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Prime Mover

Player in focus

Thinking about players during
the entire game design process

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Players in focus

Thinking about players during the
entire game design process

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Player in focus - Thinking about players during the entire game design process.

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This study is an investigation about the usage of the customer-centric approach in the gaming industry. The aim was to discover the importance of players in the game design process and the goal was to find ways to improve the game design process by utilizing service design methods and tools. The study was divided into the following stages: introduction, understanding, planning, acting, testing and results.

In the **introduction** section are: the background of this study, why of the topic was chosen, the goal and aims of the study, and a variety of concepts that will help the reader understand the content of the thesis.

Within the **understanding stage** are the following: the gathered information taken from interviews and other methods, content about gaming customers, game developers, and the gaming industry culture. Also included is a comparison between the player-centric design processes and the service design processes. A description of the methods and tools of service design which are suitable to the game design process and how the game design process could be improved will also be presented in this stage.

The aim of the **planning stage** was to find the best way of testing the service design approach. The quickest and most efficient way found was in the concept game creation, using workshops and co-creation as the framework.

A description of the service design methods and tools that are suitable to use in game concept creation, an explanation of why to use them and how to utilize them are presented in the **acting stage**.

The **testing stage** was a workshop, which occurred in Brazil, with six game developers as participants. In the first part of the workshop, they were taught about the tools and service design approach. In the second part they tried to utilize the tools and service design approach. The game developers' objective for the workshop was to create a game concept. This concept was to meet the needs of the gaming industry and the gaming customers. The game developers were observed for the duration of the workshop and notes were taken from their comments for subsequent analysis.

In the **results stage** of this study, the analysis of the workshop and the results of the other parts of this study are presented. This section will show the importance, results, and benefits of having players as the focus during the game design process. How the conducted research could be improved, considerations for further studies, and discussions related to the topic are also included. At the end of this report is a **summary** of the whole study and my experience of participating in this research.

Keywords:

Player-centered design, player-centered design process, player experience design, game design process, game industry, game business, user centered design approaches in games, game experience, player-centered methods and tools, game design methods, game design research, players, tools for concept game design, co-creative tools for game design.

Table of Contents

1	Introduction	7
1.1	Presentation of the field of this study.....	7
1.2	Why Service Design?.....	9
1.3	Research goals.....	10
1.4	Structure of the thesis.....	13
1.5	Existing studies and literatures	15
2	Service thinking concepts and terms relevant to this study	18
2.1	Service Design Logic definition (SDL)	19
2.2	The Service Innovation and design	19
2.3	Customer value	20
2.4	Co-creation	21
2.5	Customer experience	22
2.6	Customer experience cycle.....	22
2.7	Customer behavior	23
2.8	Customer engagement	23
2.9	Service Design Processes	24
2.10	Design process by Stefan Moritz	24
2.11	The interactive process of service design thinking.....	26
3	Digital game business as context of service innovation and design.....	27
3.1	General about the different types of digital games.....	28
3.2	Player purchase drives and the virtual economy.....	30
3.3	General information about the players.....	30
3.3.1	What motivates people play? Why do people play?	31
3.3.2	Why do some people no longer play?	32
3.3.3	The player behavior and the player in game roles.....	32
3.3.4	Social Play	34
3.4	The player customer journey	34
3.4.1	Culture in games	35
3.4.2	Controllers, screens and platforms and other aspects	35
3.4.3	The role of visual elements in games	36
3.4.4	Flow (Tasks).....	38
3.4.5	Defining Interactivity.....	38
4	General about the digital game development and developers.....	39
4.1	Player-centered game design, game design process background	40
4.2	The stages of the player-centered game design process	42
4.3	Understanding the aspects of fun	43
4.4	Four Keys to More Emotion without Story theory	43

4.5	Emotions are the achievements for fun	46
4.6	Emotions During Play by 4keys2Fun theory	47
4.7	The role of expectations	48
4.8	Flow (Tasks).....	50
5	Study.....	50
5.1	Understanding the field, research plan and gathered information	50
5.2	Gathering information from the game customer's experience, the player integration.	52
5.2.1	Field study goals	53
5.2.2	Selected research methods	53
5.2.3	Interviews	53
5.2.4	Questions and notes from the interviews:.....	54
5.2.5	Summary of the interviews	61
5.2.6	Storytelling	61
5.2.7	Notes from storytelling method.....	62
5.2.8	Summary of Storytelling approach	63
5.3	Gathering information and integrating game professionals	63
5.3.1	Selected methods	64
5.3.2	Summary of interviews, first phase	64
5.3.3	Summary of interviews, second phase	66
5.3.4	Relationship between Adam's player-centered game design process and other user-centered design processes.	69
5.3.5	User-centered design methods and tools applied to Game design process.....	72
5.4	Planning Action phase.....	76
5.4.1	Creating the player service experience - toolkit and workshop	76
5.4.2	Reasons for co-creation.....	77
5.4.3	Creative tools and methods - How and why they improve the design process.....	77
6	Action phase.....	78
6.1	Design workshops	78
6.1.1	The game business design toolkit - Results	78
6.1.2	Personas or character profiles	79
6.1.3	Stakeholder map	80
6.1.4	Service ecosystem map or context analysis	81
6.1.5	Customer journey map.....	82
6.1.6	Ideas generation.....	83
6.1.7	Affinity Diagram	84
6.1.8	Business Model Canvas	85

6.1.9	Game poster or idea poster	86
6.1.10	Elevator pitch	88
6.2	Testing phase	89
6.2.1	The Goals of the workshop.....	89
6.2.2	Preparing the workshop	89
6.2.3	Conducting the workshop - Collecting information	90
6.2.4	Workshop results.....	91
6.2.5	Practical implications of the workshop implementation.....	92
7	Results of the project	92
7.1	Users in the company mind-set	92
7.2	The application of player-centered design and its advantages	93
7.3	The insights from the studies.....	94
7.4	Future considerations.....	95
8	Summary	95
	References	97
	Tables.....	102
	Appendices	103

1 Introduction

1.1 Presentation of the field of this study

Companies have to focus their business on understanding and considering the customer experience. The design of “everything” is becoming more and more complex because customers are more aware of their options and choices. They also know the power of their opinions. There is more competition and the Goods-dominant Logic (Lusch, Vargo & O’Brien, 2007)¹, which views the units of output as the central components of the exchange as an approach to conduct business, is no longer a guarantee of success. New challenges are coming from consumers and keeping customers through investments has never been so important as today.

The gaming industry is passing through the same transformation as other industries. The gaming segment is growing, the competition is increasing, and many people from a variety of segments are playing. It is becoming more important to provide players with value in games than providing good gameplay or great game graphics. A better understanding of the player role in the gaming business is needed in order to be profitable. Understanding players will make the gaming business more sustainable by opening up the possibility to create valuable games.

During the last two decades, digital games have become part of our daily lives. Digital games are accessible online and off-line. They can be purchased for various gaming platforms and devices. They are different than the traditional board games, which are not dynamically updated. A single player or multiple players can play a digital game.

If anyone is asked the question: “Have you ever played a game?” most would respond that they have played games at some point in their lives or that they are still playing. There are many reasons why people play, but all of the reasons can be put into one word, fun. When the need is to have fun, players cannot feel as if they are wasting their time, paying for something useless or that they are addicted. A better understanding of how to meet the player expectations is clearly needed.

The reason why the gaming industry was chosen as the topic of this thesis is a personal belief that service design methods and tools are the answers for creating success in the gaming segment. Personal gaming consumer experience and professional expertise as a user experience designer have shown that there is a service gap and a possibility of getting better services, so thus the desire of applying this research to the gaming field. The service gap consid-

¹ Lusch, Robert F., Stephen L. Vargo, and Matthew O’Brien (2007), “Competing Through Service: Insights from Service-Dominant Logic,” *Journal of Retailing* 83(1), pp. 5-18.

ered here is the lack of continuous observation of the player behavior and satisfaction, in addition to understanding the players' opinions and needs during the game design process. Through data collection and analysis it is possible to, understand and reach players in a more successful way, improve games before and after they launch, and make the gaming business more sustainable. The second reason for wanting to apply this research to the gaming industry came from some informal conversations with friends who related that the game playing experience could be more service oriented and take into consideration the process of player engagement and motivation. The friends who are working in the game development field also expressed a desire of having a process which is more transparent and assertive in terms of customer acceptance and more sustainable in the business point of view. Lastly is a personal desire to develop the knowledge and skills that will enable a career in the game development field.

The best games are the ones that, keep the player's attention, engage them, create good expectations and involve them in a loop of emotions. Stephan Totilo (2013)², an author of a series of articles in gaming magazines said that, it doesn't matter what the theme of the game is, the good games are the ones that present a series of interesting choices for the player to make. Casual games that do not require lots of time from players, that are played online and in social networks, are considered as social games. Social games have created more ways to approach the customer without a proper understanding of the player experience cycle which includes stages before, during and after the game play.

Many social games are free-to-play, which means that players do not need to pay to install and play the game. However in order to monetize the free-to-play games, the game producing companies offer players virtual goods during gameplay. The idea is to give the player the chance to test the game and hope that they purchase the virtual goods.

Making profitable free-to-play games is a challenge for all gaming companies. The monetization models are very different from the previous selling approaches where games were thought more as products. Previously, gaming companies sold the games to the publisher and publishers negotiated with the stores. The stores then sold the games to the end customers. Now gaming companies can deliver their games directly to their customers from application stores such as, Apple Store, Android Stores, Google play, etc.

Nowadays, gaming companies first have to attract players to download and install their games, and then teach them how to play the game and how to purchase items, and finally

² Totilo, Stephan (2013) Kotaku online magazine - The Difference Between A Good Video Game and a Bad One, <http://kotaku.com/5924387/the-difference-between-a-good-video-game-and-a-bad-one> (accessed January 18, 2014).

help the players understand how the game will be more fun and that they will progress faster in the game when they make purchases. Players have to see the value in progressing and repeating the same actions while playing. This type of game model does not include a game story which ends and sometimes they do not have a story.

Gaming companies sell virtual goods through gameplay and these goods enable the customers to progress further in the game. Customers get frustrated once they reach unit production limits and they have complete repetitive tasks in order to advance. These interactions and many other aspects in this new approach, show that games need to be treated more like services. Gaming companies have to consider player satisfaction at all of the gameplay touch-points as well as before and after the game purchase and while players are participating in community discussions and looking for a unique experience.

The Service Dominant logic applied to games opens possibilities for companies to view the customer as an operant resource (Vargo and Lusch 2004). An operant resource is a resource that is skilled in acting on other resources and is a collaborative partner who co-creates value with the firm. Gaming companies have to offer players interesting games which they can advocate in social networks.

Games need to be based on the idea of the player being the customer. When games are thought as a services it helps to create efficient selling approaches which will not disturb the players when they are enjoying the game. The service design mind-set will help companies better understand their customers and develop value proposals that enable more sustainable business.

1.2 Why Service Design?

Stickdorn & Schneider (2011)³ defined 5 principals for Service Design Thinking which are all related to a more dynamic, holistic and agile design process and consider customers as valuable data providers during the whole design process. This mind-set is shared by many of the other authors mentioned in this dissertation.

The purpose of this research is to apply the service design approach in the game development process. Tests will be conducted during the game concept creation phase to prove the discipline's efficiency. Concept creation is at the core of any process. A strong concept creation phase covers many important aspects of the whole game creation process, makes the process

³ Schneider, Jakob & Stickdorn, Marc. This is Service Design Thinking: basics - tools - cases. BIS Publishers, 2010, pp. 35-36

more agile, and reduces the number of possible mistakes that could happen during the others phases.

Different types of methods and tools from other design and business disciplines can be used to create game concepts that into consideration the customer experience. These different types of tools are used as support for the concept strategy, visualization and mapping ideas. Design research, methods and tools help professionals better understand their customers. From gathered information, gaming companies can build a solid approach of reaching customers and creating a better player experience.

1.3 Research goals

The purpose of this study is to include players in the game design process by using service design methods as the framework. Then with the knowledge gained from including the players in the game design process, create a game business design toolkit that can be used in reminding the game design professional to think about the customers during the game business concept creation phase.

The research approach for this dissertation is empirical and exploratory research, which will be conducted by the review of related literature. The research will help understand more about the particular issues that are faced in the game design process and to find workable solutions and to explore possibilities.

Exploration phase starts with the necessity of understanding what the main elements of user experience in games are. It is also important to understand more about how the user experience is influenced by aspects such as context, the game type, the players' goals, their needs and motivations, the game platform, player capabilities, and stakeholders. These aspects will determine the service touch-points and the interactions on the customer journey. The service touch-points will help highlight areas in which to pay close attention and moments of truth within the game development phase.

This research will also show the current methods and tools used by game professionals, what might be missing and help understand the mind-set of the gaming companies in relation to the player-centered design.

The methods and tools from the service design discipline that could be used or adapted to create a customized set of tools will also be found through this research. These tools will serve as support for the player experience design during the game development, in other words, they will be a Game Business Design toolkit. The Game Business Design toolkit will

help game professionals conceptualize successful game business models rather than thinking only about the game play assets.

The problem and the solution objective are already known. The problem is the presumed lack of knowledge about the player experience during the game design process. The suggested solution is to consider games as services while considering players during the entire design process and using them as a resource for the game development. Another suggested solution is to use design research and co-creative methods during the game concept design phase. However, the exploratory research will focus on understanding the problem and the solution more.

The key characteristics of the exploratory approach are flexibility and adaptability (Hanington & Martin 2012)⁴. The exploratory research approach presented in this study will be performed through literature review, netnography, in-depth interviews and surveys, and case studies. These methods and why they were chosen will be explained later in this dissertation. The guiding research questions for this study will be:

- Are service design methods and tools helpful in the game design process?
- Is there the possibility to create a Game Design Business toolkit?
- How helpful would a toolkit for the game professional be while creating a game?

These questions will be answered during the course of this study and they are crucial while making conclusions.

There are also limitations of this study to be considered. The studies focus on the role of service design in general. I will take into consideration service design methods and tools, as well as the knowledge of professionals from different fields. The role of service designer is quite unknown, mainly in the game development field and it affects the perception of the service design role in company mind-set.

The tacit knowledge that comes from working 15 years as User Experience / Interface / Digital Strategist / Web analytics design will be considered during this dissertation. This experience has led to the recent publishing of an article about player-centered design and the customer centered design process in the User Experience Magazine⁵.

⁴ Hanington, Bruce & Martin, Bella 2012. Universal Methods of Design. Rockport Publishers. Beverly, MA. Pp. 84-85

⁵ User Experience Magazine - Published in: March 2014 in UX as a Goal. The Magazine of the User Experience Professionals Association. Online version: <http://www.usabilityprofessionals.org/uxmagazine/users-as-co-creators>

There are many game design processes but most of them are not player oriented, even though many of them are considered as player-centered. The customer centered design process which is used in service design will be used. The customer centered design process is a process that is supported by a deep understanding about the users, uses collaboration and co-creative design processes, and uses design research methods and tools to give the designers fresh insights from the players themselves.

In order to create a framework that helps the visualization of the player experience based on personal experience and past literature review, here is a map that helps clarify what are the elements that will be considered in this study (See figure1).

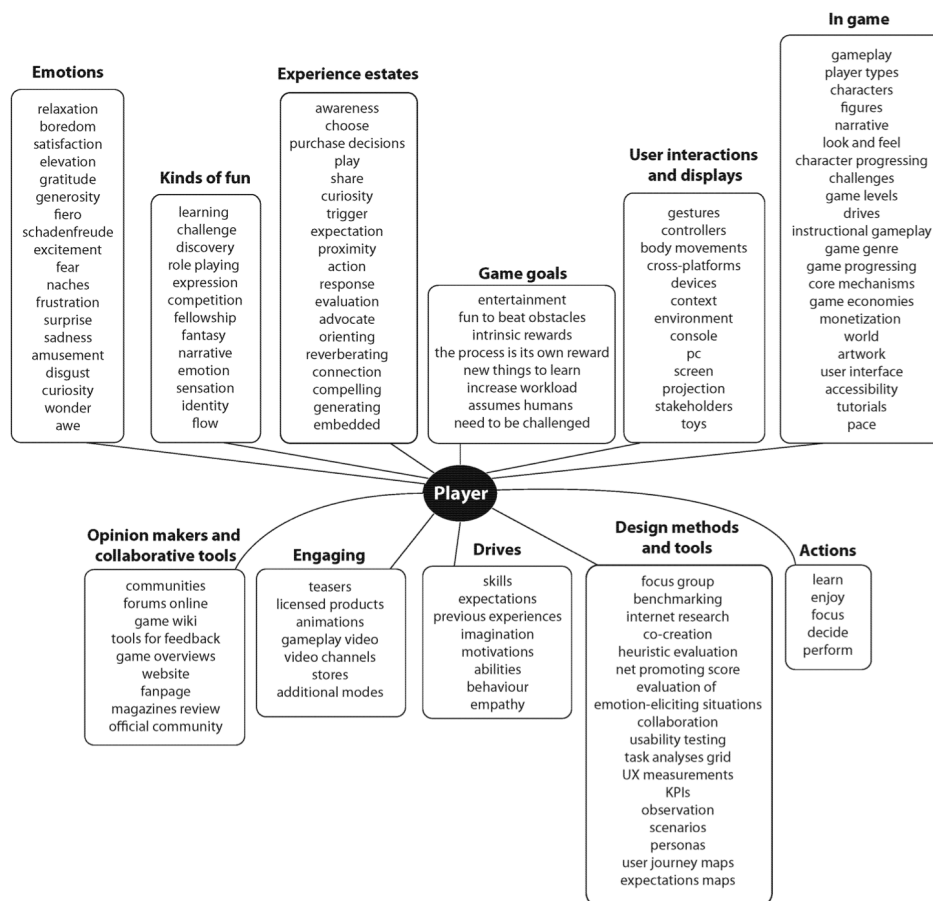


Figure 1: Overview of user experience in games.

The Figure 1 is an overview of the personal ideas of user experience in games. The map presents groups of elements which relate to emotions, kinds of fun, experience estates, game goals, user interactions and displays, in game (gameplay), opinion makers and collaborative tools, engaging, drives, design methods and tools and actions. These groups cover the majority of areas that should be considered while drawing a game experience. When experience is considered as all of the customer touch points with the service, including those before, during

and after the service usage, the games can be considered as services. Some of the elements shown in this map will be explained in more detail later in this dissertation.

When looking at this map it makes it clear that the player experience is important and that the game development stage should be conducted with a customer-centered design attitude. The focus of this thesis is the game design process and how professionals involve players during the game design process.

1.4 Structure of the thesis

As one of the personal aims of this thesis is to become a better service designer and that is why the research and design approach called New Service Design (NSD)⁶ has been chosen. This is a process as well as a structural plan for developing and reaching while developing services. The table below shows the design process of the thesis and the goals of each phase.

RESEARCH AND DESIGN New Service design process	DESCRIPTION AND OUTCOMES	GOALS RELATED TO THE THESIS
1. Understanding <ul style="list-style-type: none"> • Review • Diagnose & Analysis 	This stage starts with the necessity of improving the customer experience. At first a review of the current situation and problems is needed. This phase is very research oriented and it aims to find the root of the problems, understand the situation, context, user needs and organization needs and possible opportunities. All of the project goals will be defined here, after analysis.	<ul style="list-style-type: none"> • How the topic is related to SID • Examine the customer experience gap • Literature research • Player integration: storytelling and interviews (3) • Discussed with professionals • Game designer integration: online questionnaire and Skype interviews
2 - Synthesis & Plan	Examination of the ideas generated in the previous stage, reflecting on the results and filtering the results, choosing one to three of them to go forward on the next stages.	<ul style="list-style-type: none"> • Read about SID methods and tools (approx. 5 books and several articles) • Compared the game development process with the SID process from the customer point of view: Created a table.

⁶ Qin, Han (2012). Practices and principles in service design: stakeholders, knowledge and community of service. Publisher: Lulu.com, pp. 45-50.

<p>3 - Action</p> <ul style="list-style-type: none"> • Idea Generation • Specifications 	<p>The specification phase brings out the details of the design and prototype of the desired service solution. It is very important to involve the employees while testing the service, and if it is possible conduct contextual service testing.</p> <p>Ideas could come from the previous stages or later in this stage. However, the intention of this phase is careful analyze possible solutions. Co-creating with employees and customers also could generate ideas and improvements.</p>	<ul style="list-style-type: none"> • Redefined the research question: How could service design help the game design in customer integration? • Tried to find SID tools that would be helpful for game design • Created a tool kit for game designers
<p>4 - Testing</p>	<p>The testing phase is a preparation to the Launch phase, and it is very important to involve real customers to improve the concept.</p>	<ul style="list-style-type: none"> • Workshop with various professional from game industry • 6 person, 3h30 • Tested the toolkit • Positive feedback and useful advice
<p>5 - Launch</p> <ul style="list-style-type: none"> • Finalization 	<p>The launch stage is considered the end of the NSD project, but also the starting point for other processes such as the monitoring and supporting phases.</p>	<ul style="list-style-type: none"> • Adapt the toolkit to the game design vocabulary • Test the toolkit and its acceptance within other group tests.

Table 1: Service design process applied to thesis purposes

The service design process used, New Service Design process (NSD), is a compilation of the main service design processes in the academic and professional contexts, compiled by Han Qin (2012)⁷. The process has the phases: Review, Diagnose & Analysis, Idea Generation, Synthesis & Plan, Specification, Test and Launch. Those phases were used for planning this study.

Han Qin (2012) compared the five NSD models with the aim to understand the difference between them but she instead found the opposite. The phases she found are: Review, Diagnose & Analysis, Idea Generation, Synthesis & Plan, Specifications, Test and Launch.

- **Review** - The motivation of starting an NSD project comes usually from need for change, a new service or improvement that help a better customer experience. When the necessity arises first a review of the current situation and problems.

⁷ Qin, Han (2012). Practices and principles in service design: stakeholders, knowledge and community of service. Publisher: Lulu.com, pp. 45-50.

- **Diagnose & Analysis** - This phase is very research oriented. This stage aims to find the root of the problems and understand the situation, context, user needs and organization needs and possible opportunities. All of the goals of the project need to be defined here, after a rigorous analysis.
- **Idea Generation** - Ideas could come from the previous stages or later in this stage. However the intention of this phase is to carefully analyze the possible solutions and dedicate time to going through the possibilities. Co-creating with employees and customers also could generate ideas and improvements.
- **Synthesis & Plan** - Examination of the ideas generated in the previous stage, reflecting on the results and filtering them, and choosing one to three them to go forward into the next stages. Usually in this phase the planning activities need the involvement of the internal, within the company, and external, service providers, stakeholders is needed.
- **Specification** - The specification phase brings out the details of the design and prototype of the desired service solution. It is important to involve the employees while testing the service. If possible, the testing should take place in the context that the future users may be in. This stage also helps avoiding possible mistakes during the testing phase.
- **Test** - Real customers need to be involved during this phase so that they can test the service in context. The test phase is preparation for the launch phase.
- **Launch** - Although considered as the end of the NSD project, the launch phase is also the starting point for the other process, such as the monitoring and supporting phases which help guarantee the success of the service. The launch phase is also a moment when co-creation with the customers and employees is possible.

The NSD process will be the framework for this study, because it will bring a concrete structure to follow. It was chosen because it is compilation of other processes and takes into consideration the other elements from other processes.

1.5 Existing studies and literatures

There are many relevant theses about the gaming experience, game marketing and the gaming industry. There are also relevant company case studies, which are very helpful when understating the current market. However service design is not being applied in the gaming in-

dustry. The references in Table 5 were the basis for this study and helped with making conclusions at the end of the conducted research.

AUTHOR, YEAR	BOOKS & ARTICLES	SUMMARY
Game Industry and Game Design		
O. Sotamaa and T. Karppi (2010)	Games as Services. Final Report, TRIM Research Reports. Department of Information Studies and Interactive Media.	A series of reports that show the changes in the gaming industry and the necessity of closely watching the players and new game production, as Freemium models.
Kultima, Annakaisa & Peltoniemi, Mirva (2011)	Games and Innovation Research - Seminar Working Papers	A series of reports about game innovation and new methods that help game professional be more creative.
Adams, E. (2009).	Fundamentals of Game Design (2nd Edition). New Riders Press.	This book explains the player centered game design process which has been used as base of this study.
Fullerton, T. (2008).	Game Design Workshop, Second Edition: A Play-centered Approach to Creating Innovative Games. Morgan Kaufmann.	This book suggests some creative tools and methods that can be used for producing innovative games. However it is not service oriented.
Fullerton, T. Chen, J., Santiago, K., Nelson, E. Diamante, V., Meyers, A., Song, G., & DeWeese, J. (2006).	"That Cloud Game: Dreaming (and Doing) Innovative Game Design". Sandbox Symposium 2006, Boston, Massachusetts	This paper describes the application methodology while creating game genre and player experience innovations and is a player-centered design approach.
Hagen, U. (2009).	"Where Do Game Design Ideas Come From? Invention and Recycling in Games Developed in Sweden".	This paper explores the origin of game design ideas, with the purpose of creating a classification of the domains the ideas are drawn from.
Salen K. & Zimmerman E. (2003)	Rules of Play: Game Design Fundamentals. The MIT Press.	This book was reference which helped to understand digital game structures and their development.
Service Design		
Grönroos, C. (2007).	Service Management and Marketing. Customer Management in Service Competition. England: John Wiley & Sons, Ltd.	Grönroos developed a market-oriented management approach and shows how the competitive advantage of a company can be built upon customer relationships.
Maglio, P., Kieliszewski, C. & Spohrer, J. (2010).	Handbook of Service Science. Springer.	The Handbook of Service Science provides a comprehensive reference suitable for a wide-reaching audience including researchers, practitioners, managers, and students who aspire to create a deeper scientific foundation for service design and engineering, service experience

		and marketing, and service management and innovation.
Prahalad, C.K., Ramaswamy, Venkat. (2004).	The Future of Competition, Co-Creating Unique Value with Customers, Harvard Business School Press, Boston, Massachusetts.	This book explains how evolving the organization's offering and tailoring the way customers interact with it based on the customers' desires can be done at the level of the individual customer rather than customers in the aggregate and how this will help the company co-create.
Moritz, Stefan (2005).	<i>Service Design, Practical Access to Evolving Field</i> , Köln International School of Design.	This book introduces service design as a way for practitioners to deliver value. It gives practical access to service design, process, methods and tools.
Stickdorn, Marc & Schneider, Jakob (2011).	This is Service Design - Basics - Tools - Cases. Thinking BIS Publishers	This book presents a complete overview about service design; process, methods and tools, usage and how companies can benefit from applying such mind-set.
Qin, Han (2012).	Practices and principles in service design: stakeholders, knowledge and community of service. Publisher: Lulu.com	In this book Qin Han examines the practice and theory of service design, identifying three common design approaches that are taken by stakeholder management, and the knowledge that service designers need to develop projects and groups.
Miettinen, Satu & Koivisto, Mikko (2009).	<i>Designing Services with Innovative Methods</i> , Kuopio Academy of Design & University of Art and Design Helsinki.	This book also presents an overview about service design and how to benefit from applying such methods and tools in order to understand customers and develop better products and services.
Zeithaml, V.A., Bitner, M.J. & Gremler, D.D., (2009).	Services Marketing - Integrating Customer Focus Across the Firm. Singapore: McGraw Hill	This book is one of those most complete books in this list. It involves service design across many other disciplines and treats service design as part of all other business disciplines.
Experience Design		
Brown, Tim (2008).	Design Thinking, Harvard Business Review June 2008 hbr.org	Overview about the design thinking process at Ideo.
Norman, Don (2004).	Emotional Design - Why we love (or hate) everyday things. New York. Basic Books	Norman shows how important everyday things are while designing and create new and improving new concepts.

Reeves, Byron & Read, J.Leighton (2009).	Total Engagement - Using games and virtual worlds to change the way people work and businesses compete. Harvard Business Press.	The authors give an overview about how game mechanisms can be helpful while engaging people. It gives a general idea about the gamification of services.
Zichermann, Gabe & Linder, Joselin (2010).	Game-based marketing - Inspire Customer Loyalty Through Rewards, Challenges, and contests. Wiley,	Overview about Gamification used for marketing, selling and loyalty purposes.
Bernhaupt, Regina (2010).	Evaluating User Experience in Games - Concepts and Methods. Springer,	This book is a collection of many articles related to the players of games and the games themselves. Some articles instruct how to measure the game experience while playing.
Thornham, Helen (2011).	. Ethnographies of the Videogame - Gender, Narrative and Praxis. Ashgate.	This book is a report about a series of tests that have been completed to measure the digital game experience.
Schmitt, Bernd. Palgrave Macmillan, (2012).	Happy Customers Everywhere - How your business can profit from the insights of positive psychology.	This book introduces three methods to design the customer experience: The Feel-Good, The Values-and-Meaning, and The Engagement. Schmitt shows marketers, brand managers, and entrepreneurs how to design an authentic and successful campaign that will reach, grow, and sustain a devoted base of customers.
Jordan, Patrick W. (2000).	Designing Pleasurable Products. CRC Press, Florida,	Designing pleasurable products is a book about user-centered design and how to consider not only usability assets but also how to develop products that are a joy to own.
Pink, Daniel H. (2010).	Drive - The Surprising Truth About What Motivates Us. Canongate.	Pink gives an overview about what really motivates people - at work, at school, at home. He explains in his paradigm-shattering book Drive, the secret to high performance and satisfaction in today's world is the human need to direct our own lives, to learn and create new things, and to do well in the world.
Leadbeater, Charles (2009).	We-Think - Mass innovation, not mass production. Profile book Ltda.	Leadbeater explains mass-participation and the way people think through social networks.

Table 2: Relevant literature about the game experience and service design.

2 Service thinking concepts and terms relevant to this study

This section contains a series of terms and their definitions which will help with the understanding the later sections.

2.1 Service Design Logic definition (SDL)

The Service Dominant Logic approach will be part of the research background to help understand the customer experience while playing games and how to better develop games using customer centered design methods and tools. The Service Dominant Logic as stated by Vargo & Lusch (2004)⁸ has the core concepts: “Value is always uniquely and phenomenologically determined by the beneficiary”, “The customer is always a co-creator of value and all economic”, “Social actors are resource integrators” and “Service is the fundamental basis of exchange”.

Service-dominant Logic is related to the interactions between people and objects. *“The foundational proposition of S-D logic is that organizations, markets, and society are fundamentally concerned with exchange of service the applications of competences (knowledge and skills) for the benefit of a party.” Sdlogic.net.*

The service-dominant logic suggests service (in the singular) as the core concept replacing both goods and services. A supplier offers a value proposition, but value actualization occurs in the usage and consumption process. Thus value is the outcome of co-creation between suppliers and customers⁹.

2.2 The Service Innovation and design

Service design is the creation or development of services based on design user-oriented researches, analysis and company business - Identification of the users’ needs, the stakeholders, context, relations, affinities and interactions between services and users while aiming to reach user satisfaction and engagement (Gambeson, E. 2006).

To paraphrase Marc Stickdorn (2011)¹⁰, service design is an interdisciplinary approach that combines different methods and tools from various disciplines. It is a new way of thinking as opposed to a new stand-alone academic discipline. Service design is an evolving approach; this is particularly apparent in the fact that, as of yet, there is a common definition of service design.

⁸ Grönroos, C. 2007. Service Management and Marketing. Customer Management in Service Competition. England: John Wiley & Sons, Ltd, pp. 141

⁹ Gummesson, E. (2006) Many-to-many marketing as grand theory. In R. Lusch, & S. Vargo, The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions (pp. 339-353). Armonk, NY: M.E.Sharpe.

¹⁰ Stickdorn, Marc & Schneider, Jakob (2011). This is Service Design. Thinking BIS Publishers, pp. 28-34.

According to the American Marketing Association, services are activities, benefits and satisfactions, which are offered for sale or are provided in connection with the sale of goods”¹¹. More comprehensive definitions can be found from other articles, where service is described as “ all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provides added value in forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible concerns of its first purchaser ”.¹² Another definition can be found from **Palmer and Cole, 1995**. “The production of an essentially intangible benefit, either in its own right or as a significant element of a tangible product, which through some form of exchange satisfies an identified need.” Lastly, **Kotler and Armstrong, 1996**, which describes a service as “an activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may not be tied to a physical product.”

From these definitions can be found, that services themselves are some types of economic activity that is by nature an intangible thing. In addition, services are not stored anywhere or consumed at the point of sale. In other words, a service is a sequence of interactions between the user and the company where the company is aiming to support, solves, and satisfies the user’s needs. As services are intangible it is quite difficult to specify what the service is like before it is bought¹³. Because services are treated as performances, which cannot be seen, felt, tasted or touched in the same way as goods¹⁴, service suppliers often use products or any kind of tangible cue to visualize the services and its concepts. Each of characteristics mentioned earlier are sources of specific problems for marketers dealing with the services. These problems require building of special strategies which could help with solving them. This is why several service marketing concepts have been developed to support these activities. In following section an explanation of the service marketing’ concept can be found.

2.3 Customer value

First of all value is always determined by the beneficiary, who is the customer. Lusch (2007) highlights that value includes both value in exchange (i.e. monetary price) and value-in-use. He suggests that value would be examined from a multidimensional perspective, such as

¹¹ American Marketing Association, Committee of Definitions 1960, p. 21)

¹² Zeithaml, Valerie A., Parasuraman A. & Berry, Leonard L. (1985). Problems and Strategies in Service Marketing, p.426

¹³ Gilmore, Audrey (2003) Services Marketing and Management. SAGE Publications, p.18

¹⁴ Zeithaml, Valerie A., Parasuraman A. & Berry, Leonard L. (1985) - Problems and Strategies in Service Marketing, p.33

Holbrook's eight types of customer value: efficiency, excellence or quality, status, esteem, play, aesthetics, ethics and spirituality. (Lusch 2007)¹⁵

However, value should not be viewed only from the customer's perspective. The organizational and societal processes are at the core of value co-creation. As Lusch (2007) emphasizes, value is co-created by customers and all partners in the value network. Therefore, when considering value, the organization must take a broad perspective that takes into account the variety of stakeholders and collaborative processes among them.

Grönroos (2007)¹⁶ emphasizes the success of relationship marketing is very dependent on the attitudes, commitment and performance of employees. Grönroos also highlights the importance of internal marketing and the company mind-set. Grönroos' statement can be continued with arguing that creating the right organizational culture is at the core of service-dominant marketing, and consequently, top management needs to acknowledge the role and potential of S-D marketing thinking. As was previously mentioned in this study, there is a gap between customers and the gaming companies which relates to the method of serving the customers directly.

Customer value is not created by one element alone but by the total experience of all elements. Some elements are more important to the customers than others and they need to be managed accordingly. Using the value-in-use perspective, marketers should carefully design and manage as many elements of the interface as possible. The service context and service logic can be used to explain consumption. This perspective, the service-dominant logic offers a truly dominant logic for marketing¹⁷.

2.4 Co-creation

The concept of value co-creation which came from the Service Dominant Logic (Maglio et al., 2010)¹⁸ is one of the most fundamental concepts and topics of study of Service Science. Furthermore, Service Dominant Logic states that value co-creation is non-optional. Value is co-created within the customer. In this research thesis the customers are the players.

The co-creation experience depends highly on individuals. Each person's uniqueness affects the co-creation process as well as the co-creation experience. A firm cannot create anything

¹⁵ Lusch, Robert F. Stephen L. Vargo and Matthew O'Brien (2007) "Competing through service: Insights from service-dominant logic. *Journal of Retailing*, 83(1), 2-18.

¹⁶ Grönroos, C. 2007. *Service Management and Marketing. Customer Management in Service Competition*. England: John Wiley & Sons, Ltd. P 35.

¹⁷ Grönroos, Christian (2006). *Adopting a service logic for marketing*. Hanken Swedish School of Economics, p.328

¹⁸ Maglio, P., Kieliszewski, C. & Spohrer, J. 2010. *Handbook of Service Science*. Springer. Pp. 143, 175.

of value without engaging individuals. Co-creation supplants the exchanges process (Prahalad & Ramaswamy 2004)¹⁹.

In the new gaming industry competition will center on personalized co-creation experiences, resulting in value that is truly unique to each individual. The context and consumer involvement contribute to the meaning of a given experience and to the uniqueness of the value co-created.

2.5 Customer experience

Customer experience can be defined as how the customer perceives the service; whether the customer feels the service was good or bad. All services are experiences and they vary according to duration, kind, complexity, etc. (Zeithaml et al., 2009)²⁰. However, to create and manage an effective service process that assures the success the service tasks, is the role of the service provider and this can only be accomplished by, observing, having constantly interactions with customer or co-creating, and measuring the success of the service.

2.6 Customer experience cycle

The customer cycle experience can be described as by Joshua Porter in 2008 when he presented the five stages for the usage lifecycle: unaware, interested, first-time use, regular use and passionate use²¹. Following are the descriptions for each stage:

- **The unaware stage** focuses on how the service will reach the customer and convince him or her to use the service. In this stage the customer has no previous contact with the service, which means that their understanding of the service is limited to their tacit knowledge, their assumptions about how the service should work and what it should be like, and what the service seems like to them before the usage.
- **The interested stage** is the stage where the customer has come into contact with the service but has not experienced the service yet. This phase is related to marketing campaigns, viral and word of mouth comments, service reviews, search results, etc. Curiosity and needs are the triggers that push the customer to purchase the service.

¹⁹ Prahalad, C.K., Ramaswamy, Venkat. 2004, *The Future of Competition, Co-Creating Unique Value with Customers*, Harvard Business School Press, Boston, Massachusetts. Pp. 1-19

²⁰ Zeithaml, V.A., Bitner, M.J. & Gremler, D.D., 2009. *Services Marketing - Integrating Customer Focus Across the Firm*. Singapore: McGraw Hill. Pp.60-64

²¹ Porter, Joshua 2008. *Designing for the Social Web*. Published by New Riders. Pp. 1-6.

- **The first-time use stage** is the phase when the customer is discovering the service and exploring. During this phase the first impressions are made.
- **The regular use stage** is the stage where the customer has already used the service and sees the value of regular usage of the service. In this stage, customers will tell other people how they like the service and why.
- **The passionate use stage** is the stage where customers starting the evangelism of the service. They enjoy the service so much that they start helping the company to develop the service by giving spontaneous feedback. Customers tell others how much they love the service. The passionate customer is the best marketing to the service.

From this definition it is clear that the customer has different needs during the service process and that how the service adapts to their needs will determine if it is successful.

2.7 Customer behavior

Regardless of what is happening in the markets or what type of situation companies are facing; they must continuously observe their customers' behavior. Companies need to learn how to understand the whole customer experience cycle. Companies should be looking for new opportunities to engage their customers and build loyalty that endures²². Customer behavior is related to their culture, their context, their previous experience, and their capability to use technology, among other aspects.

2.8 Customer engagement

The interest about a certain service varies and is related to the customer needs, emotions and expectations²³. Understanding customers and anticipating and reaching their expectations are not easy tasks. However the only way of engaging customers is to follow their behavior and offer what they need, sometimes surprising them or sometimes just offering what they are expecting.

By following the customer experience cycle definition it is possible to understand that customers have different needs during the service experience. Understanding the maturity of the

²² Zeithaml, V.A., Bitner, M.J. & Gremler, D.D., 2009. Services Marketing - Integrating Customer Focus Across the Firm. Singapore: McGraw Hill. Pp.48-60

²³ Zeithaml, V.A., Bitner, M.J. & Gremler, D.D., 2009. Services Marketing - Integrating Customer Focus Across the Firm. Singapore: McGraw Hill. Pp.48-60

customer cycle is also important in order to offer what is necessary to keep the customers engaged.

2.9 Service Design Processes

Service development goes through stages which go from the recognition of the need for improvement until the service support and customer engagement. Some practitioners and academics have created structures of thinking that highlight determinate points.

Below are some of the design process approaches.

2.10 Design process by Stefan Moritz²⁴

The service design process developed by Moritz isn't a linear process. The various tasks do not need to happen in the same order and can simultaneously occur at times. Service design is not a short project to launch a service but a process that continues to evolve the service.

The six categories of service design have been used as the basic structure to set up this process. The stages are: SD Understanding, SD Thinking, SD Generating, SD Filtering, SD Explaining and SD Realizing - described below:

SD Understanding - SD Understanding is the use of different service design methods and tools to understand the market needs, client needs, their own organization, the overall context and relationships available. Some tools and methods that could be used in this stage: Benchmarking, Client Segmentation, Context Analysis, Contextual Interviews, Contextual Enquiry, Critical Incident Technique, Ecology Map, Ethnography, Experience Test, Expert Interviews, Focus Groups, Gap Analysis, Historical Analysis, Inconvenience Analysis, Interviews, Market Segmentation, Mystery Shoppers, Net Scouting, Observation, Probes, Reading, Service Status, Shadowing, Thinking Aloud, Trend Scouting, User Surveys, 5w's, Insight Matrix, Tested and Tried Components, and Inspirational Specialists.

SD Thinking - SD Thinking is the compiling of the material, insights and results found in the understanding stage in order to have a solid vision for the next stages. Compiling the material helps to set, the criteria, the objectives, and the service strategy while highlighting important details. This stage also ensures that the initial objectives and the new insights are combined with a relevant strategy and suitable criteria and project framework. Methods and tools that could be used in this stage: Affinity Diagrams, CATWOE, Brutethink, Fishbone Diagram, Lateral Thinking, LEGO Serious Play, Mind map, Parallel Thinking, Personality Matrix,

²⁴ Moritz, Stefan (2005) - Service Design - Practical Access to an Evolving Field, pp. 123-144

Priority Matrix, Specification, System Thinking, Think Tank, Touch-Points, Total Quality Flow Charting and Visual Thinking.

SD Generating - After establishing the appropriate environment, involving the relevant people, preparing research insights and inspiration, an incredible amount of ideas, solutions and concepts are developed. The ideas, solutions and concepts are then evaluated based on the established criteria, strategy and factors which are relevant and fit the profile. Tools and methods that are suggested for this stage: Bodystorming, Brainstorm, Brainwriting, -Shaping, -Racing, -Station, Experience Sketching, Feature Tree, (Group) Sketching, Idea Interview, Open Space Technology, Parallel Design, Randomizer, Think Tank and Unfocus Group.

SD Filtering - From the large group of solutions and ideas, the best and most relevant should be selected and its performance evaluated against the different professional measures already within the field. Methods and tools should be utilized in this stage: Card Sorting, Character Profiles, Cognitive Walkthrough, Constructive Interaction, Diagnostic Evaluation, Evaluation Review, Expert, Evaluation, Feasibility Check, Focus Groups, Heuristic Evaluation, Personas, Pluralistic, Walkthrough, Retrospective Testing, PEST Analysis, Sticker Vote, SWOT Analysis and Task Analysis.

SD Explaining - The purpose of SD Explaining is to help in generating practical summaries and support strategic decisions. Many methods could be used during this phase such as personas, user map journey and scenarios, which all help clarify the service idea to internal and external development stockholders. Methods and tools: Camera Journal, Character Profile, Empathy Tools, Experience Prototype, Informance, Metaphors, Mock-Ups, Moodboard, Moodfilm, Persona, Rough Prototyping, Role Play, Scenario, Storyboarding, Social Network Mapping, Tomorrows Headlines, Try It Yourself and Visioning.

SD Realizing - During this stage the service goes live for testing. The purpose is to provide all necessary resources so that the selected concept can be implemented and to test an experience prototype. Tools and methods: Behavior Sampling, Blueprint, Business Plan, Guidelines, Intranet, Line of Balance, Mind Map, Performance Testing, Post Release Testing, Role Script, Scenario Testing, Service Prototype, Simulation, Specifications, Templates and Wizard Of Oz.

2.11 The interactive process of service design thinking²⁵

In the book “This is service design thinking” by Stickdorn and Schneider, the service design process called “Interactive process of service design thinking” includes 4 stages: Exploration, Creation, Reflection and Implementation.

Exploration - The word best describing the Exploration stage is ‘discovery’. First, understand the goals of the service provider company, the company itself, and what they are expecting from providing the service. Double check with the company to ensure that they understand the following service design process stages. Look at problems from the company’s perspective and then switch to viewing the problems from the customers’ perspective to better understand the viewpoints of the other parties. Complete a good visualization of the collected data, because this will be helpful in the next stages and will also help with communicating to external and internal stakeholders.

Creation - The Creation stage is about ‘concept design’. Based on the problems discovered during the exploration phase, the service design team starts to generate ideas and idea testing. During this stage it is important to learn from mistakes and failure because learning increases the chances of a successful concept. Multidisciplinary professional and customers are essential and they help give a holistic vision about the service. Use sticky-notes as they are easy to work with and promote co-creation.

Reflection - During the Reflection stage a prototype is developed, tested and improved. When the tests conducted are realistic it is easier to find the needed improvement. By using the role-play methods it is possible to get emotionally involved with the service and better understand the interactions. It is important to always consider the emotional aspects of the service as it can give insights to crucial situations and how to engage of the customers.

Implementation - The implementation stage demands that all of the people involved with delivering service are trained and are involved with the concept so that there is one mind-set about the service delivery. A change plan needs to be carefully drafted in order to efficiently implement the concept.

²⁵ Stickdorn, Marc & Schneider, Jakob (2011). This is Service Design. Thinking BIS Publishers, pp. 122-135

3 Digital game business as context of service innovation and design

To paraphrase the IBM report (2012)²⁶, gaming companies are looking for more effective ways to attract and retain high value customers. Companies want to learn how to use business analytics to increase player profitability, prevent churn and maximize customer lifetime value.

Gaming organizations face a variety of challenges (IBM report 2012) such as the free-to-play models. Although the free-to-play models may attract the customers of gaming organizations, the biggest issue for gaming organizations is how to win the loyalty of the minority of players that generate the majority of their revenue. The ability to understand, what makes these customers happy, what motivates them to continue playing longer and how to prevent vanish, is critical. Online games can easily gather information about a customer's digital footprint, transactional history, online interactions with other players and actual time spent playing.

The sentiments of gaming customers can also be researched in numerous online social media sources, surveys and online comments in gaming related web sites. Feedback is also quite easy to receive from magazines and blogs reviews. However, the obstacle for many gaming companies is how to transform all of this information into methods for building more profitable relationships with customers, keeping customers playing, retaining customers, predicting the variables that may cause player abandonment, detecting limited performance in game play that may frustrate players, optimizing each customer interaction and distinguishing high value players from low value players.

To conclude this topic, there are a few standard ways to understand customers. The first is to benchmarked the best services and analyze professional commitments. A second method is to keep track of customer satisfaction levels. Lastly, get real time feedback about what to improve.

Sus Lundgren (2008)²⁷ wrote in an Interactions Magazine article that gameplay design is design of the core game, i.e., the rules of the game. The rules in turn affect not only how the game is played, but also how players interact with each other via the game and the player loyalty with the game and brand, and thus how they experience it. If the game created without thinking about how people will play it and how the game may be perceived, there is chance that many changes will be needed after the game launch. Considering the players' ecosys-

²⁶ IBM Software (2012), Maximizing customer value in gaming organizations with business analytics, Business Analytics. Produced in the United States of America, October 2012, p. 2.

²⁷ Lundgren, Sus (2008) Designing Games: Why and How. Interactions Magazine. Emerging Approaches to Research and Design Practice - November-December 2008, pp.6-12.

tems, player experiences, the game context, and the players' capabilities, among other things, as part of the game development process reduces the chances business failure.

The better way of designing games is to understand, collaborate, develop and innovate with players included in the whole process rather than create and then asking for player feedback. This research will focus on the game design process with players involved.

Games are no longer sold as good. The game industry business nowadays is no longer dependent on a publisher. Gaming companies are selling their games directly to their customers. The dynamism required for game support, updates, upgrades and other relevant aspects of the service are now the responsibility of the gaming companies.

Studying the player experience is essential and extremely relevant. When the findings can help a better understanding of relevant aspects of; immersion, engagement, emotional attachment, feelings, attitudes, expectations, new game business revenues look from the customer's experience point of view. Then look from the player's experience viewpoint when considering the user experience and use user-centered design aspects to help the game designer(s) to better design a fun game experiences. Thirdly, player-centered design allows game designers to conceptualize games which are closer to player expectations and are more successful when launched by using player feedback.

3.1 General about the different types of digital games

“The video game is the most complex toy ever built and is vastly more responsive than any other toy ever invented. Compare it, for example, with its contemporary, the doll Chatty Cathy, which has about a dozen different sentences with which to respond when you pull the string. Chatty Cathy does not take into account the variety of your responses; computer does. Chatty has dozen responses; the computer has millions.”²⁸ - Brian Sutton-Smith, *Toys as Culture*.

Digital games are computer games or games controlled by microprocessors. In most basic levels, the output of those games is a video (or screen)²⁹. The term video is a generic visual feedback and is not just related screens.

The digital games atmosphere generally includes a user or multiple-users, controllers or body interactions, the video, the platform, text content, speakers or headphones, and other device-

²⁸ Salen, Katie & Zimmerman, Eric. *Rules of Play, Game Design Fundamentals*. The MIT Press - Cambridge, Massachusetts. London, England. 2004

²⁹ Bernhaupt, Regina. *Evaluating User Experience in Games - Concepts and Methods*. Springer, 2010, pp. 47-71.

es could such as microphones, 3D glasses, characters miniatures and haptic peripherals. The visual feedback is usually 2D or 3D models, but technology is improving and some virtual reality approaches are been experienced.

Digital games are considered systems and there are four elements that systems share³⁰:

- Objects: part, elements or variables.
- Attributes: object qualities or properties.
- Internal relationships: relations between the objects.
- Environment: the context.

Games could be framed as: Formal, Experimental and Cultural, where:

- Formal: closed system of rules.
- Experimental: strategic play leading to understanding the game.
- Cultural: related to the cultural legacy, as social, language, history, etc.

Digital games, as many other Medias, have their own categorization which is based on genres. These genres are related to different factors such as game, play method, types of goals, art style, interactivity and more. Games can be also categorized by genres; they are simulators, adventure, action games, sandbox-style, toys, social, collaborative, massive, and others.

Games are classified for different reasons. When the categorization occurs by genres, games are categorized by their game play more than about their narrative or visuals. Some of the commonly used digital game genres are³¹: Action Games, Fighting Game, Platform Game, Shooter, Action-Adventure, Adventure, Role-Playing, Simulation, Strategy, Arcade Game, Music Game, Party Game, Puzzle Game, Sports Game and Trivia Game, and there plenty more. Purpose categorization examples are: Adult Video Game, Advergame, Art Game, Casual Game, Educational Game, Electronic Sports, and Serious Game, among others. These genres will be described when needed.

This will be study focused on developing games as businesses. Within this context, the type of game will only be relevant for the development of the game narrative, its mechanisms and the player's game preferences.

³⁰ Salen, Katie & Zimmerman, Eric. Rules of Play, Game Design Fundamentals. The MIT Press - Cambridge, Massachusetts. London, England. 2004, pp. 49-55

³¹ Wikipedia, searching for game genres: http://en.wikipedia.org/wiki/Video_game_genres

3.2 Player purchase drives and the virtual economy

In order to understand player behavior and the services economy, which is the revenue model from the business perspective, around the games it is very important to understand virtual goods and virtual currency, the economy around the game, and how the player behaves economically within the game.

Let's assume the following definitions: Virtual Goods are the goods that are being sold in "Virtual Worlds" (e.g., Oh and Ryu 2007)³² and Virtual Currency is the currency which represents the money for buying and selling those virtual goods.

Virtual goods are usually inspired by real objects in the real world, and virtual currency is usually a simulation of gold, diamonds, coins and other currencies. They are common resources in most digital games. They are part of the game monetization. What the end user understands as a "virtual good" is always part of a user experience delivered by an information system³³.

The motivation which drives the players' purchase, as examined by Nojima (2007) and Lehdonvirta (2005)³⁴ is related to the players' general motivations for participating in the virtual world and the activities they engage in. From their conducted researches, the motivations are: advancement in a status hierarchy, advantage in competitive settings, keeping up with co-players, experiencing new content, customization and self-expression.

Within future digital games there needs to be an understanding of and inclusion of monetization factors since the games are now viewed as a way to make money.

3.3 General information about the players

Players are the game consumers, and as all consumers they interact with the service in many different ways, for different purposes, and within different contexts³⁵. There are plenty of motivations for players to play games, however all of the reasons lead to the need to have fun. The motivation for playing is related to the game player's behavior. Different game play-

³² Oh, G., & Ryu, T. (2007). Game design on item selling based payment model in Korean online games. In Proceedings of DiGRA 2007. <http://www.digra.org/dl/db/07312.20080.pdf>.

³³ Lehdonvirta, Vili (2009) Virtual item sales as a revenue model: identifying attributes that drive purchase decisions. © Springer Science+Business Media, LLC 2009, pp. 109-111.

³⁴ Lehdonvirta, V. (2005). Real-money trade of virtual assets: ten different user perceptions. In Proceedings of digital arts and culture. IT University of Copenhagen, Denmark, pp. 52-58.

³⁵ Lazzaro, Nicole (2004). Article: Why We Play Games: Four Keys to More Emotion Without Story. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

er behaviors include: winning or completing the tasks and achieving goals, problem solving, exploring, chilling, teamwork, striving for recognition, triumphing over the loser, collecting items in the game, looking for surprises, using the imagination, sharing, role-playing or acting as the character(s), customization or adapting the game to a personal view and filling their time.

User experience design within the game is more than a typical relation between the game interactions and the emotions that players feel; it also includes designing the user experience while thinking about all touch points around the game, those before playing, while playing, after playing, and also those around the game and its service ecosystem.

In general, gaming professionals consider the player experience as player interactions and feelings during the game play. Sears & Jacko (2009) defined the player experience in this manner: “Unlike user experience, the primary aim of player experiences is to move the player emotionally along with or counter to the game goal.”³⁶

Games also have levels of difficulty which along with the previous experiences of the user and how well the gameplay guides the user from the easy to the hard-core level, affect the playing experience. The touch points, or interactions between customers and the service, in the player lifecycle experience are: on boarding, scaffolding and pathways to mastery. And these touch points cross other touch point in the game service experience.

3.3.1 What motivates people play³⁷? Why do people play?

Ryan and Deci (2000), from the *Contemporary Educational Psychology*, defined the act of being motivated as the desire to move and do something and the motivated person as someone who is energized or activated towards an end³⁸. They also defined an unmotivated person as someone who feels no impetus or inspiration to act.

Players are motivated to play in order to change or create their own internal experiences. Adults, as seen in the XEODesign study, enjoy filling their minds with thoughts and emotions isolated from work or school; others enjoy the challenge and chance to test their skills. They

³⁶ Sears, Andrew & A. Jacko, Julie (2009) *Human-Computer Interaction - Design for Diverse Users and Domains*. CRC Press.

³⁷ Lazzaro, Nicole (2004). Article: *Why We Play Games: Four Keys to More Emotion Without Story*. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

³⁸ Ryan, Richard M. and Deci, Edward L. (2000), *Contemporary Educational Psychology* 25, 54-67 (2000) doi: 10.1006/ceps.1999.1020, available online at <http://www.idealibrary.com> on *Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions*. University of Rochester

value the sensations of experiencing new things where they haven't learned the necessary skills, don't have the necessary resources to complete, or have social permission to participate in. Some players like to escape from the real world while others enjoy escaping its social norms. Almost all players enjoy the feeling of challenge and complete immersion. The exciting and relaxing effects of games are also very appealing and some apply the relaxing benefits of games to gain new insights, calm down after a hard day, or build self-confidence.

The observations made by XEODesign reveal details about player emotion. They found emotion in the player's visceral, behavioral, cognitive, and social responses to games. Players play to experience these bodily sensations. Some want the amplified heart rate of excitement from a race, the skin prickling sensation caused by wonder, or pressure and frustration followed by feelings of victory. For others it is simply the exchanging of uncertainties, thoughts and feelings for the relaxation and contentment of achievement which is gained from knowing they completed something within the game correctly.

3.3.2 Why do some people no longer play³⁹?

From the research conducted by XEODesign (2004)⁴⁰ there are several reasons why people don't play or no longer play. The amount of work and family responsibilities reduce game play time turning some hard-core gamers into non-players. Many never play as adults and find games irrelevant or a waste of time. Others reject games because of their moral themes or graphic violence. Interestingly some people that have tried playing games in the past actively avoid games because "they are too addictive". For these people it is better to not play than risk developing a bad habit.

3.3.3 The player behavior and the player in game roles

Player behavior is relevant for the, creation of personas, understanding of the players during the playing experience, understanding how their goals and achievements change during the player experience life cycle, and understanding changes and her/his behavior type. The player in game behavior roles was presented by Bartle (2003)⁴¹ with the following descriptions:

³⁹ Lazzaro, Nicole (2004). Article: Why We Play Games: Four Keys to More Emotion Without Story. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

⁴⁰ Lazzaro, Nicole (2004). Article: Why We Play Games: Four Keys to More Emotion Without Story. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

⁴¹ Bartle, Richard, (2003) Designing Virtual Worlds, New Riders.

- **Opportunists are implicit achievers** - When opportunists see a chance, they take it. They look around for things to do, but they don't know what these things are until they find them. If they come to an obstacle, they do something else instead and they flit about from idea to idea like a butterfly.
- **Planners are explicit achievers** - They set a goal and aim to achieve it. They perform actions as part of some larger scheme, and if there's an obstacle they work round it while pursuing the same idea doggedly.
- **Scientists are explicit explorers** - They experiment to form theories and then they use these theories to predictively test them. They are methodical in their acquisition of knowledge and they seek to explain phenomena.
- **Hackers are implicit explorers** - Hackers experiment to reveal meaning and they have an intuitive understanding of the virtual world, with no need to test their ideas. Hackers usually go where their fancy takes them and they seek to discover new phenomena.
- **Networkers are explicit socializers** - Networkers find people with whom to interact, make an effort to get to know their fellow players, and they learn who and what these people know in order to assess who is worth hanging out with.
- **Friends are implicit socializers** - Friends mainly interact with people they have a deep or intimate understanding about. They enjoy their company and accept their little foibles.
- **Griefers are implicit killers** - Attack, attack, and attack! Griefers very much in your face and they are quite unable to explain why they act as they do although they may offer rationalizations that they would like you or they themselves to believe. Their vague aim is to get a big, bad reputation.
- **Politicians are explicit killers** - Politicians act with forethought and foresight to manipulate people subtly. They explain themselves in terms of their contribution to the virtual world community and aim to achieve a big, good reputation.

Player development sequences behavior is explained by Bartle (2003) to follow this pattern: usually the newbies began by killing one another then once getting tired of fighting, they began to explore the virtual world and once their knowledge is sufficient they begin to trying to win the game. Once the game has been won they settled down and socialize.

Weidemann (2012) added the “trader” role, at the Game Development Conference 2012⁴². The trader role is based on the free-to-play model. A player, who wants to get filthy rich, collects resources and achieving richness becomes progress. These players monetize by helping other overcome limits and strive to advance their market stats.

Cultural aspects also influence player behavior. Many times these cultural aspects impact in how the game is presented in this determinate country. The relationships and the player roles are now part of understanding the sustainability of a game.

The player roles in games do not come into to the real world, but by understanding the roles it is possible to reach aspects around the game that makes the game more pleasant.

3.3.4 Social Play

The games are considered as social play when they have social relationships in the game system. Bartle’s (2003)⁴³ model of player roles has four categories: Achievers, the players who are looking to advance in experience and power, Explores or the players that explore the world spaces, the Socializers, those who place premium on direct social interactions, and the Killers, those which seek to harm and frustrate others⁴⁴.

3.4 The player customer journey

The customer journey is defined by the customer interactions with the service, including the multiple channels and different times. The customer journey presented in table 3 is an example of a possible player journey before they decide to play the game (Sala 2013):

1. Awareness	2. Favorability	3. Consideration	4. Purchase	5. Conversion
Initially completely unaware, the user discovers a brand or offering in the awareness phase. Awareness in games	Aware users then enter the favorability phase. In this phase the offering is investigated further. Players who	In the consideration phase, the customer considers the purchase. He or she then checks the pricing at different shops,	In the intent of purchase phase, the customer already decides where to purchase (cheapest place, best service,	Conversion is the phase, where the purchase is made. The player buys the game and starts playing it.

⁴² Weidemann, Teut, 2012 - <http://gdcvault.com/play/1016680/Monetizing-Economy-Based-Free-to>

⁴³ Bartle, Richard, Designing Virtual Worlds, New Riders, 2003.

⁴⁴ Salen, Katie & Zimmerman, Eric. Rules of Play - Game Design Fundamentals. The MIT Press - Cambridge, Massachusetts. London, England. 2004, pp.448

is triggered through word-of-mouth, game reviews, advertising, etc.	favor a specific genre or game type then evaluate the best game in that genre, watch gameplay videos on YouTube, etc.	availability, required peripherals, hardware, etc.	etc.). The player might decide to go to a certain retailer store nearby his house that has the unit available.	
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Table 3: Player journey before gameplay (source: Matthias Sala 2013 - <http://www.gbanga.com>)

The player journey above shows how important is to understand the whole player experience, the how services around the game are decision factors for the player first in play the game and second the mind-set while playing the game.

3.4.1 Culture in games⁴⁵

The word “culture” usually refers to a group of beliefs, attitudes, way of life, and values shared by a group of people or society. However, for the purpose of game design, “culture” is thought to be the context schemas outside of the magic circle of a game or where the game takes place. These contextual schemas could be ideological, practical, political, or physical - all them separated from the game themselves.

The role of the cultural context in games is a crucial part of game concept. The contextual schemas focus on the relationship between the game and the cultural context where the game is being presented to the market. All games reflect culture, as reproduction of their cultural contexts, but some games also transform culture and act in their own cultural contexts.

There is a need to understand the game in the context where it will be embedded. Studies have been conducted to better understand the ways people from different countries experience signs, names, colors, and clothes, among others aspects.

3.4.2 Controllers, screens and platforms and other aspects

The usage of controllers, different screens sizes and resolutions for game display, the platform performance, Internet connectivity and other aspects need to be taken into account while creating games. It is not only important to think about the player joystick handling ca-

⁴⁵ Salen, Katie & Zimmerman, Eric. Rules of Play - Game Design Fundamentals. The MIT Press - Cambridge, Massachusetts. London, England. 2004. Pp. 505-533.

capacities or the game resolution, but also about the portability of the game during the player journey.

Exertion games are defined as computer games that require intense physical effort from their players (Muller et al. 2003) and are examples contrary to the image of gamers having a sedentary life-style. Games such as Wii Fit initiate the revolution of fitness games or games that help fight obesity and help players reach their goals to lose weight.

Understanding the role of controllers and other artefacts and their associated player behavior may bring other additional information for the game concept, the game development, for the business, and the growing capacity of the game.

The history of famous games such as Guitar Hero and Rock Band, which were using adapted instruments as controllers, and they were big booms in the game industry around 2005 are good examples of why understanding the role of controllers is important. At their peak, the two games were selling millions of copies a year and invading arcades. But the dark times arrived in 2010. Analysts have pointed to many causes, including high music-licensing fees and the public's general boredom with the games, which tends to happen when the targeted audience is the casual gamer. However there are many fans of this game style that wanted real music instruments that could be supported by the games as the game controllers and nowadays there are games which achieve these player expectations.

3.4.3 The role of visual elements in games⁴⁶

Visual elements in games denote action and outcome, two components of meaningful play. The visual representation of the concept idealization makes the idea more concrete and tangible and also leads the other parts of the game design process.

Visualization is important during the all process and there are many visual elements that are standard for game play. These visual elements influence the game's look and feel and differ in accordance to which segment the game business wants to reach. The visual style also helps to support the narrative of the game. Usually graphics in games are 2D or 3D. And the user interface standards components are:

- Main View - the largest element on the screen.

⁴⁶ Adams, Ernest (2010). *Fundamentals of Game Design*. Second Edition. Published by New Riders. Pearson Education. Pp. 223-229.

- Windowed view - takes up only part of the screen, with the rest of the screen showing panels displaying feedback and control mechanisms.
- Feedback elements communicate details about the game's inner states—its core mechanics—to the player.
- Indicators inform the player about the status of a resource, graphically and at a glance.
- A mini-map, also sometimes called a radar screen, displays a miniature version of the game world.
- Colors - represents different status, opponent teams, ex. Consider the green/yellow/red spectrum used for safety/caution/danger.
- A character portrait, normally appearing in a small window, displays the face of someone in the game world—either the avatar, a member of the player's party in a party-based game, or a character the player is speaking to.
- Screen buttons and menus enable the player to control processes too complex to manage with controller buttons alone. There are many manners of activating menus, and these manners depend on the device and console chosen.
- Text appears as a feedback element in its own right, or as labels for menu items and screen buttons, and to indicate the meaning of other kinds of feedback elements, for example a needle gauge might be labelled Voltage. You may also use text for narration, dialog or including subtitles, a journal kept by the avatar, detailed information about items such as weapons and vehicles, shell menus, and as part of the game world itself, on posters and billboards. Fonts should not be smaller than 12points.
- Localization refers to the process of preparing a game for sale in a country other than the one for which you originally designed the game for. Localizing a game often requires many changes to the software and content of the game. A localization change example could be translating all the texts in the game into the target market's preferred language. In order to make the game more easily localizable, you should store all of the game's text in text files and never embed text in a picture. Editing a text file is easy; editing a picture is much more difficult.
- Characters and avatars - Are the personages of the narrative. They sometimes represent the proper player and can be customized.
- Landscape and game world - is the representation of the world where the game happens and it helps the player locate things within the game.
- Game items - are representations of the goods that are usually part of the trade of the game. They can be acquired and sold in the game trade markets.

A good user interface helps players to intuitively understand all commands necessary in the game and helps the player correct mistakes and make good choices. Understanding the inter-

face standards, that there is consistence between the elements and how the information will appear on different devices or cross-platform, is very important.

3.4.4 Flow (Tasks)

In the book *Rules of Play*, Zimmerman and Salen (2004)⁴⁷, defined Flow as more than anything else an emotional and psychological state of being focused, in engaged happiness, when a person feels a sense of achievement and accomplishment, and a greater sense of self. In game design Flow is considered the point of maximum enjoyment and engagement within the game.

Csikszentmihalyi⁴⁸ names eight characteristics of Flow. The first four are the effects and the last four are pre-requisites of flow. They are as follows; the merging of action and awareness, concentration, the loss of self-consciousness, the transformation of time, a challenging activity, clear goals, clear feedback and the paradox of having control in an uncertain situation.

Many of the challenges faced by the gaming industries are related to the new gaming business models such as the free-to-play model. The biggest challenge is how to monetize of the game without interrupting the game flow. Also if the player has too many choices they may become confused but it is important to provide enough choices because they imply that the player has a degree of freedom and variable choices, both of which are part of the game flow.

Meaningful play is essential in designing pleasure in games and it is only by allowing player choices that meaningful play emerges. From the interactivity, a choice is made up of two primary components: the action that the player performs and the outcome of the action. The new game models are customer-oriented and the players are also adapting to the new trade economy in games. New generations of player will have more understanding about this mechanism and they will be more eager to pay for the best options and will make reasonable choices during the gameplay.

3.4.5 Defining Interactivity

Interactivity can be defined as the relationship between the parts, where there is one or more exchanges of acts and reactions. The interaction could be human-human, computer-human, object-human, object-object, and whatever has the capability to respond an action.

⁴⁷ Salen, Katie & Zimmerman, Eric. *Rules of Play - Game Design Fundamentals*. The MIT Press - Cambridge, Massachusetts. London, England. 2004, pp.336-339

⁴⁸ Csikszentmihalyi, Mihaly (1991) *Flow: The Psychology of Optimal Experience*. New York: Happer Collins Publishers.

The communications theorist **Stephen W. Littlejohn** defines interactivity as: *“Part and parcel of a system is the notion of “relationship”... Interactional systems then, shall be two or more communicants in the process of, or at the level of, defining the nature of their relationship.”*⁴⁹

In the book *Rules of Play*⁵⁰, Salen and Zimmerman define interaction as a multivalent model. They presented four modes of interactivity that are related to the level of engagement, which are: Cognitive, Functional, Explicit and Beyond-the-object. In more detail:

- Cognitive interactivity (Mode 1) or interpretative participation: is a psychological, emotional and intellectual relation between a person and the system.
- Functional interactivity (Mode 2) or utilitarian participation: is a functional, structural interaction with the material components of the system.
- Explicit interactivity (Mode 3) or participation with designed choices and procedures: includes choices, random, events, dynamic simulations, and other procedures programmed into the interactive experience, is what the proper world says by designed orientation.
- Beyond-the-object-interactivity (Mode 4) or participation within the culture of the object: Is the interaction outside the experience of a single designed system. Clear examples come from the fan-culture.

The modes sometimes as mentioned by the authors may occur at the same time.

4 General about the digital game development and developers

For many years, the audience for digital games was limited to young males (Adams 2010)⁵¹, and it was sufficient for the game designers' to ask themselves if the games felt playable for themselves because they were usually young male individuals. However, the gaming market

⁴⁹ Stephen W. Littlejohn. *Theories of Human Communications*, 3rd. Edition (Belmont, CA: Wadsworth Publishing Company, 1989, p.175.

⁵⁰ Salen, Katie & Zimmerman, Eric. *Rules of Play - Game Design Fundamentals*. The MIT Press Cambridge, Massachusetts. London, England. 2004, pp. 49-55

⁵¹ Adams, Ernest (2010). *Fundamentals of Game design*, second edition, Publisher: New Riders. Pearson Education, Inc. pp. 31-33

has changed and there has been expansion to other segments. Some of the expansion to women aged 30-50, a segment that game designers would not have imagined years ago.

The gaming market is constantly facing technological changes and game developers have continued to adapt effectively to the changes. However concentrating only on the technological changes diverts the attention to an important point that the customer behavior has also changed (Adams 2010)⁵².

Some years ago the monetization of games occurred through copyrights. The publishers and retail shops were intermediates between the game developing company and the end customer. In this way the game business model was business to business instead of business to customers. There was very little connection between of the game development companies and the end-customers. Since the beginning of market digitalization and the emergence of the online stores as Apple and Android Stores, it has become possible to sell directly to the players (O. Sotamaa & T. Karppi, Eds. 2010)⁵³.

The changes in the games market were gradual movements from retail of physical copies towards the digital distribution, monthly subscriptions, and “Freemium” models. In the Freemium models, the base game itself is free but includes different purchasable content. The beginning of these new models appeared from emerging markets as a way to deal with organized piracy (e.g., Eastern Europe, Brazil, China, and Southeast Asia). Even the Freemium models are dependent on the fact that the customers need network access. The gaming industry is very optimistic about the growth potential in these emerging markets since the network infrastructures in those countries are relatively underdeveloped⁵⁴. Freemium models are also known as free-to-play models.

4.1 Player-centered game design, game design process background

For the purpose of this research a player-centered oriented process called Player-centered game design as described by Ernest Adams (2010)⁵⁵ in his book *Fundamentals of Game Design* was used as a game process background.

⁵² Adams, Ernest (2010). *Fundamentals of Game design*, second edition, Publisher: New Riders. Pearson Education, Inc. pp. 31-33

⁵³ O. Sotamaa and T. Karppi, Eds. (2010), *Games as Services*. Final Report, TRIM Research Reports. Department of Information Studies and Interactive Media.

⁵⁴ PCGA, “The PCGA presents: The PC game industry in 2008,” <http://www.pcgamingalliance.org/imwp/download.asp?ContentID=15559>, 2008.

⁵⁵ Adams, Ernest (2010). *Fundamentals of Game Design*. Second Edition. Published by New Riders. Chapter 2 - Design Components and Processes, pp. 29-49.

Adams (2010) considered essential to think about the players during the entire game design process and is very against some methods that are based on the game design company assumptions. Adams (2010) defined about two misconceptions which game designers must to avoid:

- **Misconception 1:** I am my own typical player - This misconception is against the idea that the digital games are created for the owners of the game. In the past young males created the games and were also the players. However the market is expanding and this is a dangerous mind-set. Game designers must to be able to design for all different kinds of players.
- **Misconception 2:** The player is my opponent - Arcade games make money by convincing the player to put in more money. This can lead to the game designers making the game very difficult and considering the player an opponent in order to make money. The win may also be randomized. This misconception shows a lack of empathy. Many game designers create games without taking into account the players' interests and motivations for playing. It is important that game designers remember that creating games is more than creating challenges.

Motivations that can drive the game design are Market, Designer, Technology and Art. These motivations alone cannot make the game enjoyable. **Market-driven** game design is typically when the game is created by using a famous gameplay and game professionals adapt the gameplay for a desired market, i.e.: Facebook, Iphone, kids, etc. On the other side is the **Designer-driven** game design, in which the game designer retains all of the creativity and takes a personal role in every creative decision. **Technology-driven** game design directs the game design to some new technology that has not been explored yet or an experiment. This type of motivation often makes the game design more challenging because of the technological limitations and time is need to understand the unknown technology. **Art-driven** game design is rarer and it is related to someone's artwork and aesthetic sensibilities⁵⁶.

No matter what kind of motivation drives the game designers, they need to combine these drives with the **player-driven** motivation to create a **player-centered process**. The player-centered approach means to bring those who will play the game into the game designing process and use the player as a co-creative element.

However many times people don't feel pleasure in creating games that they will not play. This mind-set is present in many companies, as we will see later in the section about the

⁵⁶ Adams, Ernest (2010). *Fundamentals of Game Design*. Second Edition. Published by New Riders. Chapter 2 - Design Components and Processes, pp. 33-34.

company mind-set. Since the game market is growing, people from the gaming industry will need to adapt more player-centered game design and strive to understand their customers more.

4.2 The stages of the player-centered game design process

For better game development, the game design process needs to be interactive and constantly repeating gameplay testing and tuning, and modifications to the design throughout the entire development process. Some parts of the process need to be well defined and then kept the same to keep the integrity. These parts include the game concept, audience and genre.

The game player-centered design process as defined by Adam (2010)⁵⁷ is divided in three main parts: the concept stage, elaborating stage and tuning stage (Table 2).

GAME DESIGN PROCESS (Ernest Adams)	STAGE OBJECTIVE DESCRIPTION
1. Concept stage	Imagining a game and defining the way it works
1.1. Getting a concept	Finding the general idea of how to entertain someone through gameplay, kind experience, game genre, etc. How the game will make money?
1.2. Defining the audience	Who would enjoy the experience? The target market.
1.3. Determining the player's role	What is the role of the player, i.e.: an athlete, a general, a dancer, an explorer, etc. The player also can have multiple roles. Explain also the role of others is there is social appeal.
1.4. Fulfilling the dream	What is the essence of the experience that you are going to offer? What are the player expectations? Dreams of achievement, of power, of creation, certain experiences, etc. It is the first step to defining the gameplay.
2. The Elaboration stage	Describing the elements that make up the game, transmitting information about the game to the team who will build it. It is the time to move from the theoretical to the concrete by prototyping.
2.1. Defining the primary gameplay mode	Defining every detail of the primary gameplay mode: the perspective in which the player views the world, the challenges, the actions, etc. How the monetization of the game will influence on the gameplay?

⁵⁷ Adams, Ernest (2010). *Fundamentals of Game Design*. Second Edition. Published by New Riders. Chapter 2 - Design Components and Processes, pp. 45.

2.2. Designing the protagonist	Build a protagonist, which the player will identify with and care what happens with her. How she looks and how she behaves? Body language, her capability to action, vocabulary and kind of language. It is about the character development.
2.3. Defining the game world	Establishing the looking and feel of the game. Defining the many dimensions to a game world: physical, temporal, environmental, emotional and ethical.
2.4. Design the core mechanisms	How the core mechanisms create the challenges and implement the actions, i.e. if the player will play a sport, what are the player athletic characteristics, speed, strength, acceleration, accuracy, etc.
2.4 Creating additional modes	You may discover that you need additional modes while you are defining the primary gameplay mode and core mechanics. You must also document what causes your game to move from mode to mode.
2.5 Design levels	Level design is the process of constructing the experience that the game offers directly to the player, using the components provided by the game design: the characters, challenges, actions, game world, core mechanics, and storyline if there is one.
2.6. Writing the story	Stories help to keep the player interested and involved. They give her a reason to go on to the next level, to see what happens next. A story may be integrated with the gameplay in a number of different ways.
2.7. Build, test, and iterate	Video games must be prototyped before they can be built for real, and they must be tested at every step along the way. Each new idea must be constructed and tried out, preferably in a quick-and dirty fashion first, before it is incorporated into the completed product.
3. Tuning stage	No new features may be added only small adjustments to polish the game. Tune and polish your game until it's perfect.

*Table 4: Overview of the player-centered game design process (reference: book *Fundamental of Game Design* by Ernest Adams)*

4.3 Understanding the aspects of fun

Since the main goal of the player is to experience fun, it is also important understand the meaning of fun. The following pages will present some theories and definitions about fun and its importance in the player experience.

4.4 Four Keys to More Emotion without Story theory

Nicole Lazzaro (2004)⁵⁸ and her team at XEODesign conducted an independent research project about player experiences including different types of game genres. The research was titled *Why We Play Games*⁵⁹. It identified more than thirty emotions that come from gameplay rather than the game story. The most interesting result discovered was that people play games not so much for the game itself but that they play in order to experience the emotions which the game creates. Players enjoy an adrenaline rush, a vicarious adventure, a mental challenge but also the structure games offer and other benefits such as a moment of privacy or the company of friends.

During the research project XEODesign interviewed: 15 hard-core gamers, 15 casual gamers, and 15 non-players. XEODesign focused on finding information about what happened before, during, and after the gameplay. The qualitative methodologies used were: Observation and In-Depth Interview. The participant companies were: Sony, Leap Frog, Ubisoft, Broderbund, and Mattel.

XEODesign performed a field study in which 30 adults were asked to share their thoughts and feelings while playing their favorite PC, console, handheld, or Internet games. Players spent from 90 to 120 minutes playing where they normally would in their homes, fraternity houses, public gaming rooms, or workplaces. Most participants played the games by themselves except for four console multiplayer sessions of 3-6 players, which were conducted with participants playing in the same room.

XEODesign also observed two online PC multiplayer sessions over the Internet using Contextual Inquiry as well as their own XEOAnalysis™ methods. Through these methods a researcher observed participants during play and administered a questionnaire at the end of the session. In order to collect the opinions of non-players about gaming, they also interviewed 15 friends and family members of participants who were nearby during the observation sessions.

They collected three types of data: video recordings of what players said and did which totaled 45 hours, the player's questionnaire responses, and the verbal and non-verbal emotional cues during play. They analyzed over 2,000 observations from the video transcripts, facial expressions, questionnaire responses, and session notes. XEODesign used these groupings to create nearly a dozen consolidated models of player behavior and processes that facilitated or inhibited enjoyment. The four most important pathways to emotion in games were presented as the Four Keys to More Emotion without Story theory.

⁵⁸ Lazzaro, Nicole (2004). Article: *Why We Play Games: Four Keys to More Emotion Without Story*. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign

⁵⁹ Lazzaro, Nicole (2004). Article: *Why We Play Games: Four Keys to More Emotion Without Story*. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

XEODesign created 12 models of Player Experience from the data collected, the models are: Goals, Obstacles, Strategy, Fantasy, Exploration, Creativity, Repetition, Rhythm, Collection, Compete, Cooperate and Communicate. In looking at how the games create emotion without a story, they come up with 4 Keys. These 4 Keys met the following reason about why people play: what players like most about playing, creates unique emotion without story, and already present in ultra-popular games and supported by psychology theory.

By combining these factors is possible to create enjoyable games for a wide market. Designing deep game experiences for each Key offer a different avenue to improve the player experience as a whole. The 4 keys2fun theory defined the following kinds of fun:

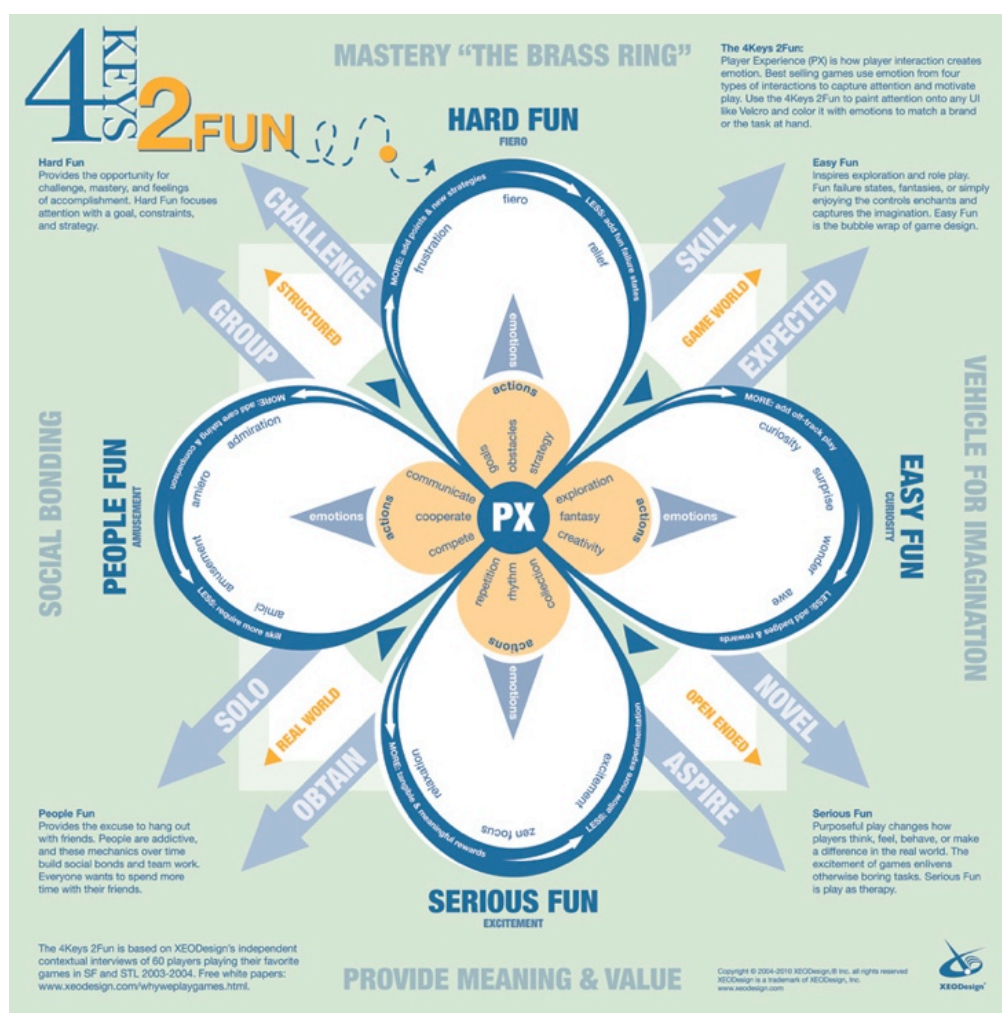


Figure 2: 4keys2Fun theory poster (Lazzaro 2004)

- **Hard Fun:** Players like the opportunities for challenge, strategy, and problem solving. Their comments focus on the game's challenges, strategic thinking and problem solving.

ing. This “Hard Fun” frequently generates emotions and experiences of Frustration, and Fiero or personal triumph. The emotion models are: goals, obstacle and strategy.

- **Easy Fun:** Players enjoy intrigue and curiosity. Players become immersed in games when it absorbs their complete attention, or when it takes them on an exciting adventure. These Immersive game aspects are “Easy Fun” and generate emotions and experiences of wonder, awe, and mystery. Rich stimuli and ambiguity as well as detail cause the player to pause with wonder and curiosity. Repetition and rhythm can be hypnotic. The emotion models are: curiosity, wonder, surprise and awe.
- **Altered States (Serious Fun):** Players treasure the enjoyment from their internal experiences in reaction to the visceral, behavior, cognitive, and social properties. These players play for internal sensations such as excitement or relief from their thoughts and feelings. Games with this Key stimulate the player’s senses and smarts with emotion from captivating interaction. The emotion models are: Zen focus, excitement and relaxation.
- **The People Factor:** Players use games as mechanisms for social experiences. These players enjoy the emotions of amusement, schadenfreude or the pleasure derived from the misfortunes of others, and naches, which means pride or pleasure. These emotions come from the social experiences of competition, teamwork, as well as opportunity for social bonding and the personal recognition that comes from playing with others. Multiplayer games are the best at using this Key, although many games support some social interactions through chat and online boards. Games that offer both cooperative and competitive modes offer a wider variety of emotional experiences. The emotion models are: amici or friendly, amiero or reciprocity, amusement and admiration or amidar.

4.5 Emotions are the achievements for fun

The study of emotions is very pertinent for the user experience because they are the main influence on peoples’ actions, expectations and future evaluations. Emotions are part of human behavior and change the way of people act and interact with, each other, with products, and with services.

Emotions influence other people and a bad experience could cause many others bad impressions through viral processes. Emotions could drive a bad situation to a memorable experience of overcoming. Perceptions are always first emotionally evaluated before any cognitive process can take part (Domasio 2000). From a user experience point of view an emotional re-

sponse begins in a context and then is mixed back into the ongoing action and interpretation process⁶⁰.

Battarbee⁶¹ says that hedonistic psychology suggests that people are driven by the pursuit of pleasure and avoidance of displeasure, and that the purpose of design is to provide pleasure and minimize displeasure.

In games emotions are the indication of fun and the motivator for actions. Discovering how to design and develop game interactions and features, which achieve determinate emotions increases the chances of directing the player to an expected reaction.

According to Zhang (2013)⁶² the affect is the umbrella term for emotion, moods and feelings. Emotion is the reaction to stimuli and arises in specific events in an individual's environment that are evaluated according to his or her needs, goals, or concerns. Once emotions are activated they generate feelings, which are related with bodily reactions. Mood is an individual's mild, constantly, and objectless affective state. Moods are not necessarily a product of reproduction or cognitive analysis, but simply describe how people feel in a determinate moment.

4.6 Emotions During Play by 4keys2Fun theory ⁶³

There is a big difference in how people are emotionally affected when they are playing alone vs. when they are playing with others. Group play changes and at times adds new behaviors, rituals, and emotions that can make games more exciting. With the Four Keys, game designers can achieve emotion in each moment of the game play and offer new opportunities for generating emotion through player choice.

The XEODesign team come up with the **Four Keys** after observing many emotions (*see some of them in Table 1*) from gameplay in facial gestures, body language, and verbal comments. With observation it was possible to explore some uncommon emotions in addition to those

⁶⁰ Co-experience - Understand User Experience in Social Interaction on the chapter 2: User Experience Demystified, page 52. Academic dissertation. Publication series of the University of Art and Design Helsinki A 51.

⁶¹ Co-experience - Understand User Experience in Social Interaction on the chapter 2: User Experience Demystified, page 52-56. Academic dissertation. Publication series of the University of Art and Design Helsinki A 51.

⁶² Zhang, Ping (2013). The affective response model: a theoretical framework of affective concepts and their relationships in the ICT context. THE AFFECTIVE RESPONSE MODEL: A THEORETICAL. School of Information Studies, Syracuse University, Syracuse, NY 13244 U.S.A., pp. 247

⁶³ Lazzaro, Nicole (2004). Article: Why We Play Games: Four Keys to More Emotion Without Story. Player Experience Research and Design for Mass Market Interactive Entertainment. Xeodesign.

were expected such as excitement, frustration, amusement and sensory pleasure. Playing their favorite games, the participants experienced many emotions such as fear and surprise.

EMOTION	COMMON THEMES AND TRIGGERS
Fear	<ul style="list-style-type: none"> Threat of harm, object moving quickly to hit player, sudden fall or loss of support, possibility of pain.
Surprise	<ul style="list-style-type: none"> Sudden change Briefest of all emotions, does not feel good or bad, after interpreting event this emotion merges into fear, relief, etc.
Disgust	<ul style="list-style-type: none"> Rejection as food or outside norms The strongest triggers are body products such as feces, vomit, urine, mucus, saliva, and blood.
Naches/ Kvell (Yiddish)	<ul style="list-style-type: none"> Pleasure or pride at the accomplishment of a child or mentee. (Kvell is how it feels to express this pride in one's child or mentee to others)
Fiero (Italian)	<ul style="list-style-type: none"> Personal triumph over adversity. The ultimate Game Emotion Overcoming difficult obstacles players raise their arms over their heads. They do not need to experience anger prior to success, but it does require effort.
Schadenfreude (German)	<ul style="list-style-type: none"> Gloat over misfortune of a rival Competitive players enjoy beating each other especially a long-term rival. Boasts are made about player prowess and ranking.
Wonder	<ul style="list-style-type: none"> Overwhelming improbability. Curious items amaze players at their unusualness, unlikelihood, and improbability without breaking out of realm of possibilities.

Table 5: Emotions related to games

4.7 The role of expectations

Expectations have the relation with impressions, previous experiences, what other people or a friend has said about something, and also what people are aiming for. These expectations are hard to change and sometimes difficult to predict especially when they are related to the previous experiences. A person who chooses to become non-playing because of previous addiction stays many steps back from other games.

Nowadays the sharing behavior, caused by the social networks, is similar to the word of mouth of the past and gives digital advertisements a big advantage. This does not mean that word of mouth is no longer current but just that it has evolved.

In the article *Marketing as promise management*, Grönroos (2009) says that by keeping promises may not be a straightforward issue because the promises made and the value proposition may be perceived differently by the marketer and the customer. Hence, expectations that vary from person to person and from situation to situation may be created. In addition, there may be fuzzy expectations which do not transform into explicit ones until the customers experience the product. Moreover, some expectations are unrealistic and if such expectations are not made realistic customers are bound become disappointed (Ojasalo, 2001). Hence, managing expectations cannot be neglected. It is not the promises that should be kept, but the individual expectations created by these promises⁶⁴.

Games are very efficient in create expectations. Expectations are created before the gameplay when the games are being advertised, during the gameplay, and after the gameplay has been completed.

One interesting phenomena is the “free-to-play” games which are very popular in social network platforms, tablets and smartphones. The low expectative of not paying for the games increases the chances of good impressions like surprise and wonder. However they arouse the frustration when meaningful progress requires payment. The size of informal secondary markets has transformed the virtual environment and this transformation of games into transaction spaces has been encouraged by operators and their marketing strategies. However, as was shown in the previous concepts, the expectations of the players while playing a game is to have fun, and whatever goes against this goal may irritate them.

Another aspect to think about, when considering games as a business, is the idea of customers’ rights. Nowadays the laws around the virtual worlds are not clear for the players and when they chose to forgo reading them they lose the opportunity to learn about them. Due to the inconsistency in the game virtual world it is possible that users might acquire legitimate expectations about property rights that could be enforceable against operators. This point is demonstrated by Gkushko (2007) when stating, “Much like in the physical world, acquiring and trading property leads to a need for legal regulation”⁶⁵.

⁶⁴ Christian Grönroos, (2009) “Marketing as promise management: regaining customer management for marketing”, *Journal of Business & Industrial Marketing*, Vol. 24 Iss: 5/6, pp.351 - 359

⁶⁵ Glushko, R. 2007, ‘Tales of the (Virtual) City: Governing Property Disputes in Virtual Worlds’, *Berkley Technology Law Journal*, Vol. 22, No. 507, <http://ssrn.com/abstract=1458547>.

4.8 Flow (Tasks)

In the book *Rules of Play*, Zimmerman and Salen (2004)⁶⁶ defined Flow an emotional and psychological state of focused and engaged happiness, when a person feels a sense of achievement and accomplishment, and a greater sense of self. Game design can consider Flow as the maximum enjoyment and engagement within the game.

Csikszentmihalyi⁶⁷ names eight characteristics of Flow, the first four are the effects of flow and the last four are pre-requisites of flow. In order for flow to occur there needs to be; the merging of action and awareness, concentration, the loss of self-consciousness, the transformation of time, a challenging activity, clear goals, clear feedbacks and the paradox of having control in an uncertain situation.

Many of the challenges faced by the gaming industries are related to the new gaming business models such as the free-to-play model. The challenges are related to the monetization of the game and how bad monetization application interrupts the game flow and makes the game less pleasant. Too many choices can sometimes confuse the player and give them the sensation of receiving the worst option when they do not pay. Choices imply that the player has a certain degree of freedom or variable choices and they are part of the game flow.

Meaningful play is the key to designing pleasure in games and it is only by making choices that meaningful play emerges. Choices are made up of two primary components: the action that the player performs and the outcome of the action. The new models are customer-oriented models and players are also adapting to the new trade economy in games. The newer generations of players will have more understanding about this mechanism and they will be more eager to pay for the best options.

5 Study

5.1 Understanding the field, research plan and gathered information

In order to find the gaps in game design which are related to the player experience and also create a framework for the game development professionals, it is necessary to understand; how professionals and companies apply user centered design methods and tools, if they view games as services, and investigate the current player experiences in order to understand how the players feel and engage with the current service approaches. These three pillars come

⁶⁶ Salen, Katie & Zimmerman, Eric. *Rules of Play, Game Design Fundamentals*. The MIT Press - Cambridge, Massachusetts. London, England. 2004, pp.336-339

⁶⁷ Csikszentmihalyi, Mihaly (1991) *Flow: The Psychology of Optimal Experience*. New York: Happer Collins Publishers.

together in the diagram below titled Figure 3. From this diagram it is possible to understand how this research project was conducted.

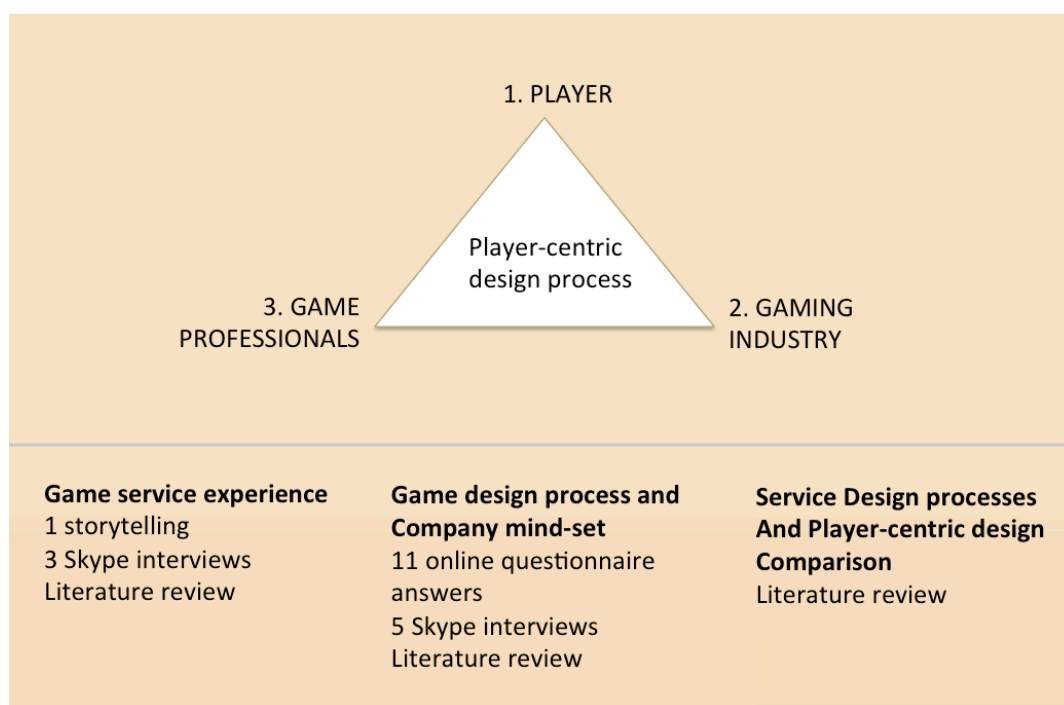


Figure 3: Overview the thesis study research

In the first phase the goal was to understand the topic and how it relates to service design. Books related to the user experience in games, the game design process, service design in games, the cycle player experience, and new game design models were examined. Players were interviewed to gain an understanding of how satisfied they are with the current games and what they expect from gaming companies.

The second phase was supported by the background information gained in the first phase and focused on understanding how game design professionals and companies involve customers in the game design process. Articles and literatures related to game design processes, player centered game design processes, and other aspects related to game business and how the players are involved in the design process were examined. Research methods and tools related to service design and the service design culture were used in the phase to create a better game design framework. Eleven game design professionals answered an online questionnaire and five of them continued to the next phase in which Skype interviews were conducted.

In the third phase the goals were to, compare the different game design processes, find service design methods and tools which fit the created game design framework, and test the toolkit created with a group of practitioners to get feedback and observe the efficiency of the toolkit use. The testing also provided insights about future research opportunities.

5.2 Gathering information from the game customer's experience, the player integration.

Bernhaupt (2010)⁶⁸ presented an overview of methods for evaluating the player experience in the Concept, Preproduction, Prototype, Production, Localization, Alpha-Phase, Beta-Phase, Gold and Postproduction Phases.

The goal of the Concept phase, as argued by Bernhaupt (2010), is to understand if the game will be fun to play and what kind of experience the players will have during the game play. However nowadays the game play has converged with many parts of the game business and a better understanding of the player as a customer is needed.

The methods and approaches suggested by Bernhaupt & Brown (2010) during the Concept phase are: Focus Groups, Interviews, Informal Play Testing, Questionnaires, Paper Prototype, Tech demos, Semantic Differentials, PIFF Questionnaire and GAP approach.

During the implementation and testing phases Bernhaupt (2010) suggests: Play testing, Semi-Structured Interviews, Observation, Video Coding, Quantitative Comparisons of Game Behaviors, Questionnaire focusing on user's attitudes, experiences, etc., Heuristic Evaluation and the Evaluation of the Controller design.

In order to collect data from game players about their game usage experiences and the game engagement, two different methods of ethnographic research were used. Interviews, as suggested by Bernhaupt & Brown (2010) and Storytelling, suggested by Stickdorn (2011) were the chosen methods for finding customers insights and new service concepts.

The gathered data was collected from players who have had the experience of being interrupted by an advertisement or an opportunity to make purchase while playing a game. This approach was chosen because these two situations are the most frustrating faced while playing games and they are the monetization approach used by the newest generation of games.

The game platform and game type were not issues and the participants were free to play any game they desired. However, the game chosen had to be played for at least a month. The motive behind this one month period was related to player progression in the game and the experience life cycle.

⁶⁸ Bernhaupt, Regina. *Evaluating User Experience in Games - Concepts and Methods*. Springer, 2010, pp. 5-7.

5.2.1 Field study goals

The three interviews were conducted via Skype and the storytelling took place at my place of residence. Paper notes and script were used to help with the interviewing process. This research was conducted in January of 2013.

5.2.2 Selected research methods

Interviews and storytelling were selected as the design research methods. These methods are explained in more detail below:

Interviews - Conducting interviews is research method which requires direct contact with the interviewee. Interviews may be structured and follow a script of questions or be conducted more like a normal conversation. For the purpose of this study, structured interviews were chosen, however there was flexibility for conversation (Martin & Hanington 2012 p.102).

Storytelling - Storytelling is a research method used for sharing experiences and insights about a service. The method generates narratives which can come from a company's and/or their customers. Telling stories make the service proposition more convincing. (Stickdorn & Schneider 2011 p. 202)

During the conducted research the following were monitored; the game player behaviors, especially when they were approached by advertisements and purchases, and their opinions and how they made decisions. The research also strived to understand the players' experiences, the players' interest during the game playing stages, and find the players' feelings about the advertisements, purchases approaches, and the other service experiences.

5.2.3 Interviews

The interview method was selected in relation to the goals of this research project. A total of 6 players were contacted, however only 3 players committed to the interview. Interviews are considered useful for understanding of the end-user's basic needs.

The players interviewed had previously experienced advertisements and purchase opportunities during the game flow. The interviewees were all Brazilian men between 22 and 33 years old. Age is not an issue for the interview and for the purpose of the research.

The interviews were semi-structured meaning that they followed a script but were open to conversation. Notes were taken of the interviewees' answers were taken. The idea was to collect data about the topic and to ask questions as part of the investigation phase.

5.2.4 Questions and notes from the interviews:

1. Age:

Interviewee 1- 33 years

Interviewee 2- 32 years

Interviewee 3- 22 years

2. Sex:

Interviewee 1- Male

Interviewee 2- Male

Interviewee 3- Male

3. Profession or studies:

Interviewee 1- Game artist/graphic design

Interviewee 2- Bartender

Interviewee 3- Game developer

4. Family composition:

Interviewee 1- Wife (33 years), daughter (9 years) and son (1 month)

Interviewee 2- Wife (30 years), son (2 years)

Interviewee 3- Single

5. Short service description

Interviewee 1- Dungeon Hunter 3 is the fourth game of the Dungeon Hunter series, developed by Gameloft and released by iOS in December 2011. It's a hack & slash action/RPG game where you can play as 4 different classes throughout 16 different arenas. Besides the action game mode it's possible to buy and equip weapons, armor, skills and spells and develop your character up to level 100.

Interviewee 2- The game he has been playing the most is the Zynga poker through Facebook and mobile.

Interviewee 3- Killing Floor is a massive game and it is played in groups of six; each player has specific skills in order to kill zombies. Each kind of zombie has a way of attacking and different difficulty levels.

6. What have you enjoyed about the service?

Interviewee 1- He really appreciates the fact that the game sessions last about 5 minutes. These short playing experiences allow him to enjoy the game and keep developing his character even when there is not much time to spend.

Interviewee 2- It is a free and very intuitive game.

Interviewee 3- The game has short tournaments giving players the possibility of playing without commitments. He likes also the social interaction of the game.

Analysis: It seems that all of interviewees are short on time and don't want to be slaves to their chosen game. They also want to reach high levels within the game without making long commitments.

7. What have you disliked about the service?

Interviewee 1- The virtual currency that allows the player to buy game items is too expensive. During the second half of the game progress gets quite slow if the player doesn't buy items.

Interviewee 2- I don't like the idea of using real money to buy more poker chips. You can measure the success of the player by his stack, which is the amount of chips he has, and when you have the chance of people buying their stack we can't know the real skill level of the opponent. And also all of the pop up adverts.

Interviewee 3- The items that are won are limited to only six levels of use. This makes the game unpleasant quickly and harder to reach the game achievements.

Analysis: All of the players are complaining about the decreased expectations after the game progress slows. It seems that the gaming companies are only thinking about the early stages of the game. One of these reasons could be the leaving of users in the early stages which is provoked by the decreasing expectations. Also selling items do not attract them.

8. What you would like to change about the service?

Interviewee 1- Instead of using the current lottery system which he feel is unworthy and unfair, he would implement a loot system which would reward the players by dropping random items on particular enemies in the arenas. This feature would reward players who are actively playing instead of rewarding randomly selected lucky individuals.

Interviewee 2- He would remove the chip selling from the site and advertise in a less

annoying way.

Interviewee 3- The visuals of the game need improvement.

Analysis: The changes that the interviewees want don't have anything common.

9. How did you find the service?

Interviewee 1- He tried the PlayStation 3 Dungeon Hunter: Alliance demo several months ago, but he didn't like the game experience while using the console. About two months ago he received a game invitation from a friend on his iPhone. Although he has still not yet played with this friend, he has enjoyed the game and he is still playing.

Interviewee 2- Through one of Facebook's advertisements

Interviewee 3- His workmates introduced the game to him. Later he bought the game from Steam while looking to play with his friends.

Analysis: The service found through social means in all cases.

10. What were your first impressions?

Interviewee 1- From the beginning he was impressed by the quality of the visual graphics, the fast paced gameplay, and the huge amount of game assets. He was a bit disappointed about not being able to play the in multiplayer mode from the beginning but he kept playing alone.

Interviewee 2- A good and entertaining game.

Interviewee 3- He felt lost in the beginning because during the game climax it is shadowy and there are lots of enemies that need to be destroyed at once. The velocity of learning the game is quite slow and this makes it very important to cooperate.

Analysis: The first impressions of the games don't have anything in common.

11. How was your first contact with the service? (Download, installation...)

Interviewee 1- He received an invitation from a friend on Facebook. This invitation led him to the Apple Store. He then installed the game and started the application. At first he thought it was a game on Facebook.

Interviewee 2- Well, it is a Facebook game so he just had to accept the application. And on his mobile he had to download application.

Interviewee 3- It was very simple as any other game purchased on Steam is. After

making the purchase the game appears in your games' list. Then just click a button and the system takes care of downloading and installing everything.

Analysis: The games installations were simple and easy. Only with the first interview there was a misunderstanding about the platform advertisement.

12. First month of game playing experience:

Interviewee 1- He has progressed very quickly through the first 20 levels. He has enjoyed the game but misses the possibility to play together with his wife due technical issues. He feels he is able to reach the end game experience (last levels, final arena and being equip with the best items) without spending any real money.

Interviewee 2- Nothing changed lots, after all it is poker, but the difference is that you become a better player.

Interviewee 3- The evolution of the characters was very good.

Analysis: During the first month of playing the gamers quickly advanced through levels.

13. Experience after advancing to the advanced levels:

Interviewee 1- He is currently almost half way to the end game experience (character level and story progress). After reaching level 40 the progressing got too slow because the enemies he had to face were too strong compared to his character's equipment. He faced two options: either to spend some real money to continue or wait a really long time and gain daily rewards from playing the game daily.

Interviewee 2- Nothing changes drastically in the game.

Interviewee 3- He has been enjoying the game more. His character is at a higher level and he has received discounts for buying new and more efficient weapons. Better weapons are necessary to reach new levels and be successful in the game.

Analysis: All of the players have recognized the situation that only by buying items or accelerating some processes using real money, does the game flow fluidly.

14. Positive events

Interviewee 1- The daily reward system was implemented after he started playing. Getting rewards, such as free gems, by watching advertisements has been nice. New high-level items have been added and gave more motivation to reach the end game.

Interviewee 2- Nothing in special.

Interviewee 3- Steam offers interesting achievements, such as killing 10,000 zombies or killing the last zombie with the reward of being some sort of boss with only melee weapons.

Analysis: Players are motivated by game achievements and are also motivated to watch advertisement movies as a way to earn benefits which go towards the game.

15. Negative events

Interviewee 1- Multiplayer mode issues in the beginning. The game crashed several times but fortunately has never lost progress.

Interviewee 2- Nothing special.

Interviewee 3- The search for servers online is difficult and when you want to play with friends who are not on the same network or don't have internet access you can't.

Analysis: The multiplayer mode and server availability need more attention from the gaming companies.

16. Are you still playing the game? Why?

Interviewee 1- He managed to get the multiplayer mode working and that has made the character progress using only the game currency possible again. For this reason he is still playing but otherwise he believes that the game progress would be too slow and he still thinks that the prices in the game shop are too expensive for an iPhone game.

Interviewee 2- It is a fun and good way to pass the time that he has.

Interviewee 3- He is still playing and the motivation factor are his friends. He views the game as a way to relax and have fun.

Analysis: Although the progress of the game slows down when reaching advanced levels the players are motivated to continue playing by the fun, the way to pass time and their friends.

17. Has the game met your expectations?

Interviewee 1- He usually doesn't have many expectations when he downloads free games for iPhone. Considering that this game is beyond all his expectations and that if the game did cost money he would have bought the game by playing the demo, his expectations have been met. The game graphics and mechanics are high quality and

work really well on the iPhone platform.

Interviewee 2- Yes, it is only poker, there is not much to expect from it.

Interviewee 3- Yes, his expectation have be met very well. This game is based on tournaments and there is no worry about reaching the end of the game. The goals are completed during each phase or mission. He doesn't like being committed to the game.

Analysis: The players' expectations were not high and this might be because of the cheap or free game offers.

18. What kind of impressions you shared and with whom?

Interviewee 1- He invited his wife and several others friends on Facebook to play the game but just two friends started.

Interviewee 2- It is a good poker game, which doesn't require real money to be able to play.

Interviewee 3- The game is cooperative and he always invites friends because they help him experience the game better by increasing his level of enjoyment.

Analysis: The impressions of what to share were particular for the each game, but all of the interviewees shared the game with friends.

19. Have you recommend the game to someone?

Interviewee 1- He has shared his opinion with a work colleague and sent some invitations through the game.

Interviewee 2- Yes, to a few friends.

Interviewee 3- Yes, he recommends mainly because of the relax motivation.

Analysis: All of them recommend their games.

20. Why have you wanted to share your experience with this game?

Interviewee 1- Like in other action games, it would be nice to play together with friends.

Interviewee 2- To have the chance to play against some friends.

Interviewee 3- He prefers to cooperate in the game with friends not with strangers and he shares the experience with friend because it increases the possibility of playing with friends.

Analysis: All of them prefer to play the game with friends and this makes sharing a good way of promoting the game.

21. Were you approached by advertisements and purchases during the game play? What did you think at the moment and what do you think about this kind of approach?

Interviewee 1- Not during the game play, the game shows a pop-up banner every time he starts the game. It advertises in game items/currency sales and also other games from the same developer. He considers this a bit annoying to have to close the banner every time he play the game, and he thinks there should be an option to disable ads in the game settings.

Interviewee 2- Those are the down side of the game and they are annoying. The problem isn't the selling or the advertising but the time chosen to do it which is usually in the middle of a game.

Interviewee 3- In this game the only merchandising is the equipment and the players have the choice of even looking at the items. He said that this kind of approach is valid and doesn't interrupt the game flow.

Analysis: In general the players are not satisfied with advertisements or purchases during the game flow; they prefer to pay for better items.

22. What is the best way to get a monetary value from the game?

Interviewee 1- He thinks that the best way is to not break the game flow unlike the way pop up ads do. There are many places and moments that people could be alerted with badge icons, small tags, and buttons in different places like the main menu, in the pause view or in the game shop.

Interviewee 2- He didn't have an opinion about this.

Interviewee 3- He paid for the game. He liked the idea of selling items that are not really useful such as visual items because they are a very honest way to monetization.

Analysis: Like the previous questions, the game flow should not be interrupted and the progression through the levels hindered.

5.2.5 Summary of the interviews

It seems that all of the interviewees are running short of time and don't want to be slaves to the game. They want to reach high game levels without long-term commitments. All players are complaining about their expectations not being met after some game usage.

The gaming companies are only thinking about the early stages of the game playing cycle. One the reasons could be the leaving of the users in the early stages which is provoked by the decreasing expectations. During the first month of playing, players reach new levels quickly. Later the game flow starts to be slower and only by buying items or accelerating some processes does the game flow go smoothly. All of the interviewed players commented about this situation. Although the progress of the game slows when reaching advanced levels, players should be still motivated to play by having fun, a way to pass time and playing with friends. Playing is not just about purchasing items and advancing through the levels.

The idea of selling items is not attractive to them. Social advertising mechanisms are very efficient for introducing games. Players are motivated by the game achievements and also are motivated to watch advertisement movies as a way to earn benefits towards the game. When they download the game, they don't expect much and this is probably because of the many free game offers. All of the interviewees prefer to play their chosen games with friends and this makes sharing a good way to promote the game. In general, the players are not satisfied with advertisements or purchasing opportunities during the game flow. The success of the game adverts and purchasing opportunities depends on not interrupting the game flow or slowing down level progression.

The games installations are simple and easy. Although one of the interviewees had a misunderstanding about the platform advertisement, it didn't affect the success of the installation. The multiplayer mode and server availability need more attention from the gaming companies.

What is shared with friends is particular to the game experience but all participates did share about the game with friends.

5.2.6 Storytelling

Storytelling is a narrative method of research that uses the customer experiences by having them tell their stories in relation to the use of the service. Sometimes the story can be used as a basis for concepts.

A total of 6 players were contacted about storytelling however only 1 person accepted to tell a story about his gaming experience. It was decided that he would not only talk about one game but also about gaming in general. In the beginning the main research goals were explained to player and then the player started to talk about his gaming experience related to being reached by advertisements and purchasing opportunities during the game flow. The story was recorded and the researcher didn't interrupt the talking flow but in the end asked open ended questions to gather more in-depth data. The interviewee was a 33 year old Brazilian man. More detailed information about how the storytelling method was conducted can be found in the appendix of this research.

The storytelling method involves an oral flow of experiences. The ultimate goal was to find commonalities between the players' thoughts and find solutions of how to approach the player with advertisements and opportunities to buy items. The method was experimental and in future studies should be conducted in greater quantity.

5.2.7 Notes from storytelling method

"I consider myself a gamer because I've been playing videogames for more than 20 years on many platforms. Nowadays, I play social games on the web, console games (on PS3) and also games for iPhone.

My buying experience for social games, mainly Facebook games, is non-existent because I have never spent money on social networks. I don't trust to use my credit card on Facebook. Nevertheless, there have been some cases I've stopped playing some games due some offensive advertisement or a bad game experience. Some games break the game flow with special offers and limited time sales. I like when the games offer buying game content as an alternative for the 'reward for playing' mechanic, but not when they limit your progress and force the players to buy virtual currency in order to keep on playing. It's pretty common that the progress in a game gets slow as you advance the levels, but it should still be a fun experience.

Talking about consoles, I check in the stores and download demos\trial versions before buying the games. Sometimes I try the most popular or the latest games they advertise on the console network (PSN). When I really like the game I look for downloadable content (DLC) and sometime I pre-order the games in the store or buy the special collector's edition. I like the fact that we pay for console games once and they usually don't force us to buy in-game content or virtual currency.

Recently I've been playing more on iPhone due the mobility and short game sessions. There

are various styles of games I like to play, from hack & slash action to turn based RPG's along with puzzles and management games. I prefer free games but, different than Facebook, I trust the Apple Store service. Although I've spent some money buying games I have never spent on virtual currency. I consider the prices too high for such a small in-game reward (represented by a few pixels on a small screen). What I really dislike about some games is when they make progress almost impossible or extremely slow if the player refuses to buy virtual currency."

5.2.8 Summary of Storytelling approach

The interviewee is a hard-core game player; he has played games for more than 20 years on many platforms. He has never paid for anything in social games because he doesn't trust the security of the social networks. However he has paid for console and mobile games. He doesn't like to be interrupted by advertisements and purchase opportunities during the game flow, especially the ones which are not related to the game. Making the game slow and hindering the progress are also things that he doesn't agree. He likes when games offer buying game content as an alternative for the 'reward for playing' mechanic. Recently he has been playing more on iPhone due the mobility and short game sessions. He prefers free games but, differently from Facebook, he trusts the Apple Store service and makes purchases there. Although he has spent some money buying games, he has never spent money on virtual currencies because he considers the prices too high for the reward.

Comparing the methods chosen, it was clear that the interviews answered the questionnaire more and so extra information wasn't collected. However, with the storytelling approach more quality information was collected since the player was free really express points in his gaming experience that weren't thought about before the interview.

5.3 Gathering information and integrating game professionals

The objective of this particular part of the study was to gather an adequate amount of information to be able to understand and visualize how the gaming industry recognizes and applies User Experience and User-centered design methods and tools during game design process. Information was also gathered help with identifying development ideas for a user-centered game design framework.

The interview happened in two different steps. First the game design professionals were asked to answer an online questionnaire with 6 questions. The questionnaire was shared in many gaming communities which have international members. The goal was to gather information related to their opinions about integrating users into the game design process. Eleven

professionals participated in the first phase. The online method was chosen to reach a larger number of people. However, only eleven professionals answered it.

In the second phase, the first phase participants were asked to participate in a Skype or face-to-face interview. Only 5 professionals had the time to take part in the interview. The interviews were semi-structured and there was the opportunity to ask additional questions. In this way the themes are only indications of what subjects to ask about and the interviewer has the freedom to “dig deeper” into issues that arise during the interview. The second research phase was more qualitative than the first and the questions were built around the information received in the first phase.

5.3.1 Selected methods

The methods chosen were online questionnaires and interviews. The information gathered from these methods is sufficient to give an overview of this topic. However, later in this study the importance of having more answers and involving more groups and individuals for further studies will be explained.

Interviews - Conducting interviews is a method of research which requires direct contact with the individuals interviewed. Interviews may be structured and follow a script of questions or flow more as in a normal conversation. For the purpose of this study structured interviews with flexibility for conversation have been chosen (Martin & Hanington 2012 p.102).

Online questionnaire - Online questionnaires are typically a written survey, which the participants fill in information about their characteristics, thoughts, feelings, perceptions, behaviors, and or attitudes. Since the questionnaire is online the participant can answer the survey remotely and the data collected goes into a central database. The data can be obtained through closed-ended questions or open-ended questions and this gives the research more depth in possible responses (Martin & Hanington 2012 p.140).

5.3.2 Summary of interviews, first phase

In the first phase the following questions were asked:

1. How long have you been working in the Game Industry? -The aim was to understand how experienced the professional was in gaming industry and understand if there was some kind of relationship between experience and the new game design process. The most experienced

professionals were more confident in criticizing the way companies are approaching players and were also emotionally involved with previous gameplay models.

2. Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment). - This question focused on understanding the mind-set of the professional related to previous professional experiences. It was clear that the most positive answers related to the involvement of the players in the creative and development processes came from professionals with previous experience with disciplines with user experience design.

3. Are you applying user-centered design and/or measuring user experience in your work with games? From this questions nine participates responded positively and two negatively. From this question onwards the questionnaire was divided in order to understand the answers provided for this previous question.

Those who answered “No” were asked - **Why aren’t you applying UCD and measuring user experience in your work?** Only two answers were negative about the usage of player centered game design methods and tools while creating games. The interviewees were also participants in the second phase of the research. The answers were:

“We are studying player centered design approach and we want to implement the culture in our company. However we are always running and out of time and we have not had the time to implement it yet. This is also the first phase to be dropped when we are running out of time. We want to change it!” **Female, 30 - Game artist**

“I haven’t used those methods and tools because I’m not part of the user interface creation. My work is centralized in animations and illustrations. I am worried about the visual elements of the game and its clear comprehension.” **Male, 29 - Game artist**

From these answers it is clear that no one interviewed had a clear understanding about the user-centered design methods and tools and they didn’t know about the benefits of including players during the game design process.

For who answered “Yes” were asked: **3.1. What methods and tools are you using? 3.2. Explain the importance of the subject for the gaming industry and advantages of using these methods and tools. 3.3. Are you getting feedback from the players? Are they col-**

laborating in the game creation or giving feedback that enables you to improve the games (or create new ones)? If yes, how does it work?

From the nine positive answers (See more detailed information in the appendix of this study) it is possible to conclude that many game professionals are aware of player centered game design tools but do not fully understand how to apply them in the early stages of the game design process. They do understand the application of these tools and methods while the testing the prototype and beta test phase though. The player centered design methods and tools were not clearly understood and many times the use and reasons to use the tools and methods they know about is not completely understood.



Figure 4: Methods and tools mentioned in the interview.

The game professional indicated that they are not using many methods to engage customers in the game development process and that they contact users only in the testing stage, which many of the professionals know, is an imperfect approach. They were all interested in understanding the advantages of including the players earlier, even as early as the concept stage.

5.3.3 Summary of interviews, second phase

From the first phase, five professionals accepted to continue to the second phase. The idea was to more deeply understand the answers given in the first questionnaire. After the first

phase there was a clear need to understand the current game design processes and to find the most player centered game design process to use as a base for improvements. Another important factor to understand was which player centered design methods would be accepted by the gaming companies as advantageous. The interviews were held via Skype.

In the second phase the questions were based on the answers given on the first phase and they were prepared in advance but they had a free structure according to the answers. The goal was to get more qualitative information and use the interviewees as co-creators of the new customer centered game design process framework. Below are some of the quotes from the interviews and the complete notes divided by interviewee can be viewed in the appendix section:

Within the second phase were two people who had previously answered that they were not using user-centric methods and tools in the game design process. Following are some of the statements they made during the second phase:

“I experienced the other day a situation where I had to propose many drawings of the same character and the selection was based on management opinion. There many different drawings that I suggested we could try something with the target group.” Male, 29

“I believe that user-centered design methods and tools can help my work and the teamwork daily. First, to understand for whom we are creating the game, secondly, to see if we are going in the right direction and lastly to validate if we did things correctly and improve what went wrong.” Female, 30

“We only use the method when we have the time, but it is better than nothing and there is not so much time in the concept phase. We didn’t get any training about the tools.” Female, 30

Three of the participants which answered that they were using user-centric methods and tools in the game design process in first research phase went through to the second research phase. Following some notes from second phase:

“The projects that we don’t pay for design research are the ones with low budget and short time deliver. What we do is to adapt the process and this is part of the mind-set of our team and the company.” Male, 35

“When there is not enough time in the process usually design research is the first one to be cut. Professionals usually want to only test in the end of the process, for quality purposes.” Male, 35

“The design process is dynamic and can be adapted the second the project needs it to. However interactions between the team, client and customers are essential.” Male, 35

“We are doing something very exploratory at the moment here in the company. The developers and designers believe that we are always trying to include more phases in the design process and they don’t see this as a healthy thing for production. So we are trying to teach our team. I believe is a question of professional maturity too.” Female, 38

“The idea comes from the professional, not from the players and the idea need to be validated and improved. The interviews are usually conducted with open questions and the character exploratory. The past experiences are very valuable in the game research, mainly if you are looking into target a determined people segment or game style segment”. Female, 38

“Needs to be contextually tested, the player uses the prototype for a week, at home and in other places where they usually go. Before they get the prototype we do an interview to check the first impressions about the game and that the proper mechanisms are responsible to gathering data while the player is playing the game. We ask player also to write a diary, usually with questions pre-defined that they answer during the week. In the end we do a Net promotion evaluation, which will give answers about the general satisfaction in relation to the game.” Female, 38

“Game professional have the tendency of creating games for themselves or from a demand coming from the Publisher, or for a company that asked for the game.” Male, 32

“There is a saying that game designers living in the past always say that older games were better the current ones.” Male, 32

“Yes, players can help in the idealization of the games, but I don’t know exactly how. I would say that not all players have the capacity of co-creating. They don’t know what they want but they know what they like. They know

about their needs and problems but they usually don't know about the solution. This is part of the company mind-set. Constant data collection is needed.” Male, 32

“I believe the information about customers should come from a department because of the amount of data that needs to be collected. However it is important that game professionals participate in small doses during the data gathering some of the time. However the acceptance of the data comes from the game designer. Meaning that even with methods that emerge you looking from the player's point of view and it is important that the game designers don't follow in love with their own opinions but that they take in consideration the data gathered.” Male, 32

“Design research costs money and usually companies are not able to pay. Companies consider the experience of the game professionals and their capability of understanding of the data collected from other non-user sources. Why should I talk with the player? As a game designer I know the goals of the game. During the gameplay it is very reasonable to collect data.” Male, 32

5.3.4 Relationship between Adam's player-centered game design process and other user-centered design processes.

In order to understand the differences and similarities between Adam's players centered game design process and the other user-centered design process approaches; the stages and the goals of each of them are compared and contrasted in the table below:

PROCESS	PHASE 1	PHASE 2	PHASE 3	+ PHASES
Player-centered Game design Process (Adams 2010) ⁶⁹	1. The Concept	2. Elaborating	3. Tuning	
Description and outcomes	This is the phase where the team imagines a game and defines the way it works	This is the phase in which most of the design details are added and decisions are refined through prototyping and play testing	No new features are added during this phase only smaller improvements and adjustments can be made to polish the game	

⁶⁹ Adams, Ernest (2010). Fundamentals of Game Design. Second Edition. Published by New Riders. Chapter 2 - Design Components and Processes, pp. 45 - 50.

Service Design process by Stefan Moritz⁷⁰	1. Understanding 2. Thinking	3. Generating	4. Filtering 5. Explaining	6. Realizing
Description and outcomes	Use of different service design methods and tools to understand the needs of the, market, client, and the organization as well as the overall context and relationships available. Then the gathered material is compiled, which helps to set the criteria, the objectives and the service strategy. Details are also to be specified.	After establishing the appropriate environment, involving the relevant people, and preparing research insights and inspiration, an incredible amount of ideas, solutions and concepts are developed. The ideas, solutions and concepts are then evaluated based on the established criteria, strategy and factors which are relevant and fit the profile.	From the large group of solutions and ideas, the best and most relevant should be selected and its performance evaluated against the different professional measures already within the field. It can help to generate practical summaries and to request and support strategic decisions.	During this stage the service goes live for testing. The purpose is to provide all necessary resources so that the selected concept can be implemented and to test an experience prototype.
The interactive process of service design thinking⁷¹	1. Exploration	2. Creation	3. Reflection	4. Implementation
Description and outcomes	First, understand the goals of the service provider company and the game design company. Look at problems from the company's perspective and then switch to viewing the problems from the customers' perspective to better understand the viewpoints of the other parties. Complete a good visualization of the collected data because this will be helpful in the next stages and will also help with communicating to external and internal stakeholders.	In the Creation stage the focus is on concept design. Based on the problems found during the exploration phase, the service design team starts to generate ideas and test them. The participation of multidisciplinary professionals is essential as well as the customers testing and together these two resources help to create a holistic vision about the service.	The Reflection stage is about developing a prototype, testing it and making improvements. The services should be tested as realistically as possible to find improvements and why to continue into the implementation stage. It is important to consider the emotional aspects of the service as it can give good insights to crucial situations and how to engage the customers.	The implementation stage demands that all of the people involved with delivering service are trained and are involved with the concept so that there is one mindset about the service delivery. A change plan needs to be carefully drafted in order to efficiently implement the concept.
Design Thinking process by Tim Brown⁷²	1. Inspiration	2. Ideation	3. Implementation	
Description and outcomes	Inspiration is the	Ideation is the process of generating, devel-	Implementation is the path that leads	

⁷⁰ Moritz, Stefan (2005). Service Design - Practical Access to an Evolving Field, pp 123 - 144.

⁷¹ Stickdorn, Marc & Schneider, Jakob (2011). This is Service Design Thinking BIS Publishers, pp.122-135

⁷² Brown, Tim (2008) Design Thinking, Harvard Business Review | June 2008 | hbr.org, pp. 88-89.

	problem or opportunity that motivates the search for solutions. Everything hinges on inspiration. It is needed for new insights which drive innovation. Insights come from extreme users and not from center of the bell curve.	oping, and testing ideas. Building to think is the essence of the prototyping process. Prototypes can be very rough but they should always enable engagement & discussion. Prototypes don't have to be physical but do need to be tangible.	the product from the project stage into people's lives. Sometimes, the story can be end the result because it can create new knowledge. If designers tell a story in the right way they can have enormous influence through design.	
New Service Design process (NSD)⁷³	1 - Review 2 - Diagnose & Analysis	3 - Idea Generation	4 - Synthesis & Plan 5 - Specification	6 - Test 7 - Launch
Description and outcomes	This stage starts with the necessity of improving the customer experience. First a review of the current situation and problems is needed. This phase is research oriented and it aims to find the root of the problems and understand the, situation, context, user needs, organization needs, and possible opportunities. All project goals need to be defined here.	The ideas generated in this stage should be based on the information gathered in the previous stage. The purpose of this phase is to create and analyze possible solutions to the problems found in the previous stages. Co-creating with employees and customers should be included here to help with idea generation.	The ideas generated in the previous stage should now be tested and one to three selected to go forward into the next stages. The specification phase brings out the details of the design and prototype of the desired service solution. It is very important to internally involve the employees with the testing of the service and that the testing is completed within context.	The test phase is a preparation for the launch phase and it is very important to involve real customers to prove the concept. Launch is considered as the end of the NSD project but also as the starting point for other processes such as monitoring and supporting phases, both of which help warranty the success of the service.

Table 6: Methods and tools for player-centered design relation of player-centered game design process and other user-centered design processes.

The comparison above shows that there are some gaps in the game design process when they are compared with more traditional service design processes. The game design processes are missing the understanding phase which means that there are no studies related to customer behavior, benchmarking, or other design related methods which help anticipate the expectations and needs of the customers. If the NSD process is selected as an ideal process, there is also no monitoring phase in the game design process after the service has been launched.

Since games are being considered as services, the ideal process would include customers throughout the whole process as co-creators of the service. This would not only improve the whole customer experience but also help professionals improve the game design process.

⁷³ Qin, Han (2012). Practices and principles in service design: stakeholders, knowledge and community of service. Publisher: Lulu.com, pp. 45-50.

The following section will explain what player-centered design process presented by Adams (2010) would look like if it included the missing stages from the SDN process and suggestions of service design methods and tools that will make the Adam's process more customer oriented will be made.

5.3.5 User-centered design methods and tools applied to Game design process

The purpose of this section is to create a service design framework for the player-centered design process presented by Adams (2010) which incorporates the service design stages, methods, and tools which have been previously presented in this study. The idea is to consider the game as a service and bring more inputs into the game development. These inputs are about how the players behave, not only while playing, but also as customers, for example game awareness, purchase process and advocating. Adam's process stages results will be presented below in several tables related to the process stages:

Understanding stage

During the understanding stage ideas are needed and the involvement of all possible stakeholders will make the idealization more focused on an idea suitable to all parties. The stakeholders also have the chance to express their opinions and discuss the benefits of their assumptions when they are involved. A fair agreement about proceeding to the next stages is made after this stage. The description of the service design methods and tools and their benefits that can be applied to the stage are presented in Table 7.

STAGE	DESCRIPTION	SERVICE DESIGN METHODS and TOOLS	BENEFITS
1.1. Getting a concept	Finding the general idea of how to entertain someone through gameplay, the type of experience, game genre, etc. How will the game make money? Co-create value with the players and game developers from different fields. Try to visualize how the game business should be implemented.	<ul style="list-style-type: none"> • Benchmarking • Idea generation • Affinity diagram • Business Model Canvas • Concept drawing • Idea poster • Trend cards • Competitors analysis • Elevator pitch 	Allows the co-construction of the player experience. Testimonials, comments and other concerns about similar games are taken into consideration. The understanding of how the game could be profitable, the core concept of the game, and market strengths are all found. Inclusion of stakeholders in the creation process avoids changes during implementation.

Table 7: Understanding stage as an addition to the concept process.

Idealization stage

In this stage the concept idea is made more concrete and development ideas generated. In this phase an in-depth understanding of how the game should work is needed. Table 8 illustrates the suggested service design methods and tools, as well as a description of the stage and the benefits of implementing a more customer-oriented approach.

STAGE	DESCRIPTION	SERVICE DESIGN METHODS and TOOLS	BENEFITS
2.2. Defining the audience	Who would enjoy the experience? Finding the target market.	<ul style="list-style-type: none"> • Interviews • Focus groups • Personas • Stakeholder map • Scenarios 	Validation of the concept as an entertainment approach. Helps to discover who influences in the player experience. Understanding the context(s) in which the game will be played.
1.3. Determining the player's role	Finding what the player's role is. The player also can have multiple roles. Explain the role of other people in the game so there is social appeal.	<ul style="list-style-type: none"> • Put the foot on the player shoes • Player journey maps • Player experiences maps • Stakeholder map • Service safaris • As a player I would like to... (Use cases) 	Creating an experience environment in which players can have active dialogue and co-construct personalized experiences. Understand the experience and the external influences that may help game designer create better and clearer roles for the players.
1.4. Fulfilling the dream	What is the essence of the experience that you are going to offer? What are the player expectations? Dreams of achievement, of power, of creation, certain experiences, etc. This is the first step in defining the gameplay.	<ul style="list-style-type: none"> • Interviews • Experience prototype • The Five Whys • What if... • Moodboards • Storyboards 	Moodboards give the inspiration for the gameplay, look and feel, core mechanism, etc. By asking why and what if repeatedly you may find meaningful information. The storyboard makes the game narrative visible and easy to follow for others. Interviews help find what the player expectations and motivations are. Trace the changes in expectations and motivation as the player reaches advanced levels.

Table 8: Service design approach in addition to idealization stage.

Elaboration Stage

In the elaboration stage the elements that make up the game are described and communicated to the team who will build it. Essential to this stage is that players are involved as prototype testers. The description of the stage and the benefits utilizing the service design methods tools suggested are in the following Table 9.

STAGE	DESCRIPTION	SERVICE DESIGN METHODS and TOOLS	BENEFITS
3.1. Defining the primary gameplay mode	Defining every detail of the primary gameplay mode: the perspective in which the player views the world, the challenges, the actions, etc. How will the monetization of the game influence the gameplay?	<ul style="list-style-type: none"> • Paper prototypes • Focus group • Interviews • Expectations maps • Player Lifecycle maps 	Creates something tangible Helps change and improve features in the game when real players are involved in testing. The lifecycles maps and expectations help to understand how the player acts as they strive for game mastery.
3.2. Designing the protagonist	Build a protagonist which the player can identify with and care about. How does she look and behave? Consider body language, capability to action, vocabulary and kind of language. This is about the character development.	<ul style="list-style-type: none"> • Player interviews • Focus groups • Role-playing 	By showing multiples characters to the players the one they identify more with can be chosen. The team can also perform the characters of the game. Role-play can help the characters develop.
3.3. Defining the game world	Establishing the look and the feel of the game. Defining the many dimensions to a game world: physical, temporal, environmental, emotional and ethical.	<ul style="list-style-type: none"> • Brainstorming • Affinity diagrams • Player Lifecycle maps • Moodboards • Futures Cards trends 	Reasonable ideas and insights are created. Common visual aspects for inspiration related to the look and feel of the game. Futures Cards trends give the idea of how the futures could be based on information from the community.
3.4. Design the core mechanisms	How the core mechanisms create challenges and implement actions, i.e. if the player will play a sport, what are the player athletic characteristics, speed, strength, acceleration, accuracy, etc.	<ul style="list-style-type: none"> • Brainstorming • Paper prototypes • Prototype simulators • Expectations maps • Focus groups • Interviews 	What do the players think they needs in the game? What do they think the main characters skills could be? And many other questions could be answered with the help of the players and the team.
3.4 Creating additional modes	The need for additional modes may be discovered while the primary gameplay mode and its core mechanics are being defined. Document what causes the game to move from mode to mode.	<ul style="list-style-type: none"> • Game Blue Print • Expectations maps • Player Lifecycle maps 	By analyzing the player journey and expectations, game designers have the tools to validate the need for additional modes.
3.5 Design levels	Level design is the process of constructing the game experience using the components provided by the game design: the characters, challenges, actions, game world, core mechanics, and the storyline if there is one.	<ul style="list-style-type: none"> • Game Blue Print • Player Lifecycle maps 	By analyzing the player journey it is easier to add challenges that the player will face as they master the game.

3.6. Writing the story	Stories help keep the player interested and involved. They give reasons to go on to the next level. A story may be integrated with the gameplay in a number of different ways.	<ul style="list-style-type: none"> • Blue Print • Player Lifecycle maps (related to the player journey, challenges, emotions, stakeholders, etc.) 	Analyzing the journey and challenges that the player will face make it easier to create the details and the story flow.
3.7. Build, test, and iterate	Video games must be prototyped and tested at every step along the way. Each new idea must be constructed and tried out. This would preferably happen in a quick-and dirty fashion at first before the idea is incorporated into the completed product.	<ul style="list-style-type: none"> • Paper prototypes • Simulation prototypes • Net Promoting Score • Semantic Scale • Interviews (UX questionnaire) • Focus groups • Storytelling 	With agile prototypes, game designers can easily change and improve aspects and controls of the game as they are validating with the players. Using the Net-Promoter Score and Semantic scale, game designers can check how far they are from the game goals.

Table 9: Service design approach in addition to Elaboration stage.

Tuning stage

The polishing of the game is completed in this stage and is based on the previous findings of the previous stage. In this stage the game is almost ready for launching. To include players in this stage is not a new thing. Game developers, along with players, test the usability and the efficiency of the gameplay. However some other aspects from service design could be included in this stage. Some aspects could include, player satisfaction, intention to play, emotional involvement, etc. The suggested tools and methods of service design to be added in the stage and the benefits of adding them are represented in Table 10.

STAGE	DESCRIPTION	SERVICE DESIGN METHODS and TOOLS	BENEFITS
4. Tuning stage	No new features are added in this stage, only small adjustments to complete the game. Tune and polish the game until it is perfect.	<ul style="list-style-type: none"> • Beta test prototype • Net Promoting Score • Semantic Scale • Heuristic Evaluation • Usability testing • Heuristic evaluation • Task analyses grid • UX questionnaires • Storytelling • Evaluation of Emotion-Eliciting Situations 	The Net-Promoter Score and Semantic scale can measure how close the game design is from the user expectations and playing motivations. Helps develop better, user interfaces, control mechanisms, game interactions, and efficiency of the platforms. UX questionnaires and Storytelling help to understand the vision of the players.

Table 10: Service design approach in addition to tuning stage.

Agile Development

This is an additional stage to the three stages that Adam presents. This stage makes the process more receptive to the players' point of view after the game launch (Table 5) and takes into consideration a more user experience agile and co-creative process by constantly scanning the players' behavior and listening to their feedback.

STAGE	DESCRIPTION	SERVICE DESIGN METHODS and TOOLS	BENEFITS
5. Agile Development	Continuously scanning user behaviors and engagement, while receiving feedback about satisfaction.	<ul style="list-style-type: none"> • Game analytics • Focus groups • Interviews • Design labs • Ethnographic research • Futures thinking • Collaborative tools such as forums, communities, templates, design patterns, APIs, and a fan art page. 	Improvements on the game and futures releases. Measures the game satisfaction and potentials.

Table 11: Agile Supplement to Adams's Process

The benefits of including this stage in the game design process include; improvement ideas for the current game and ideas for future, features, improvements, releases, versions and or game ideas. This stage permits the inclusion of new features and other improvements by advanced planning.

Another important addition to Adam's design game process is the understanding the concept phase. The understanding stage brings the concept phase a complete understanding about the players, their culture, needs, expectations and the context. Also an understanding of the competitors, stakeholders, market segments and other aspects help the business thrive.

5.4 Planning Action phase

5.4.1 Creating the player service experience - toolkit and workshop

The purpose of this section is to introduce the methods and tools which are presented in the understanding stage in Table 7 and explain how they are related to the creating the concept. The decision to select the tools and why some of them were modified for the workshop will also be explained. Later in this study, the benefits of the method in the game concept phase will be tested.

5.4.2 Reasons for co-creation

Co-creation is the aim of service design thinking. By getting customer and organization feedback, it is possible to truly understand what the service problems are and how to solve them. Stickdorn (2011) in the book - **This is service design thinking**, states *“Co-creation is a core aspect of the service design philosophy. It can involve anyone from staff, designers, executives or customers working collaboratively in order to examine and innovate a given service experience.”*

Co-creation offers opportunities for consumers to co-construct their own experiences in a specific context and time with a company. Co-creation should accommodate a heterogeneous group of consumers, from the very sophisticated and active consumer to the very unsophisticated and passive consumer. It is also important to recognize that not all consumers want to co-create. In co-creation firms also need to follow the new opportunities that emerge with new technologies, engage the consumers emotionally and intellectually, respect the individual's choices and feedbacks, and to be prepared to change actions quickly to attend to the consumer's needs⁷⁴.

5.4.3 Creative tools and methods - How and why they improve the design process

Vidal (2006) wrote in his book, *Creative and Participative Problem Solving*⁷⁵, about the importance of creative tools as support for discussions. When people try to use the tool together, they are encouraged to make them work.

Vidal (2006) highlights that all of us have experienced cases that have already been solved many times and some of these cases have, obvious standard forms, clearly formulated goals, all of the necessary information, standard rules to follow, one right answer, and the main motivation of external approval. This statement shows that it is that a template containing a checklist that forces us to think about determined topics can help us solve problems and be innovative.

There are several creative tools and methods that could support the different stages of the creative processes. Some of these tools could be, customer map journeys, a stakeholders map, service blue prints, design probes, service role-playing, among others. These tools are

⁷⁴ Prahalad, C.K., Ramaswamy, Venkat. 2004, *The Future of Competition, Co-Creating Unique Value with Customers*, Harvard Business School Press, Boston, Massachusetts.

⁷⁵ Vidal, René Victor Valqui (2006) *CREATIVE AND PARTICIPATIVE PROBLEM SOLVING - THE ART AND THE SCIENCE* Informatics and Mathematical Modeling Technical University of Denmark - chapter 5 - Creative tools.

designed to help us to develop creative and imaginative solutions and help us pay attention to opportunities and gaps that might be missed if an overview of the whole service ecosystem is not available. Vidal (2006) suggests that the usage of creative tools consist topics such as: creating or improving products or services, developing new strategies, generating radical ideas, making creative leaps, widening the search for solutions, looking at problems from different perspectives, and solving everyday problems. The next section will be about the methods and tools that have been chosen in the understanding phase and the reasoning behind the choices.

6 Action phase

6.1 Design workshops

Design workshops are ways of putting team together to think about a problem, discuss the issue, and/or create a solution. Participatory methods and tools are used for collaboration and co-creation between participants. Design workshops are often used in the design thinking processes.

To paraphrase Martin & Hanington (2012)⁷⁶, design workshops are efficient, compelling, and fun ways to gain the creative trust and input from stakeholders. The activities usually bring the teams towards to a common goal. The workshop organizer is responsible for researching the best tools and methods that fit the purpose of the workshop. Some of the tools and methods could be sketches, storyboards, mock-ups, role-play interactions, or any other way to represent or visualize the problem which will be solved through design.

To prove that service design methods and tools are important in the game design process a training session followed by a designed workshop will occur. A brief introduction to the methods and tools included in the workshop will also be provided. The idea is to prove how a single workshop session can make a difference in the game design process.

6.1.1 The game business design toolkit - Results

The result of this study is a toolkit which helps create the game business concept. The toolkit can be presented an electronic publication form as a new approach to develop games with integration of customers in the development process. The publication consists of a motivation part explaining the usefulness of the approach. Moreover the selected methods are described

⁷⁶ Martin, Bella & Hanington, Bruce (2012), *Universal Methods of Design*. Rockport Publishers. Pp 62-63.

in detail and the way they should be used explained. As a final part the publication, key aspects of service innovation and design are explained.

The selected methods are: persona, stakeholder map, service ecosystem, customer journey, idea generation, affinity diagram, business model canvas, idea poster and elevator pitch.

6.1.2 Personas or character profiles

Personas are characters created by using collected data from the target users. They describe physical and emotional aspects, such as ethnography, behaviors, habits, family composition, decision influencers related to the service, and profession. All of this content helps game design professionals visualize from the customer's point of view.

Moritz (2011) says that personas are user archetypes which are based on in-depth research. They merge patterns that occur in the research and bring a better understanding about customer during the service design process. In the service design process, the personas have a similar role as character profiles. Personas help the team get into the customers' shoes.

Pruitt and Grudin (2003) state that, "personas create a strong focus on users and work contexts through the fictionalized settings". With personas it is possible to illustrate the goals, motivations and wishes of users. Personas can also clarify what kind of technologies people use and how they use them (*Cooper, 1999*). The greatest value of personas is that they provide a shared basis for communication (*Pruitt and Grudin 2003*).

The understanding the customer can be subjective if personas are not based on in-depth research and for this reason persona creation as a character profile, as Moritz (2011) describes, will be used. Persona creation as a character profile is a tool for spreading knowledge about the customers from team members who have more contact with the customers to those who do not.

Every player might interact at different touch-points of the customer journey and it is very important to understand why these interactions happen. This is why an additional section to include the reason why these interactions happen has been added to the usual personas canvas. See Figure 5.

PERSONAS TEMPLATE

Project				Narrative						
Picture				Goals						
Name							Motivations			
Profile							Frustrations			
Family composition				Service usage			Customer journey map			
Lifestyle				Location						
Attitude	Age and gender									
Occupation	Use capabilities									

1 | © Innoos Pk | Confidential

Figure 5: Persona creation canvas (Vita 2013).

6.1.3 Stakeholder map

Stakeholders can give an understanding about the people and groups involved in the service ecosystem. By drawing a comprehensive stakeholder map it is possible to visualize issues concerning each of these groups (Stickdorn 2012).

First a comprehensive list of the groups and people involved in the service is drawn. Secondly, with the goal of understanding how they influence customer decisions and their level of importance for planned service, each parties' interests and motivations are written down. Third, the team discusses how the groups are related to each other. Stickdorn & Schneider (2012) highlight that the team can engage in visualization processes which could produce an overview of the pains points and gaps in services which could be explored and transformed into real opportunities.

During the game design idealization, the stakeholder map could give game professionals a better overview of the game outside of the gameplay. This mind-set would make it possible to include all stakeholder groups more effectively during the whole game design process. Below, in Figure 6, is the stakeholder map tool designed to be a part of the toolkit.

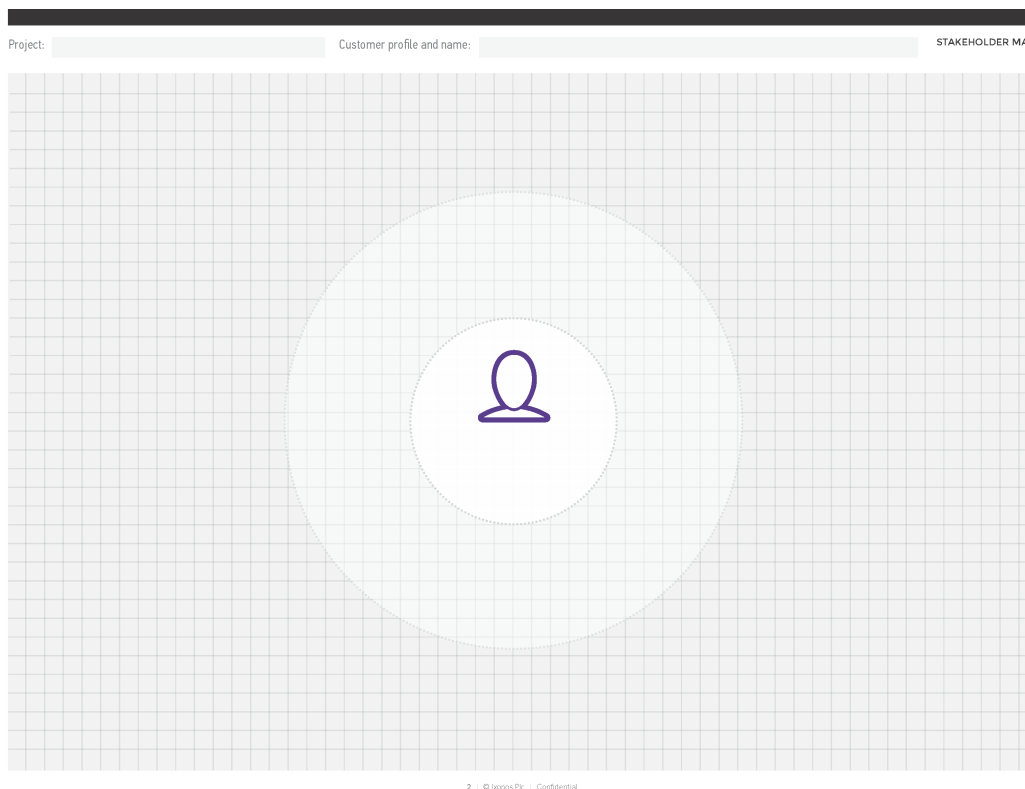


Figure 6: Stakeholder map canvas (Stickdorn & Schneider 2011)

6.1.4 Service ecosystem map or context analysis

Moritz (2011) described the contextual analysis as an important tool to understand the overall context of the service, which includes all variables that can affect the organization and the client of the service.

The tool presented by Moritz (2011) has been combined with the service ecosystem map approach. The ecosystem idea comes from the article *Design for a Thriving UX Ecosystem*⁷⁷ presented in the UX Magazine. In this article Jone (2012) says that every product or service comes into this world with a relevant quantity of actors, relations and conditions that they interact within. However there is a larger ecosystem that is composed of a series of other elements such as physical, technical and other basic features, which need to be kept in mind as core elements of the service.

The tool presented below is a framework where the service is centralized and its ecosystem can be drawn around it as a sequence of priority elements. In the case of a game, the exist-

⁷⁷ Jone, Dave; Internet source: ARTICLE NO. 851 AUGUST 14, 2012 - Design for a Thriving UX Ecosystem

ence of platforms, different devices, controllers, monetization systems, stores, and other elements can be consider by using this tool.

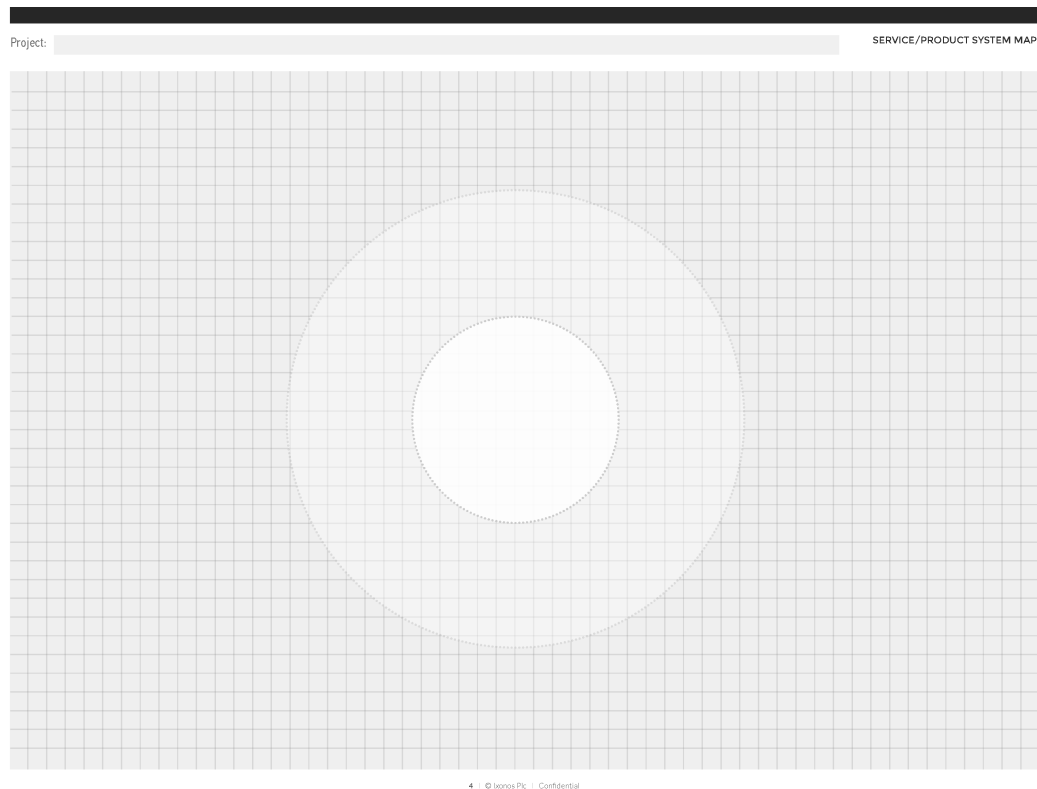


Figure 7: Service ecosystem map canvas (Vita 2013)

6.1.5 Customer journey map

The customer journey map makes the visualization of all possible user touch points in relation to a service possible. A well designed map turns into a good visualization of the customer experience cycle. This can be used as an overview of the steps the customers go through as they experience the service at a general level or it can represent a more specific task in the customer journey.

The map provides the design team a vivid but structured visualization of the users' service experience (Stickdorn 2011). Touch points or moments when users interact with the service, are often used to construct a 'journey' or an engaging story based upon the customer experience. This story explains in detail the user's interaction with the service and the accompanying emotions.

The customer journey map helps game designers think about other factors during the journey and possible influences on the players as they go through the customer experience cycle. This

method makes it possible to identify elements such as community support, game installation, game purchase, game progress, emotional involvement during the journey, and other important aspects.

Figure 8: Customer journey map canvas (Vita 2013).

The player experience journey goes from being interested in a certain game type until the player advocates the game and has completed the game himself. The following described player experience and service touch points are based on analyzing personal player experience in digital games: (1) past experience with same kind of gameplay, (2) friends or community reviews, (3) player personal game reviews, (4) game awareness, (5) game purchase, (6) game installation, (7) game login, (8) friends sync, (9) game tutorial, (10) gameplay, (11) social interaction, (12) first game purchase, (13) continuing game purchases, (14) game progress and levelling, (15) sharing, (16) leaving the game, (17) advocating.

6.1.6 Ideas generation

There are a lot of methods that help people become more creative and generating many ideas. Designers use idea generation sessions as a structured form of bringing the ideas together and an opportunity for people to be creative without others being critical. The team priori-

tizes ideas and all decisions need to be consensual. The sessions usually take the form of simple exercises which can be used to stimulate group discussions (Stickdorn 2012).

The most popular form of idea generation is brainstorming (Osborn 1953). Brainstorming is a process for generating a large number of creative ideas and solutions. The participants are encouraged to suggest as many ideas possible without any kind of criticism. There are several complementary methods to brainstorming sessions.

Horst Geschka (2007) and his associates at the Battelle Institute in Germany have developed a variety of group creative-thinking techniques, one of them is called the Brainwriting method. This method is a quick and effective method of generating a large amount of ideas. A brainwriting session is similar to a general brainstorming session, however participants are asked to write down their ideas instead of saying them aloud. The brainwriting groups usually consist of six participants and each participate individually writes down three ideas about a specific problem within a set time period which is usually around 5 minutes long. These ideas are then passed around five times and each time a different participant adds another 3 ideas to those already on the paper. This method generates 108 ideas (6 x 3 x 6). Other examples of tools developed by the Battelle Institute are six thinking hats, mind-mapping and S.W.O.T analysis. These tools can be used in brainstorming sessions and many of them are considered helpful in creating a better environment and bringing more creativity into the sessions.

During the concept creation phase it is very important that many ideas are created. These ideas should come from different point of views and include players and game professionals from different backgrounds. Going through all possible ideas during the early stages of the creation process avoids the situation where new ideas are created in the implementation phase, where changes are difficult and add extra time to the design process. The number of people involved in the brainstorming session varies according to the number of facilitators and comfort of the room where the workshop will be held.

6.1.7 Affinity Diagram

Affinity diagram is a visual tool that helps designers clearly identify categories during brainstorm sessions by clustering them. The aim of the brainstorm is to create a large number of ideas and the affinity diagram method helps to identify similar ideas. This helps in selecting the most suitable ideas.

Moritz (2011) considers the affinity diagram as a creative process which gathers and organizes insights, ideas and opinions. It brings simplicity to a complicated issue and helps the group prioritize and discuss the ideas generated.

6.1.8 Business Model Canvas

The Business Model Canvas is a simple and efficient way of describing and visualizing how the organization creates, delivers and captures value. Osterwalder & Pigneur (2010)⁷⁸ co-created the Business Model Canvas with 420 members of business model community. They started from the idea that all business models until that point were difficult to understand and there was a need for a better framework to make ideas easier to visualize and understand.

The Business Model Canvas made up of nine blocks, they are: Customer Segments, Value Propositions, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships and Cost Structure. These blocks help the participants visualize and describe important factors in the business model. Below is a description of what each block should contain:

- Customer Segments - What group(s) of people benefit from the value proposition, how many there are now and will be in the future.
- Value Propositions - The offerings to the customers, including how it addresses their needs and how the consumers themselves would describe the benefit.
- Channels - How the value proposition is delivered to the consumer and how it is communicated to them.
- Customer Relationships - Describes the types of relationships a business establishes with each customer segment and includes customer acquisition, customer retention and boosting sales.
- Revenue Streams - Competitive strategy, what differentiates the business from others, and competitor analysis.
- Key Resources - Capabilities and the skills the business needs in order to create the value proposition particularly within the team.
- Key Activities - The most important activities that make the business model work. They can be categorized as production, platform or network and problem solving.
- Key Partnerships - Partners the business may need in order to develop and deliver the value proposition.
- Cost Structure - Profitability, the initial value proposition development cost and the costs of marketing and delivering the value proposition along with how much the customer is willing to pay.

⁷⁸ Osterwalder, Alexander & Pigneur, Yves (2010). Business Model Generation. Published by John Wiley.

Visualizing the building blocks show where further action is needed which helps the game design professionals create an overview of the business side of the game and how the gameplay will be affected by the channels and revenues integrated into the gameplay. The visualization of the building blocks also help understand how the game will make money and engage players. (Below the Business Model Canvas, figure 9).

The Business Model Canvas Designed for: _____ Designed by: _____ On: _____ Iteration: _____

<p>Key Partners</p> <p>Who are our Key Partners? Why do we need them? Which Key Activities are we outsourcing to partners? Which Key Activities do partners perform?</p>	<p>Key Activities</p> <p>What Key Activities do our Value Propositions require? Do they require Channels? Customer Relationships? Revenue Streams?</p>	<p>Value Propositions</p> <p>What value do we deliver to the customer? What sort of our customer problems are we helping to solve? What benefits, products, and services are we offering to each Customer Segment? Which customer needs are we solving for?</p>	<p>Customer Relationships</p> <p>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? How are we reaching them? How are they interacting with the rest of our business model? How easily can they be acquired?</p>	<p>Customer Segments</p> <p>For whom are we creating value? Who are our most important customers?</p>
	<p>Key Resources</p> <p>What Key Resources do our Value Propositions require? Do they require Channels? Customer Relationships? Revenue Streams?</p>		<p>Channels</p> <p>Through which Channels do our Customer Segments reach the market? How are we reaching them? How are our Channels being used? Which costs are best? Which costs are most cost-effective? How are we engaging them with customer acquisition?</p>	
<p>Cost Structure</p> <p>What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?</p>			<p>Revenue Streams</p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?</p>	

www.businessmodelgeneration.com

Figure 9: Business Model Canvas (Osterwalder et al. 2010).

6.1.9 Game poster or idea poster

An idea poster helps the design team summarize the idea by finding the most important elements that represent the idea. The creation of a poster is also a good way to confirm how the customers perceive the offering once the service is launched on the market (Moggridge, 2006). Moggridge (2006)⁷⁹ believes that the game poster is a link between the service idea and the existing reality and an effective way of visualization of the solution.

The idea poster was placed in the game business design toolkit in order to get game design professionals to summarize their ideas and understand the complexity of the game while selling it to players (See Figure 10).

Usually the poster canvas is an A3 format paper upon which the participant can freely include their ideas. Placing a grid on the canvas helps the participant with the drawing process.

⁷⁹ Moggridge, Bill (2006) - Designing Interactions, The MIT Press, Cambridge.

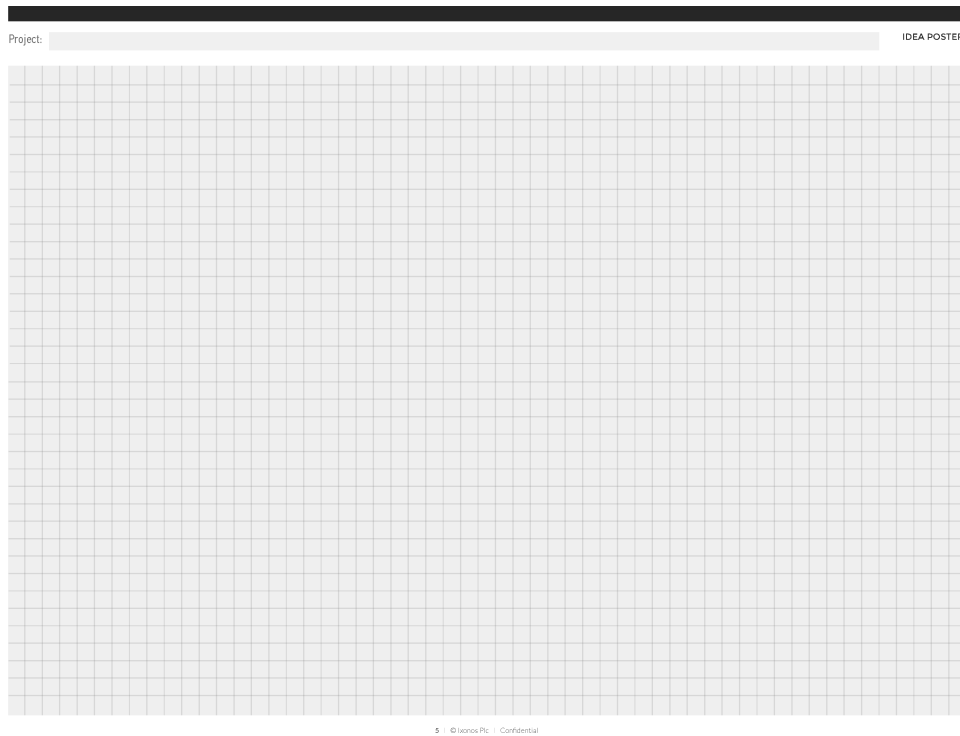


Figure 10: Game poster canvas (Vita 2013).

Figure 11 below shows an example of how the tool's usage:

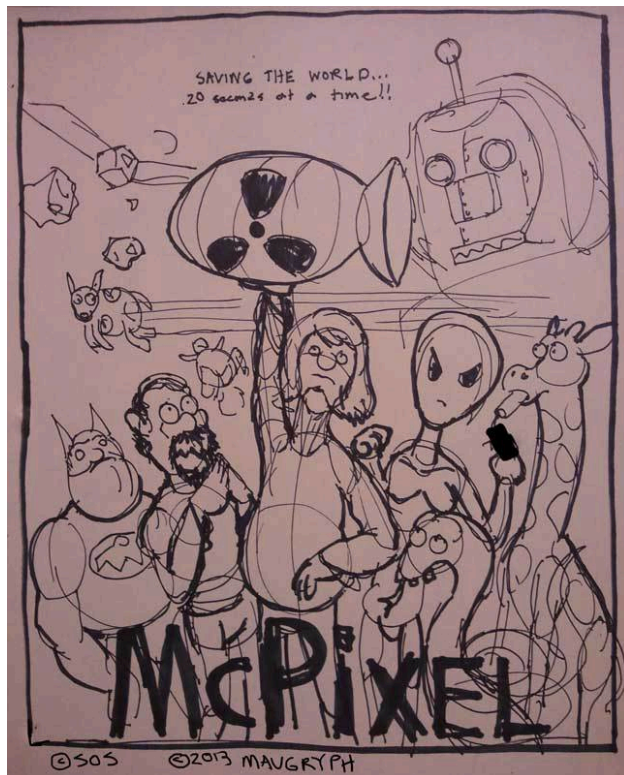


Figure 11: Game poster (Maugry 2013).

6.1.10 Elevator pitch

A good pitch is essential to advance the ideas into further development phases and an effective way to receive funding. Peter (1999), in the article “The Wow Project”⁸⁰, highlighted the importance of using a 2 minutes pitch while communicating the idea. An elevator pitch is the vision statement or tagline (Katz & Green, 2014)⁸¹. The listener has to be able to memorize the pitch and tell the idea to others. Usually an elevator pitch is 30 seconds long.

Elevator pitches are a hot topic on the web⁸² and Pincus⁸³ found commonalities in his article about the “perfect elevator pitch” from which he comprised a checklist. The check list includes: know your purpose, know your target, focus on your customer, be authentic, be specific, be prepared, be concise, solve a problem, show your passion, and practice.

As part of a master program, Melanie Wendland (2014) presented a template created at Fjord Oy, an international company specializing in digital services, which formatted an elevator pitch. This template along with a question pitch to promote conversation was placed in the game business idealization toolkit (See Figure 11).

Figure 12: Elevator pitch (Corcodilos 2011).

⁸⁰ Peters, Tom (1999), "The Wow Project", *Fast Company* 24: 116.

⁸¹ Katz, Jerome A & Green, Richard P (2014) - *Entrepreneurial Small Business* - Saint Louis University, Webster University, Celldyne Biopharma LLC. Pp. 1-2.

⁸² Denning, Peter J. & Nicholas Dew (2012) - The Profession of IT, The Myth of the Elevator Pitch, Instead of pitching, listen and offer. *Communication of the ACM.*, no.06, vol. 55. Pp. 38-40.

⁸³ Pincus, A. (2007) The perfect (elevator) pitch. *Bloomsberg Businessweek* (June 18, 2007); http://www.businessweek.com/careers/content/jun2007/ca20070618_134959.htm

6.2 Testing phase

6.2.1 The Goals of the workshop

The goals of the workshop were:

1. Introduce service design thinking applied in the gaming industry.
2. Prove the efficiency of the methods and tools used in the game concept creation phase.
3. Collect feedback for improvements using co-creation

6.2.2 Preparing the workshop

Based on the previous study the first session was dedicated to explaining the importance of treating games as services and using user-centered and collaborative methods during the entire game design process.

The workshops were planned to last 3,5 hours with 15 min breaks between two sessions. During the first session of the workshop a one-hour lecture was held. The material presented consisted of:

- Player-centered design introduction
- Service design
- The player as a customer
- Concepts related to user centered design
- Player and the game cycle experience
- Context, technology and artifacts
- Player-centered design processes, methods and tools

The second session focused on the concept creation of games based on old game engines and lasted about two hours and fifteen minutes. The engine themes were inspired by games such as Frogger, Space Invaders and Pac Man. The themes were parts of the briefing and the redesign of the games took place within a player-centric design process. The second session consisted of:

- Player persona creation - 15min
- Choose the theme - Pac Man, Frogger or Space Invaders - 5min
- How the game could work nowadays (player-centered) - 20min

- Stakeholder map - 15min
- The player/customer journey - 15min
- The game ecosystem - 15min
- Technology used and potential artefacts - 15min
- Idea generation
- Affinity diagram
- Business model - 15min
- Game poster - 15min
- Elevator Pitch - 10min
- Idea presentation - 3min per group
- Conclusion and discussion
- References and contacts

The toolkit was printed in A3 format and black and color drawing pens and Post-its were used in the second part of the workshop.

6.2.3 Conducting the workshop - Collecting information

The tools were tested in Curitiba, Brazil with a group of six previously unknown game developers. The game developers had applied for a workshop session which was promoted by Aldeia Coworking. The total duration of the workshop was about three hours and thirty minutes and included 1,5 hours of training which was followed by a 2 hour workshop.

The first part of the workshop focused on explaining the importance of including and thinking of the players during the whole game design process.

During the second part, participants were divided into two groups. Then three varieties of the old game engines: Frogger, Space Invaders and Pac Man were presented. These old games were the inspiration for a game redesign while thinking in a player centered process and considering the players as customers. Figure 12 shows some of the workshop moments.

There were a total of six participants, four males and two females, between the ages 25 and 35, and all coming from different parts of Brazil. The workshop was held at Aldeia Coworking, a collaborative working place where people with different skills exchange their expertise to add competences to their work proposals. Aldeia Coworking offer their members: courses, workshops, meeting rooms, work spaces, and other services.



Figure 13: Workshop pictures.

6.2.4 Workshop results

The tools and methods were unknown by the participants and it was helpful to introduce the tools and methods before the creative session. The tools and methods were well accepted and when using them the participants were able to think outside of the box while continuing to wear the players' shoes. It was interesting to see how their opinions were centralized in what players were supposed to do or think in situations.

During the discussion of how helpful the toolkit was, the participants commented about adapting game terminology within the toolkit to avoid doubts during the creative process.

The participants created two games and thought of the possible business around the game. Some of the business elements were, including players, their friends, communities and families, game draft monetization, and possible revenues.

The workshop was pleasant and productive. During the session the importance of having a service design mind-set in the gaming industry was seen. The participants were happy with how quickly they could view situations from the customers' point of view and see things that they usually would not have thought about during the game design process. The participants gave feedback about the tools and knowledge and afterwards they asked how to receive the tools for themselves.

At the end of the workshop the participants filled out a feedback paper using a 1 to 5 rating system. The results were:

- Content presented: 4.83
- Methods and tools utilized: 5
- Material quality (videos, slides, etc.): 4.83
- Time of the event vs. content - quality usage: 4.67
- Content in relation to reality and professional development: 5
- Instructor didactic: 5
- Courtesy and attention of the instructor: 5
- Instructor understanding about the topic: 5

The scores were surprisingly high. This may be because the participants were happy about their own achievements during the workshop. The relationship they built between the groups during the session also contributed to the success and results of the workshop. They were happy and they wanted to develop the ideas further. The document relating to the workshop evaluation can be found in the appendices of this study.

The workshop could have used better time management and more effective task distribution. For example less time could have been spent on the training session by sending the participants materials beforehand. This time could have been added to the creative session to allow more creative time. The skills of the facilitator and presenter could have also been improved. It is important to note that the feedback from other sessions could be different from the one presented.

6.2.5 Practical implications of the workshop implementation

A learning or background session is needed before the workshop sessions. The workshop participants need to understand the importance of the player-centered design process and how to use the tools. The presentation language needs to be adapted to the game design terminology so that questions about word definitions and the meaning of expressions during the sessions are avoided.

7 Results of the project

7.1 Users in the company mind-set

Collaborative and co-creation methods help imagine possibilities that might otherwise go unnoticed by a design team. Creating a place where people can express their hopes, fears and constructive ideas about games, engages them in actively solving game issues.

People can be convinced to use a product by taking their ideas into consideration or identifying with them personally. Customization, personalization, collaboration and co-creation are some ways to help people feel personal identification with a product or service.

Studying the player experience is relevant and the findings can help better understand concepts such as immersion, engagement, emotions, feelings, attitudes, expectations, fun, and others.

7.2 The application of player-centered design and its advantages

As users become more familiar with technology and gain access to more information, they learn more about their rights and feel empowered to speak out about their feelings. Some users know more about a product or service than the producing company's employees. There are some user experts that could contribute new ideas and improvements to game development.

Some gaming companies, including those following the best practices, have noticed the potential that customers offer in development. This recognition has led companies to give their fans more opportunities to influence services and products. The gaming industry is also beginning to see customers as co-developer and users are given tools to collaborate and co-create products further.

Rovio, as an example, is using a transmedia or multiplatform storytelling approach. This method includes various channels to reach new users, such as a Facebook fan-page, the Angry Birds Stores, Angry Birds Wiki, animations, books, and toys. All of the elements support the main characters, the Angry Birds and the Bad Piggies. People recognize the characters even if they haven't played the mobile game that originally made Angry Birds famous.

Another example is the FarmVille game from Zynga. The company created a harvester machine that allows the players to harvest multiple blocks at the same time after discussions in the FarmVille community on Facebook asked for a change from the initial game structure which only permitted the player to harvest a single block at a time.

Some gaming companies give the players freedom to create add-ons or mods for the game. Many of them are unofficial and questioned within gaming communities because of risks and players usually prefer official ones add-ons or mods. Sometimes customer mods have become official or have inspired the company developers to create new features for the game. This

usually happens if the mod is very popular. Blizzard Entertainment is an example of a company allowing such freedom. Blizzard Entertainment maintains a large, official community for the game World of Warcraft. Within the community players are very engaged and they discuss add-ons, better features, and experiences. The “WOW” game has other unofficial communities where unofficial add-ons can be easily found and some of these communities are larger than the official community.

Minecraft is another game phenomenon. It is an indie-game or a game created by an individual or small team without publisher support, which was developed in 2009 by Markus Persson. The default feature is a “survival mode” which challenges players to survive in a world where they can build and destroy blocks. There is also a “creative mode” in which players have an unlimited number of blocks. This creative mode has led to an enormous expanding exploratory world. Minecraft has been extraordinarily popular for an indie game and as of January 2013 it has sold over 9 million copies.

These cases are examples of why gaming companies shouldn’t be concentrated only on gameplay and the core game mechanisms. It is important to think more about the player experience as a whole experience cycle, meaning to think outside of the game and consider the player in many other aspects of the business. A big part of the player experience happens in the game, but other parts that make the player enjoy the game are outside of it.

Co-creation offers opportunities for consumers to co-construct their own experiences within a specific context and time. Co-creation should, accommodate a heterogeneous group of consumers, from the very sophisticated and active consumer to the very unsophisticated and passive consumer, recognize that not all consumers want to co-create, engage the consumer emotionally and intellectually and respect the individual’s choices and feedbacks. Co-creating companies should be prepared to change actions quickly to accommodate the consumer’s need and take advantage of the opportunities that new technologies bring to the market.

7.3 The insights from the studies

The rise of the service design thinking⁸⁴ is a global phenomenon and it is likely to push the gaming industry into a phase of adaptation to a new techno-economic environment. Many professionals see these changes as destructive to the creative process since they now need to understand what is happening in different markets in order to be profitable and competitive. The creative mind-set seems to be connected with an inspirational mood. However, inspiration can also come from other inputs such as knowledge about the end-customers.

⁸⁴ O. Sotamaa and T. Karppi, Eds., Games as Services. Final Report, TRIM Research Reports. Department of Information Studies and Interactive Media, 2010.

Many game professionals question the meaning of a good game and connect the idea to a game that they could play. However when attention is directed towards customer behavior and customers are constantly observed and their actions measured, the gaming business will become more sustainable.

Only by understanding the customer and following the changes in their behavior will it be possible to predict; what they are looking for next, what things they find valuable, and what games they are willing to play.

There is a lack of knowledge about game monetization design. Game monetization design is an essential part of free-to-play games and it needs to be considered during the game concept phase. However, many companies are afraid of giving game monetization design decisions to their game designers who are still adapting to the free-to-play market. Companies also need to understand the value of co-creation within the company and include internal stakeholders in the game design process.

7.4 Future considerations

For future developments of the toolkit and for its application, the creation of appropriate language which uses game design terminology should be considered. Testing the toolkit within different groups, cultures, and contexts should also be considered. Contexts that could be included in future studies are: different projects speeds and purposes, different targets, within or outside of the technology fields and with different game business models.

8 Summary

To complete this study the research questions which were presented in the beginning of this report will be clearly answered and an evaluation of how in-depth the research project went into each of the topics conducted. The questions were:

- Are service design methods and tools helpful in the game design process?
- Is there the possibility to create a Game Design Business toolkit?
- How helpful would a toolkit for the game professional be while creating a game?

Are service design methods and tools helpful in the game design process? It was clear during all of the stages of this study that game design professionals were eager to understand how players behave as customers. The game design professionals also wanted to create games that

would satisfy the players in aspects outside of gameplay. They wanted to know more about the service design methods and tools during the interviews and when leaving the workshop. They were paying attention to the training session and were also very active in trying to understand the toolkit usage during the concept creation session. Service design methods and tools are powerful contributions to the game design process; they will bring more information about customers and co-creation value to the game design process.

Is there the possibility to create a Game Design Business toolkit? Creating the toolkit is a challenging task. Better information about the terminology used game design is needed in order to modify the tools to suit the language used by game design professionals. Another challenge is to conduct good benchmarking between the Game Design Business toolkit and other creative toolkits. Research that includes the main topics help to create the game business goals should also be conducted. In these studies I concentrated to test methods and tools in the concept idea creation phase more specifically in the understanding phase. The other stages are assumed to take place in future studies.

How helpful would a toolkit for the game professional be while creating a game? By using the toolkit game professionals just need to fill the necessary information into the tools and the tools are all related to the players, their customers. This context helps game design professionals to see things through the eyes of the customers. When they visualize the game and try to see it as the customers will, they can predict situations where the game might be used and how players may perceive it. The toolkit could help professionals think about many game business details, which could be easily forgotten without it.

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Figures

<i>Figure 1: Overview of user experience in games.</i>	12
<i>Figure 2: 4keys2Fun theory poster (Lazzaro 2004)</i>	45
<i>Figure 3: Overview the thesis study research</i>	51
<i>Figure 4: Methods and tools mentioned in the interview.</i>	66
<i>Figure 5: Persona creation canvas (Vita 2013).</i>	80
<i>Figure 6: Stakeholder map canvas (Stickdorn & Schneider 2011)</i>	81
<i>Figure 7: Service ecosystem map canvas (Vita 2013)</i>	82
<i>Figure 8: Customer journey map canvas (Vita 2013).</i>	83
<i>Figure 9: Business Model Canvas (Osterwalder et al. 2010).</i>	86
<i>Figure 10: Game poster canvas (Vita 2013).</i>	87
<i>Figure 11: Game poster (Maugry 2013).</i>	87
<i>Figure 12: Elevator pitch (Corcodilos 2011).</i>	88
<i>Figure 13: Workshop pictures.</i>	91

Tables

<i>Table 1: Service design process applied to thesis purposes.....</i>	14
<i>Table 2: Relevant literature about the game experience and service design.</i>	18
<i>Table 3: Player journey before gameplay (source: Matthias Sala 2013 - http://www.gbang.com)</i>	35
<i>Table 4: Overview of the player-centered game design process (reference: book Fundamental of Game Design by Ernest Adams).....</i>	43
<i>Table 5: Emotions related to games</i>	48
<i>Table 6: Methods and tools for player-centered design relation of player-centered game design process and other user-centered design processes.</i>	71
<i>Table 7: Understanding stage as an addition to the concept process.</i>	72
<i>Table 8: Service design approach in addition to idealization stage.....</i>	73
<i>Table 9: Service design approach in addition to Elaboration stage.</i>	75
<i>Table 10: Service design approach in addition to tuning stage.</i>	75
<i>Table 11: Agile Supplement to Adams's Process.....</i>	76

Appendices

Interview Transcript - Francimar Maciel

Interview Transcript - Fabio Florencio

Interview Transcript - Rodrigo Cruz

Interview Transcript - Valeska Martins

Interview Transcript - Osiris Falcão

Workshop evaluation and feedback

Interview Transcript - Francimar Maciel
Transcript template: Positive answer from online questionnaire part 1
Interview language: Portuguese
Includes parts 1 and 2 transcripts

.....

PART 1. ONLINE QUESTIONNAIRE

Last name: Francimar
Fist name: Maciel
Country / State / City, where you living: Manaus | Brazil
Age: 38
Gender: Female
Profession: UX Designer
Company: UX Researcher at SIDIA - Institute Samsung
Language of the interview: Portuguese

How long have you been working in the gaming industry?

One and half years.

Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment).

Graphic designer - 6 years.

Are you applying user-centered design and/or measuring user experience in your work with games?

Yes, I'm applying.

What methods and tools are you using?

Focus groups, mind maps, semantic panel, task analysis, interviews, and satisfaction questionnaires.

Explain the importance of the subject for the gaming industry and the advantages of using these methods and tools.

The UX and UCD process help understand users and relation of user-technology-context.

Example: the user of a mobile game doesn't necessary like to play console games.

Are you getting feedback from the players? Are they collaborating in game creation or giving feedback that enables you to improve the games (or create new ones)? If yes, how does this work?

We just started the process and it is very experimental and exploratory at the moment. Each project is different and we are learning in how to improve it. The results are positive.

.....

PART 2. SKYPE INTERVIEW - OPEN and EXPLORATORY QUESTIONS

Duration: 44'37''

Appendix video: fran_maciel_ux.mov

Interviewer: Jane Celma Vita Costa

Interviewee 1: Francimar Maciel

.....

INTERVIEW TRANSCRIPT

Fran I know that you are experimenting in the user experience research and design. I would like to draw with you a game design process and show the limitations and benefits of including players in the process. What do you think?

Sure, let's do it. We are doing something very exploratory at the moment, here in the company. Developer and designers believe that we are always trying to include more phases in the design process, and they don't see this as a healthy thing for the production. So we are trying to teach our team. I believe is a question of professional maturity too.

Here on the user laboratory we have our schedule, and usually come different projects for testing and sometimes are difficult to do all the tests and get all feedback we want from the users. This is the reality.

We usually do all the tests after the product being developed, a really good level of the prototype. However nowadays we are also creating communities for the games and our applications, so users can give feedback from that tool. We are being very successful with this kind of implementation, but this is possible when the product is mature enough to be published even in small scale.

We want to involve users during prototyping phase, even using paper prototype. Do more prototypes and interact more with players.

We do the tests and we deliver the reports, but developer and game designers don't interact with the gathering data. We operate as separate departments; however I believe is important that they experiment the tests, so they understand the importance of it.

The best methods in my opinion are Brainstorm and Interviews. The idea comes from the professional, not from the players, the idea is to validate and improve. The interviews usually are open questions and the character exploratory. The past experiences are very valuable in the game research, mainly if you are looking in to target a determinate people segment, or game style segment.

The ideal scenario of the test: Needs to be contextual test, the player uses the prototype per one week, at home and in other places where they usually go. Before they get the prototype we do an interview just to check the first impressions about the game, then the proper mechanisms are responsible to gathering data while the player is playing the game. We ask player also to write a diary,

usually with questions pre-defined that they answer on long of the week. In the end we do a Net promote evaluation, which will give answers about the general satisfaction in relation to the game. Other usability tests need to be applied, they don't give an idea about satisfaction, but gives the user more suitable choices and better understand about the tasks, including of course how accessible is the game for these determinate target.

Interview Transcript - Fabio Florencio

Transcript template: Positive answer from online questionnaire part 1

Interview language: Portuguese

Includes parts 1 and 2 transcripts

.....
PART 1. ONLINE QUESTIONNAIRE
.....

Last name: Fábio

Fist name: Florencio

Country / State / City, where you living: Tampere | Finland

Age: 32

Gender: Male

Profession: Game Designer

Company: Rovio

Language of the interview: Portuguese

How long have you been working in the gaming industry?

7 years.

Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment).

Yes, before entering the game industry I ventured with different things from street evangelism to trade. I have been varying between these two major areas for 5 years.

Are you applying user-centered design and/or measuring user experience in your work with games?

Yes, I'm applying.

What methods and tools are you using?

I use focus groups, usability tests, interviews and data gathering from analytics (I'm not sure if they are UCD methods).

Explain the importance of the subject for the gaming industry and the advantages of using these methods and tools.

Usability tests are important because with it is possible to verify if the intention of a product was reached, since the navigation until the usability.

Other advantages of UCD methods: launch a product that will be easily accepted in the market, reaching customer needs. They help the design process tuning possible changes and improvements in early stages of the game. It is possible to understand functionalities and if they are being comprehended by players. How long players are satisfied before get bored.

Are you getting feedback from the players? Are they collaborating on the Game creation or giving feedback that enables you to improve the games (or create new ones)? If yes, how it works?

On my previous experiences rarely. However, when players are involved with forums and communities they feel free to give feedback and suggest improvements. Usually this kind of experience happens when the game was already launched, when it has a big number of players. Frequently those analysis are done by researches, not game designers.

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PART 2. SKYPE INTERVIEW - OPEN and EXPLORATORY QUESTIONS
.....

Duration: 42'32''

Appendix video: fabioflorencio_gameartist.m4v

Interviewer: Jane Celma Vita Costa

Interviewee: Fabio Floriencio

.....
INTERVIEW TRANSCRIPT
.....

Could you explain UCD in games?

Player-centered design - Game oriented to the player. Understand the persona "player". Understand things like, kind of games they like to play.

Do you think this mind-set is important during the whole game design process?

Game professional have the tendency of creating games for themselves or demand coming from the Publisher, or company that asked for the game.

There is a meaning saying that game designers living in the past, they always say that older games were better the current ones.

I believe that game designers have to wear the mind-set of player centered design.

The player collaboration during the process could help designers to take better decisions.

During the concept creation phase, do you believe that players can help?

Yes, they can help, but I don't know exactly how. I would say first that not all players have the capacity of co-creating. They don't know what they want, but they know what they like. They know about their needs, problems, but usually they don't know about the solution. This is part of the company mind-set. Constant data collection is needed.

Do you see this kind of information coming from a department of the gaming company or it is something that needs to be in the company way of working, as a process?

I believe the information would come from a department, because of the amount of data that needs to be collected. However is important that game professionals participate some times during the data gathering, small doses. However the acceptance of the data comes from the game designer, meaning that even with methods that emerges you in the players point of view, it is needed that the game

designers not follow in love with their opinions, but that they take in consideration the data gathered.

André Neves created the personas cards, but even that I believe is not enough.

Design research costs, and usually companies are not able to pay.

There is the empathy of the professional, and the real understand of the data collected. Why I'll talk with the player? Kinds of goals I've.

During gameplay it is very reasonable to collect data.

Interview Transcript - Rodrigo Cruz

Transcript template: Positive answer from online questionnaire part 1

Interview language: Portuguese

Includes parts 1 and 2 transcripts

.....
PART 1. ONLINE QUESTIONNAIRE
.....

Last name: Rodrigo

Fist name: Cruz

Country / State / City, where you living: Curitiba | Brazil

Age: 35

Gender: Male

Profession: UX Designer

Company: C.E.S.A.R

Language of the interview: Portuguese

How long have you been working in the gaming industry?

10 years.

Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment).

User research, User interface design, Visual interface design, 3d modelling, about 5 years.

Are you applying user-centered design and/or measuring user experience in your work with games?

Yes, I'm applying.

What methods and tools are you using?

I use qualitative research and focus group for co-creation.

Explain the importance of the subject for the Game Industry and advantages of using these methods and tools

Gameplay evaluation and player game experience helps to improve the game and understand the level of the player satisfaction.

Are you getting feedback from the players? Are they collaborating on the Game creation or giving feedback that enables you to improve the games (or create new ones)? If yes, how it works?

Players are active participants in the research giving feedback about the prototypes, helping to improve the game.

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PART 2. SKYPE INTERVIEW - OPEN and EXPLORATORY QUESTIONS
.....

Duration: 51'19''

Appendix video: rodrigocruz_uxdesigner.mov

Interviewer: Jane Celma Vita Costa

Interviewee 1: Rodrigo Cruz

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INTERVIEW TRANSCRIPT
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Rodrigo I know that you are experimenting in user experience research and design so I would like to draw with you a game design process and explain the limitations and benefits of including player in the process. What do you think?

Please, justify the use of UCD and UX methods.

User experience is primordial for the success of the solution. The market doesn't have more space for non-user-centered design solutions. The projects that we don't pay for design research are the ones with low budget and short time deliver. What we do is to adapt the process, and is part of the mind-set of our team and the company.

What is design process and which methods and tools are you using?

Let's use a game we are developing as base of this process. First we got business brief with a draft idea, but without target understanding. Based on their smartphone category that they would like to target, we had an idea of the potential group to target, based on purchase. We did focus group, about past experience, and we let them create a game. We contact the group again and we did a prototype based on their ideas, and they were very happy. We did it with different groups, and we prototyped more ideas, the interesting thing is that the ideas were somehow similar. However in certain point we had to run in the process. When there is not time in the process, usually design research is the first one to be cut. Professionals usually want only the test in the end of the process, for quality purposes.

Marketing and TI don't speak the same language. Marketing professionals are usually convicted about their opinions and they aren't good in to follow research and Engineers are only interested about the user tests in the end of the process.

Players usually don't know why they like the game, they just feel it, but is about the professionals to find out why they are playing determinate game.

Nowadays there is the cloud power, easy to find information about players in communities, by collecting real time date, from reviews, among others.

The design process is dynamic and can be adapted second the project needs. However interactions between the team, client and customers are essential.

Interview Transcript - Valeska Martins

Transcript template: Negative answer from online questionnaire part 1

Interview language: Portuguese

Includes parts 1 and 2 transcripts

.....
PART 1. ONLINE QUESTIONNAIRE
.....

Last name: Martins

Fist name: Valeska

Country / State / City, where you living: Recife-PE | BR

Age: 30

Gender: F

Profession: Game Artist

Company: Jynx

Language of the interview: Portuguese

How long have you been working in the gaming industry?

Two year and 3 months.

Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment).

Five years as Graphic designer.

Are you applying user-centered design and/or measuring user experience in your work with games?

No, I'm not.

Why aren't you applying UCD and measuring user experience in your work?

We are studying the possibility of implementing those habits in our company. Since I started work here no kind of approach was developed. Always the quickly implementations is the priority. We would like to change it.

.....
PART 2. SKYPE INTERVIEW - OPEN and EXPLORATORY QUESTIONS
.....

Duration: 40'33''

Appendix video: valeska_martins_uxanducd_meaning.m4v

Interviewer: Jane Celma Vita Costa

Interviewee 1: Valeska Martins

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INTERVIEW NOTES
.....

You told in the online questionnaire that the company you work for doesn't use UX and user-centric design methods and tools. Do you know why? Do you understand user centric design and user experience?

I don't know so much User Experience, only about some theory, and it is not so much. I never worked in a company that really had the eyes oriented to the customer.

Usually the demand comes from another business and they usually have an opinion formed about what they want and we only implement their idea. Our team are afraid about change anything in the project, the company wants to satisfy the marketing agency and the agency wants to satisfy the company who asked the game, nobody cares about the end-customers.

To minimize the guilt we have a deck of cards and we pick up the card and we create the game based on the persona in this card the we feel is more close to the target audience for this game. Then we do also a benchmarking, just to check what is going on in the market. We only use the method when we've time, but it is better than nothing and there is not so much time to the concept phase. We didn't get any training about the tools.

Do you believe that thinking about the end-customer of the game would help in the game design process?

I believe that user-centric design methods and tools can help my work and the teamwork daily. First to understand for whom are you doing the game, second to see if you are going to the correct way, and late to validate if you did correct and improve what went wrong.

Interview Transcript - Osiris Falcao

Transcript template: Negative answer from online questionnaire part 1

Interview language: Portuguese

Includes parts 1 and 2 transcripts

.....
PART 1. ONLINE QUESTIONNAIRE
.....

Last name: Osiris

Fist name: Falcao

Country / State / City, where you living: Berlin |Germany

Age: 29

Gender: Male

Profession: Senior Game Artist

Company: Wooga GmbH

Language of the interview: Portuguese

How long have you been working in the gaming industry?

8 years.

Do you have experience in any other industry segments? Which ones? How long? (Do not consider the time you have been working in the gaming industry segment).

No, I don't.

Are you applying user-centric design and/or measuring user experience in your work with games?

No, I'm not.

Why aren't you applying UCD and measuring user experience in your work?

The importance of user tests varies since usability until navigability. Check if the goal set were achieved. The vantage is to launch a product that will meet the user needs. It gives the capacity of avoiding mistakes in more mature phases. Measure the success of the product based in users satisfaction measurements. Find opportunities and improve the product.

.....
PART 2. SKYPE INTERVIEW - OPEN and EXPLORATORY QUESTIONS
.....

Duration: 40'33''

Appendix video: ziro_falcao_gameartist.mov

Interviewer: Jane Celma Vita Costa

Interviewee: Osiris Falcao

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INTERVIEW NOTES

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You told in the online questionnaire that the company you are working for doesn't use UX and user-centric design methods and tools. Do you know why? Do you understand user centric design and User experience?

I read a book about the topic, but I not consider myself specialist. I could do feedback about game art. We do user tests in more mature prototype. To apply the tests we contract a third part. We even say them how the game works. We do also soft launch, for market testing. We use Facebook for directed research; it gives a lot of information about what people are playing and is very metric heavy.

Do you think that thinking about the end-customer of the game would help during the game design process?

I experienced another day a situation where I had to propose many draws to the same character and people were based in their empathy within the drawings. They were so many that I suggested to them to try something with the target group.

PESQUISA DE AVALIAÇÃO DE REAÇÃO DO EVENTO

Unidade Curitiba
 Evento: Curso User Experience em Games
 Instrutor: Jane Vita
 Data: 20-Nov
 Número de participantes do curso: 6
 Número de Dias: 1



O evento				
Conteúdo apresentado no evento.	Métodos e técnicas utilizados no evento (exercícios, dinâmicas, jogos, etc.)	Qualidade do material utilizado no evento (vídeos, slides, etc.)	Aproveitamento do tempo do evento	Contribuição do evento para meu desenvolvimento
4.83	5.00	4.83	4.67	5.00

O instrutor		
Didática do instrutor	Cortesia / atenção do instrutor	Domínio do assunto pelo instrutor
5.000	5.000	5.000

O que podemos melhorar?

Mais cursos com o instrutor/ mais cursos sobre jogos.
 Foi tudo ótimo, como sou de Santos gostaria que tivesse começado mais cedo.

O que você curtiu?

Conceito do tema, exercícios.
 A didática, domínio e experiência do instrutor.
 A seriedade durante o workshop, riqueza de repertório da palestrante e acessibilidade.
 A experiência prática dos instrutores.
 O conteúdo, networking.