

POLYTECHNIC OF TORINO  
FACULTY OF ARCHITECTURE 1  
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**Honors theses**

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**Critical analysis of a design process: from the conception of a protective case for an electronic equipment until its prototyping and realization**

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Purpose of this thesis has been the design of a protective case for Play Station Portable Sony. Being aware of the numerous solutions already on market our job has been to develop a design which could improve the PSP lacking sides without sacrificing its peculiarities and innovative functionality. To respect this purpose, both in studying and projecting, our attention has been focused on these following items.

**Protection:** considering the extremely delicate nature of the object, for the use of particularly deteriorating materials, for the introduction of technological extremely sophisticated components and for the area of use that exposes it continually to risks, the choice of a cover could remarkably extend the medium life of the object.

**Ergonomics:** the projecting of the protective cover works directly on the ergonomic sphere of the same object changing the user's interacting. An ergonomic study while analysing the protecting cover could bring sensible advantages both on the conduction of functionalities (improving the interaction) and on the sheltering of the same object.

**Functionality/peculiarities:** considering the numerous features offered by PSP, it's right to consider them in the planning stage, as not to sacrifice them during the use of the cover.

**Technological look:** finally considering the extremely refined look (high-tech) of the board, the use of a cover not suitable to PSP could damage the look of it turning the user from the possible purchase of the cover. A thorough analysis on the new-concept introduced by Sony could bring to the definition of a cover absolutely on the same wavelength as the image suggested by the firm.

The work has begun from the analysis of the relation between users and entertainment equipment (categories of products, users' needs, performances of the planned solution).

Analysing all the existing entertainment sources have been identified two main categories: **home entertainment and portable entertainment.**

Afterwards a compared analysis among technologies on market ( and their evolution) areas of utilization and users' needs, has allowed to remark the characteristics and performances of these products and at last to understand which kind of accessories are essential and which ones not in order to utilize the board.

Made all these considerations it has been possible to start planning: first of all we have tried to describe all the features offered by the console so as to be able to set priority levels on the base of frequency of use and value.

A further dissembling of the product has brought out some possible critical points to be considered in the planning phase.

The **analysis of the relation between PSP and user** has been proved essential to achieve the final objective; a part of our study has been directed to the analysis of the possible various plugs on the console in relation to the use one can make and to the possible areas of utilization.

From our analysis has emerged a planning careful and respectful of the specific needs of the product user. After the definition of the purposes, the working out of the plan has taken two directions, afterwards connected : **protection and ergonomics**.

**Protection:** will work to locate the main things that could protect the console.



Analysis of the protection from hits with the minimal employment of material

**Ergonomics:** we'll examine which possible solutions could preserve, if not improve, the ergonomics of the product.



Analysis of the ergonomic grip with the minimal employment of material

Drawn our conclusions on these two matters, different planning solutions have been developed, tested even with the realization of prototypes. The considerations and checks made in this final stage have allowed to describe the final solution.



Final solution: functionality and ergonomics

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