All possible worlds: Playful narratives as user experience for social change.

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Abstract. Playful narratives create game spaces, ludofiction worlds or real worlds that can generate a good interaction and experience for the user. Taken to the political, artistic and social fields, it helps to generate motivation and awareness of some current issues. The aim of this work is to observe the role of playful or gameable narratives as a user experience for social change, through a methodology qualitative analysis of cases with semi-estructured interview.

Keywords: Gamification, User Experience, social change, play-narratives, video games, Ludoficcional, Possible worlds.

1 Introduction

Gamification in many areas is being used to facilitate the procedure and understanding of a subject from any point of view. It can be applied in business, education, health and art. The reason for its success can be found in its contemporary approach. Gamification not only aims to solve problems that affect people's motivation to a greater extent, but it is also especially focused on the psychological profiles of new clients, students, new citizens and audiences that have another way of relating to the environment. It is very different from the other generations that grew up in other types of relationships away from social and digital networks. Within the characteristics of gamification there is a great deal of uncertainty about the game that creates spaces where it is immersed in another context. It invites us to believe in an adverse or similar reality to the one we are living. In the variety of gamification projects there are game spaces that are based on playful or reality-based worlds. The video game, for example, is a platform that allows us to generate a number of possible worlds. And as such they can be studied, analyzed, deconstructed and above all created and practiced [1]. Moreover, the video game allows a very close relationship between art and play. Emphasizing a type of language and narratology with structures that apply to a digital and multimedia universe.
This research aims to identify the role of narrative-play in improving user experience for social change. The ludo-narrative or gameable narrative, in this article, is evidenced in a series of applied cases, which could stimulate the artistic creators in new media, to revalue the language, the narration and the strategies of the game as resources of creation. In addition, to provide the viewer with a user experience that allows to sensitize,

raise awareness or understand the problems that may be happening in a social environment.

For that purpose, we will first look at the theory of possible worlds inspired by Antonio J. Planells' conceptualization, which concerns the narrative and playfulness seen in video games, used for social and artistic transformation. Video games are one of the most important cultural and leisure industries in the world. Its playful structure allows the development of a better understanding and motivation on a possible subject. Far from being digital toys, they are similar to cinema and literature in their ability to evoke complex and immersive fictional worlds. It is interesting, then, to know how they develop in an environment of social change. In this way fictional or reality-based worlds are transformed into an attractive and digital narrative-play structure, as in video games, than in traditional media. The spaces become richer, characters are created that help empathy or connection, to create emotions that are especially seen in the intervention (UX) of the player.

On the other hand, as the playful narratives are part of gamification, the basic characteristics of gamification and user experience will be observed. Secondly, it is observed how the structures of narrative-ludic jointly of the design and strategy of game are applied in the elaboration in certain moments of concrete cases in Latin America. And finally, important changes will be evident in the social area where the cases have intervened.

2 Theoretical foundations

It is necessary to review some concepts within the ludo-narrative such as worlds and their expansion, ludofiction, gamification or artigames that in some way could involve a successful user's journey through diverse platforms for social change.

2.1 All possible worlds

It is important to begin this work with the approximation of the concept world since in most of the exposed cases they possess a universe. To begin with, the idea of the world constitutes one of the most complex and flexible concepts in the history of thought. We can talk about varieties of worlds. From the level of humanities (like the Christian world, pagan) from the imaginary (that of Sherlock Holmes), the periods (Romanticism, Greco-Roman) or of characters (the world of Chaplin, of Mozart). Anthony. J. Planells analyzes the concept of possible worlds as he offers the universe or history in general, the playful possibilities in a digital game. The theory of possible worlds is defined by the author as "true possible worlds inserted in the logic of fiction". Planellss exposes as key two contributions of this theory coming from the analytical philosophy and that was taken to the literature from the revaluation of the work of Gottfried Leibniz and David Lewis. On the one hand, the contribution of the Modal logic of a re-reading of

an intentional semantic domain that went beyond the formalist and structuralist framework of the text. Moreover, it added different modes of existence - the possible and the necessary - to the objects, characters, states and events inserted in these fictional worlds [1]. The new approach that the theory allows about the question of fictional truth, the referentiality and potential of fiction on the trans-media plane allows, according to Marie Laure Ryan, the launching of pertinent questions about the theory and semantics of fiction, the theory of genre and the typology of fictional worlds, narrative semantics, the construction of characters and, finally, the poetics of modernity.

For Sainsbury (2010) however, Lewis' vision encompasses a total idea of being since everything possible is real. And fictional worlds would not necessarily be based on reality [2]. Because of this, concepts are created that are born from a philosophical point of view of the notion of fiction. It's interesting this break because you can create possible worlds from the real but not necessarily a current world. That is to say, the conflict that is told is not necessarily real or the character to tell a current or conjectural event does not exist.

2.2 Fictional worlds

As mentioned, the possible worlds of philosophy have shown their great potential when it comes to analyzing modal postulates, what is possible and what is necessary in relation to a clear world of reference. [2].
This fundamental reference or current world has made it possible to verify what relations exist between a starting situation and the compendium of possibilities that can be derived from it. And all this seemed to be fully operative until fiction arrived. It was verified that, in fact, great part of the ideological persuasion did not lie in the fictionalization of reality, but in the intensive use of a rhetoric focused on manipulation and deception [1]. Much of the old fictional theories were criticized by philosophers such

as Dolezel (1999) because they were attributed only to a single world, a single universe, distant from reality [1].

Planells takes up the characteristics described by the literary critic Lubomír Dolezel which can be applied in common to both literature and video games:
1. Fictional worlds are sets of possible states without real existence.
2. The set of fictional worlds is unlimited, very diverse.
3. Fictional worlds are accessed through semiotic channels.
4. The fictional worlds are incomplete.

In fig.1, the system of possible worlds is observed.Within the idea of worlds there are a variety of narrative possibilities of video games, for example. Ludonarrativism allows us to study the relationship between the fictional world of the video game and the game space. [3].

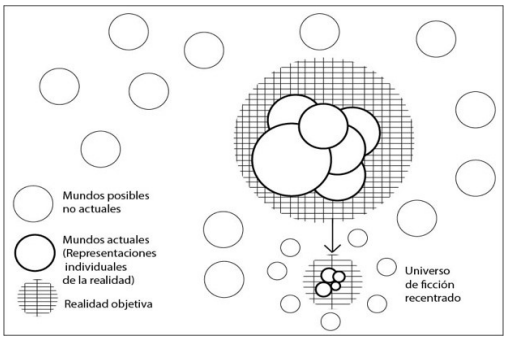

Fig. 1. Possible worlds systems of Planells

2. 3 Ludofiction and game spaces.

According to Oliver Perez in the gaming language, in videogames the process dimension of the text connects with the notion of gameplay or game dynamics, which essentially consists of one or a set of prototypical game experiences, developed over time. In contrast, the systemic dimension of the game/video game connects with the colloquial notion of "rules of the game", and corresponds to a structure that is transcendent to the repertoire of prototypical game experiences, and which fulfils the functions of conditioning and generating the game experiences themselves [4].

In this sense, video games can also be seen as cultural objects that generate narrative experiences, understanding these as cognitive, emotional and sensory experiences. For Planells, Game Studies has gradually shifted the debate from playfulness to narratology: video games are physical spaces that end up defining their own interactive [5].

kinesthetic worlds which are more or less referential and whose game experience can lead to narrative experiences [6]. In this sense, the proposal of possible worlds, from the narrative-playful point of view, can contain three key aspects: the relationship between fiction (which can be based on reality), rules of the game and the structure of worlds and the interactive progression with the user experience.

2.4 Narrative as a puzzle

In order for the spectator to have a narrative progression, we speak of a puzzle narrative. Which is known as the play spaces. Within some video games it is the cenesthetic and within others, in the same wireframe a hypertext is being constructed. Similar cases like the one in the flowchart are opening windows and possible worlds [5]. It exists the theory of the network of worlds that are seconded in a linear and non-linear way. On the one hand, the linear one, supposes that the experience of the user will be progressive without backward movement.

Let us suppose that worlds 1, 2 and 3 follow linearly one after the other until they end up in the same main world, which is very different from fig.2. In this way it does not break the functionality.

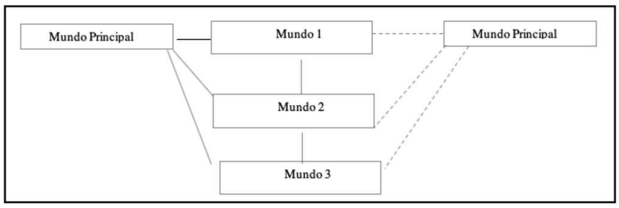

Fig. 2. Diagram of own elaboration based on the possible worlds of the game.

However, on the other hand, in certain digital games the game experience is not perceived from the linearity. The worlds can be intertwined in two levels of fiction, which obey, strictly speaking, the real effective underworld and the real effective underworld. A multiple possibility of directions is evident depending on a universe or world. Many possibilities. There is also the theory of worlds immersed between the real and the imagined that can fit in Fig. 2, of course. Perhaps we are only talking about one universe in different times and game spaces. Fig.3 shows a flow chart of worlds from a transmedia video game "Alice madness Returns". The game starts from a universe with a well-known and literary reference to Alice in Wonderland. This time, that world submerges us as players before a deranged Alice who has managed to leave the psychiatric hospital where she had been admitted after the tragic death of her parents [1].

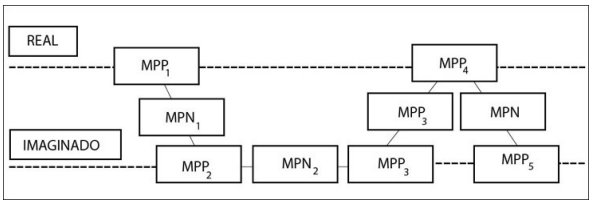

Fig. 3. Flow chart of worlds in Alice Madness Returns by Planells.

The cutscenes observed in fig.3 allow, on the one hand, the mechanism of transit between the different possible worlds and imagined sub-worlds. Enabling the displacement of the character or the player himself, as if he were in a role-playing game. In this case, the video game Alice in the darkness is the progression of Alice towards madness. The player finally understands a feature of the character, within the whole game experience. Either as a role of the player or as a role of the game itself. On the other hand, in this game the real within this same world is evident, as well as the imaginative that would come from Alicia's madness. In addition, in each wireframe while the player is performing an experience, an interactive narrative is revealed. Here, elements within the audio-visual language are shown which are incorporated as part of the belief of the imaginary real within the universe or Alicia's world

2.4.1 The world as a transmedial playful narrative

As technology has allowed a convergence of information and participation. The old world has changed not only the way of consuming products but also information, including business models. There is a new spectator with curiosity to know much more, since it has grown or was born in a multiplatform way.

The content he consumes is not only expected to be found in one place, therefore, he expects the story to continue or be resolved in another [7]. In the narrative, many terms have evolved that have been taken into account to include the user and make him/her participate, we talk about co-creation [7].

2. 5 Game and play: Motivation and relevant elements of gamification in various environments.

The user experience (UX) is a journey that can be supported by playful-narrative, scenario-building. Gamification is a mechanism of games with different elements that bet and are created according to the user's psyche [8]. If this use of game mechanics is detached from the other elements that define the game (interaction and emotions) do not necessarily have good results. [9]. First, you need to define the objective and at the same time take into account the whole system of a game. The most used form is the so called Points, Medals and Markers in which the gamification consists only of a system of measurement of success or failure and of rewards or punishments based on the same measurement

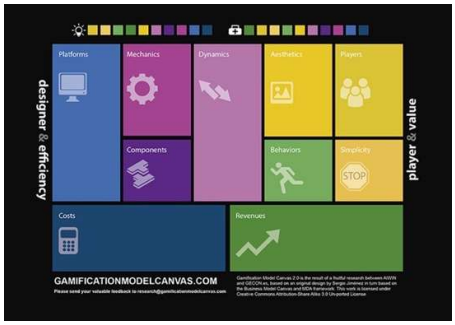

Fig.6. Gamificación Model Canvas by Gecon.

Fig. 6 shows the so-called gamification model canvas (GMC) modified by the researcher Flavio Escribano. This tool allows to delimit a possible model of resources from the user to provide a better experience:

- **Revenues:** In terms of overall objectives, the benefits that an organization seeks to achieve, whether monetary, social, operational... thanks to gamification.
- **Behaviors:** Specific behaviors that the gamification must induce in order for the objectives defined by the organization to be met.
- **Players:** In this part the users define themselves according to the user type catalogues

- **Simplicity:** You define the blocks that these users could have when changing their behavior.
- **Aesthetics:** Users define what things they like or what sensations they would like to have when they are involved in our gamma experience.
- **Dynamics:** Necessary actions for the gamma experience to be activated. The Dynamics must trigger the Behaviors.
- **Components**: Specific elements from video game design.
- **Mechanical:** Appropriate combination of the components to generate the desired dynamics.

Play narratives have certain characteristics of a gamified model and structure, and at the same time they are immersed in a gamified system [10]. These are the same characteristics that motivate the spectator. But to what extent can it really improve the user experience? Can a playful narrative help in the elaboration of a good user experience to facilitate social change?

Just as in a system of gamification, first the revenues and the behaviors are needed, in a playful narrative for social change, first the problem must be identified and then what is to be changed. Before moving on to the case studies, it is necessary to delve into concepts of video games as art in a technopolitical environment.

2. 6 The technopolitical and the artgame.

The technologies, the mobiles, become an important communication tool [11]. Not only through messages, as is the case with wassap and other social networks, but also through the deconstruction of the device itself [12]. The meanings of the programming and algorithms are changed. In the case of play spaces, the relationship between art and play has been present throughout the centuries until it reached the creative activity of the different artists of the 21st century, who have focused part of their practices on the use and interpretation of the playful [13,14,15]. Many of the digital games are used as a powerful discourse. Although having ludo-fictional worlds based on reality in order to change environments. They are no longer consumed only in consoles or boards, but in museums and interventions of spaces. Henry Jenkins, researcher at MIT, is one of the first scholars to identify the new artistic status of video games. Video games have become an integral part of contemporary artistic practice. Artgames based on a technopolitical concept, takes advantage of the iconic material, the imaginary, the tools and languages coming from the video game as raw material for creation. Among the different types of artgames, it is possible to highlight proposals that seek to use the expressive qualities of the videogame medium to build devices that break with the normative structure of the game apparatus. In this way, it is possible to generate a real social change in the spectator and at the same time a player.

3. Methodology and case studies

The general objective of this research is the role of playful or gamable narratives as a user experience for social change. Through a qualitative analysis that includes the following techniques: participant observation for the Sophia project; semi-structured group interviews and content analysis for Sophia and Ninipolis. On the one hand, we observe a transmedia Sophia educational project, which aims to raise awareness of 21st century skills at the educational level. And, on the other hand, Ninipolis, a digital game that seeks to be a new tool for youth activism 2.0 and the reduction of poverty.

3.1 Techniques and instruments

Previously, a series of concepts have been exposed that involve the prosumer having a comfortable experience. These previous concepts, such as the ludonarrative, the possible worlds as an expansion of an imaginary, the gamification and the artgames, not only make the user immerse himself in a story, but can also generate a type of understanding or comprehension about some problem. These concepts have been adapted to a content analysis guide adapted to the Canvas model gamification and the theory of possible worlds. According to three categories in particular: the gamification that allows the assessment of dynamics and mechanics, the theory of possible worlds, where emphasis is placed on the expansion of fictional or non-fictional worlds that are involved within the user experience that allows a better understanding of some problem. Each project has its own objective with respect to social change and in order to analyze them, a tool has been developed for the analysis of content with respect to the user experience (UX). It will be applied in the case of Sophia education Funds and Ninipolis.

Evaluation table or narrative-play analysis guide

Table 1. Own version. Guide to the analysis of playful narrative – UX

Categories	User Experience (UX)
Objectives of concrete social change.	Concrete objectives based on an identified problem.
Possible worlds	Variables such as fictional worlds based current events, characters, narrative puzzles and progression are evident.
Gamification Model Canvas	Players. Mechanics, dynamics and components.

The cases chosen are analyzed in three main categories. The first category is of the concrete objective of social change or artistic discourse so that the user can evidence it later. This objective is based on a particular problem. Secondly, the possibility of possible worlds, where fictional worlds based on reality, character creation, and narrative

as puzzles are evidenced. And finally, the valuation of the resources of gamification, such as dynamics, components and mechanics

On the other hand, the participant observation is directly for the case of Sepia educations. This project was carried out in a multidisciplinary way by Yasmín Sayán, Andres Díaz, Adriá Ros, Carles Díaz and Alex Navarro. Who writes the design of the story and transmedia experience together with an interdisciplinary group of professionals in Barcelona from the Ramon Llul University.

Through the elaboration of each process, relevance can be given to the process. Taking into account the categories of possible worlds and the gamification in each piece made.

And finally for Sophia's case, a semi-structured virtual interview was conducted with a group of 10 teachers whose age was between 28 - 50 from the UPC in Lima, Peru to see their response to the pieces of both projects. As for ninipolis' case a semi-structured group interview aimed at young people from 15 to 17 years old.

3. Analysis and results

3.1 Sophia Educations Funds

We will then go on to analyse the project. First counting the participant observation of the project intervention and then from the content analysis according to the UX narrative-play analysis guide.

Secondary school students were the teachers and children of 7-8 years old were the primary school students. And then the universe of Sophia educations Funds was created, in which there is a main character called Sophia. In Fig. 7, the character and logo of the world of kites can be seen. Everything is based on a playful narrative that includes a transmedia project on various platforms. The Multiplatformpla is been in Fig. 8. In this way, the viewer also had an interactive way of visiting not only the social networks, but also a gamified web, an institutional video, a series of short animated films and street installations. The player consumed all the narrative through a system of possible sub-worlds. It was based on a draft. The main story was called the Island of Kites. And a series of main characters were created, the main one being a seven-year-old girl named Sophia.

Fig.7 Main character Sophia and logo of the "World of the kite islands".

Fig.8. Multi-plataform channel narrative strategy

Table 2. Own version. Guide to the analysis of playful narrative – UX

Categories	User Experience (UX)
Objectives of concrete social change.	Making 21st Century Skills Known
Possible worlds	Sophia's World (Grey world and colored world in video animation)
Gamification Model Canvas	Avatar on the gamified website. User's journey in magic world. Collection of pieces to collect the Ayllu. Reward discounts for children, teachers and parents workshops.

Table 2 shows the User experience with respect to the possible worlds and the gamification of the canvas model. On the Web gamified with the gamification model canvas system. By means of the use Where the user went through the diverse wireframes as protagonist. The user develops a skill in which he or she resolves the dynamics and mechanics of the game based on an underworld or subhistory of the islands of the kites, the main world. Here a sacred idol has been fragmented. The Sophia universe continues on another platform. Therefore we evidence a puzzling narrative. For this, an Ayllu logo

was made as a symbol that is scattered in each part of the gamified web. In fig. 9, the logo and a wireframe of the gamified website made by Sophia's team is shown.

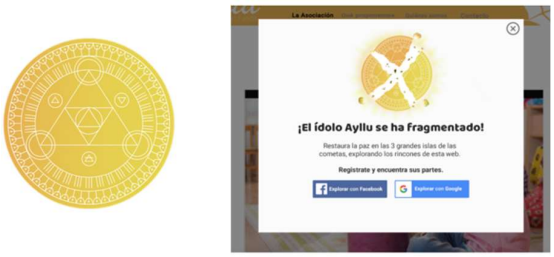

Fig.9. Ayllu symbol and wireframe screenshot of gamma web by made by the transmedia Sophia project team mentioned above.

The interviewees, using the gamified web wanted to continue advancing the different windows to collect all the possible pieces watered in each wireframe. In this way they could understand and have knowledge about the competences of the 21st century.

3. 2 Nini Polis

Ninipolis, is played through a computer or a cell phone. The game is constructed from real data on the inequalities experienced by young people in Peru, based on the studies "Ser joven el Perú: educación y trabajo" by Ana Paula Franco and Hugo Ñopo, and Working Paper No.7 "Jóvenes y desigualdad en un país cuesta arriba" by OXFAM in Peru.
Ninipolis is a digital game that seeks to be a new tool for youth activism 2.0. It is played through a computer or a cell phone. The game is constructed from real data about the inequalities that young people in Peru experience, based on studies. In Fig. 10, the flow of the wireframes of the first part of the game is observed.

After conducting the content analysis and semi-structured interviews with the use of the game, the following was achieved:

1. Clear dynamics and mechanics are observed. The objective of the first part of the game is to build a good cv. This would imply creating a better professional profile. The younger they are in the market the more chance they have of economic stability.

Fig.10. Ninipoli digital game wireframes made by the OXFAM team

2. A character is created that empathizes with the user, from his reality and his environment. It may have a slightly marked path at the beginning but then it is followed.
3. The set itself is to create a puzzling narrative. The more the user advances, the more data is obtained. A competitive profile is created that can be used to apply for possible jobs. The dynamics and mechanics are found in the rewards, information and more tools are provided to create a better cv.
4. The user experience is still relatively average. There are not necessarily more tools beyond the profile. The game competitors could increase with further exploitation of the narrative.
5. More characters could be created and a comparison made. It allows role-playing.
6. For a young person the change is significant. After playing it takes a material that helps the professional profile. Being a puzzle narrative is involved.
7. According to data from Actúa.Pe. Many young people have managed to present their cv to companies to work through this game.

4. Discussion and outcome

Sophia Educations Funds

In order to validate the playful narratives with the experience for a social change, it was decided to carry out semiestructured interview with a group of teachers between 28-50 years old of the Audiovisual Communication and Interactive Media Career of the UPC.. Most of the teachers commented that by putting Sophia as a mentor was highly interesting and the institution was not the protagonist but the companion. After trying the gamified web, the users were able to access all the products that Sophia educations offered, especially to know the 21st century competences. Both teachers mentioned the dynamics and game mechanics in the development of each platform.

Improvement opportunities:

Players said they would like to see an interactive web series with the other characters. They asked, "What happens to children who misbehave? Perhaps other narratives could be created that would change children's behaviors. Everyone mentioned having an entertaining experience, thanks to the worlds created and the game. That's why they wouldn't like to see so much formal information. You can find that somewhere else.

Nini Polis

In order to observe the role of playful narratives for a better user experience in social change, the video game was analyzed. In this case, the young people between 15-17 years who used the video game mentioned a friendly world. They identify with it. They mention that through being the character themselves they learn to manage themselves professionally which is one of the dynamics and mechanics of the game. The reward system is advice and relevant data. Most of them are from low strata or a low educational level.

Improvement opportunities:

The only thing that could break the user experience depends on the bandwidth. Some mentioned that it can be hung up.

5. Conclusions

Within a user experience, playful narratives together with game dynamics and mechanics could allow a social change. Within playful narratives, the theory of possible worlds should be considered, which not only come from the fictional story but from the non-fictional one. As we have seen, the worlds are infinite, expandable and both projects can serve to empathize with the users. Whether fictional or non-fictional. The gamification that is based on the player's psyche helps to put us in the role of the protagonist or companion at the same time. And if we add to that the components of gamification we could have a user who wants to consume all the pieces of a transmedia experience or all the wireframes of a video game. It is recommended that the rewards are in accordance with the objective of each project.

For example, at Sophia, since the target audiences were teachers and parents, they were given workshops, or didactic materials for the classes or to carry them out with the children. In the case of Ninipolis, the reward has to do with providing knowledge and tools to young people with a low socioeconomic level so that they can get ahead. It is worth noting that many do not have a computer to do homework or type. In addition, it is evident that previously you must visualize the problem to be solved and have clear objectives. The game spaces, the invitation to be part of the story not only by reading or watching it, also invites the co-creation of more content and to continue talking about the topic or problem.

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