandom* : A Lurker's Perspective, 2011
- [33] F. Levy, 15 minutes of fame : Becoming a star in YouTube revolution, 2008
- [34] B. Stelter, Some media companies choose to profit from pirated YouTube clips, The New York Times, 2008
- [35] Game of Thrones (TV Series) http://gameofthrones.wikia.com/wiki/Game_of_ Thrones_(TV_series)
- [36] C. Spanó, Audience engagement with multi-level fictional universes : The case of Game of Thrones and its Italian fans, University of Aukland, New Zeland, 2016
- [37] A. G. Walton, Deeper Than Swords : 10 Reasons We're So Hooked on 'Game of Thrones', http://www.forbes.com/sites/alicegwalton/2014/07/ 08/deeper-than-swords-10-reasons-were-so-addicted-to-game-of-thrones/ #1fd986274b76
- [38] Game of Thrones, https://en.wikipedia.org/wiki/Game_of_Thrones# Inspirations_and_derivations
- [39] H. Jenkins, Convergence Culture : where old and new media collide, NYU Press (Ed.), 2006
- [40] A. Howe, The Hand of The Artist : Fan Art in the Martinverse in Mastering the Game of Thrones – Essays on George R.R. Martin's A Song of Ice and Fire

- [41] D. Game ofThrones whotookLindsay, fans fantothenext level, http://metro.co.uk/2015/04/01/ domgame-of-thrones-fans-who-took-it-way-too-far-5129383/, 2015
- [42] T. Spangler, How 'Game of Thrones YouTube Fan Videos Help HBO's Top Franchise, http://variety.com/2014/digital/news/ how-game-of-thrones-youtube-fan-videos-help-hbos-top-franchise-1201221222/, 2014
- [43] C. Taylor, 'Game of Thrones' Social Media Fandom : Bigger Than Westeros?, http://mashable.com/2013/04/04/ game-of-thrones-social-media-fandom-as-big-as-westeros/#.OUGHYQBukqS, 2013
- [44] A. Pai, How Game of Thrones is Conquering the Internet Top Social Media Marketing Lessons for Businesses, https://blog.drumup.io/blog/ social-media-marketing-lessons-from-game-of-thrones/, 2016
- [45] The 'Game of Thrones' approach to user-generated content, http://the-m-age.com/ 2014/06/the-game-of-thrones-approach-to-user-generated-content/
- [46] V. Frei, Game of Thrones : Kirk Shintani CG Supervisor - A52/ELASTIC, http://www.artofvfx.com/ game-of-thrones-kirk-shintani-superviseur-3d-a52-elastic/, 2011
- [47] T. Appelo, Secrets Behind 'Game of Thrones' Opening Credits, http://www. hollywoodreporter.com/race/secrets-game-thrones-opening-credits-179656, 2011