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DESIGN PATTERN CANVAS: AN INTRODUCTION TO UNIFIED SERIOUS GAME DESIGN PATTERNS

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ABSTRACT

The aim of this article is to start a dialogue and search for a unified game design tool within the game design and research community. As a possible direction, presented paper outlines the practice and importance of design pattern use in serious game development and argues that design patterns can make serious game development more efficient by enabling knowledge exchange and better communication between different stakeholders. Furthermore, the use of design patterns provides a foundation for structured research and analysis of games. In order to help advance the state of game design the paper proposes a new method – the Serious Games Design Pattern Canvas or shorter Design Pattern Canvas (DPC). DPC is a design template for developing new or documenting existing (serious) game design patterns. It is a visual chart with elements describing a pattern's purpose, mechanic, audience, consequences, collected data, related research and ethical considerations. It assists game designer in aligning their activities by illustrating patterns characteristics and potential trade-offs. One of the goals of the DPC is to either help break larger game design problems into smaller pieces or assist in a bottom up approach of designing serious games. It is important to note, that the paper proposes the first step for co-creation of a game design tool and further research and validation of the DPC is needed.

KEY WORDS

design methodology, design patterns, serious games, co-creation

CLASSIFICATION

ACM: D.2.2, I.5.2, K.8
JEL: C92, O31

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INTRODUCTION

More and more research is focused on games that can be used for something more than just fun, for something good and change, besides the "time sinking" component. Apparently, games can make us smarter, games can make us healthier or even help us enhance brain functions [1]. These games are so called serious games, an oxymoron by the name. Still, as defined by Michael & Chen, serious games are "games that do not have entertainment, enjoyment or fun as their primary purpose" [2].

In such definition, however, could also hide a reason that serious games design is facing challenges of creating an engaging gameplay as it puts more focus on how to devise treatment, learning, etc. than on the design of the "game". Experience shows that it is often a tall order to make learning an enjoyable, exciting, and enriching experience [3]. In this regard it is even becoming questionable if serious games are truly games in terms of player experience or just an attempt of "gamification", where gamification refers to the use of game elements in non-game services and applications with the goal to improve user experience and user engagement [4]. Still, as traditional games are also motivated to be as much as possible engaging and fun, we can argue, that the presented challenge of serious games design is in its essence also one of the fundamental challenges of game design. Furthermore, by stating that the scope of serious games is beyond entertainment, we merely state that their main purpose is somewhere else than entertainment. In addition, a game cannot be dissociated from its player and the goal of successful game design is meaningful play [5]. Consequently, it can be argued that designing engaging serious games is also important for purpose outcome as perhaps the foremost reason to use serious games is their alleged motivational appeal while noting that a game with integrated game mechanics and serious game content can be more motivating compared to a game version where these components are not integrated [6]. In this regard, game design definitions also still apply; creating a truly meaningful game just becomes a harder task as a result of increased complexity of the "problem to solve". Unfortunately, neither the player and its relation to the game, nor games fundamentals like gameplay, feedbacks, or goals are stressed in existing definitions of serious games [7].

Therefore, to address the issue of creating engaging serious games, game design best practices should be considered in the development of a serious games design tool. However, a major issue and limitation in game design is the lack of a shared design vocabulary and tool box containing both broad application solutions and solutions specific to certain genres of games [8]. It is considered by many researchers and designers that a shared and unified vocabulary can bring significant benefits to the area [9] and in the past several authors, as for example Costikyan and Church, pointed out the need for greater formalism on game design and a shared designer vocabulary [8]. Furthermore, various tools aimed at the improvement of the games creation process were proposed as researchers and professionals agree that such tools, whether conceptual or software, would positively influence knowledge transfer between generations of designers and bring industry and academia closer, contributing to build a universal knowledge base of game design [9]. Moreover, although dictionaries alone cannot become design tools, they are necessary complements to any method or conceptual tool and can be seen as a lower abstraction layer, serving as a foundation for other approaches [10].

One of these approaches which seems to be a promising field of research and a promising solution for people involved in serious game design is pattern design [3]. A game design pattern collection would provide a shared design vocabulary that allows experienced designers to communicate efficiently with each other, document their insights, organizing individual experience as written knowledge and analyze their own design as well as the

designs of others [11]. In addition, the usability and advantages of design patterns have also been recognized in the serious games community [3, 12]; where currently, each project is more a new challenge than the re-use of established and well-grounded procedures and lack of these procedures slows down serious game production and probably has a negative impact on the quality of the products [3]. Furthermore, because of added design complexity of serious games more stakeholders need to be involved in the design process, which calls for upgraded and unified communication and design tools encompassing more information as pattern templates used at the moment. Thus, such tool should be able to describe best practice design approaches of games, serious games, serious games with biofeedback, neurogames and not-yet-invented games with added and relevant information to the serious part of the game. At the same time it should reflect the relationship between design and player. Furthermore, it should give a possibility to look at a game and its building blocks from different viewpoints and levels. After all, a complex system cannot be understood fully by looking at just one level [13].

Therefore, this article is intended for all stakeholders involved in the process of creating and researching games with the goal to propose an expanded game design pattern tool "Design Pattern Canvas"[1] upon which later a framework for designing games could be build. Let's play.

SERIOUS GAMES

WHAT SERIOUS GAMES ARE

Serious games are based on the idea of connecting a serious purpose to knowledge and technologies from the video game industry [14]. A more recent definition is that serious games are games that do not have entertainment as their primary purpose [2]. Serious games span over a wide range of fields such as education, therapy, advertising, defense, research, etc. and because there is no consensus on the domain boundaries of the serious games, a definition of serious games is still an open subject [15]. Some "domain-specific" definitions reflect these differences and are used to force a limited view of the nature of "serious games" [16]. Still, two common aspects that were identified in a review of new definitions which include all game genres and application fields are that 1) a serious game has a purpose beyond entertainment and that 2) an objective of a serious game is to use the attractive shapes of the game to serve the serious purpose [7]. For the purpose of this paper, we will assume that serious games are games that in addition to entertainment have another purpose. This way we leave it open if the "other purpose" is superimposed to entertainment or is rather parallel to it. Furthermore, this definition enables us to also include games used to perform "purpose-shifting", that is games that are not designed with the primary purpose of "seriousness", however their use-case can be the same as with serious games. Deeper explanation of "purpose-shifting" is out of scope of this paper and the reader is advised in case of additional interest to read upon it in Djaouti's paper [15].

CLASSIFICATIONS OF SERIOUS GAMES

In general, classifications are a structured approach in defining games, use same set of criteria within the classification and can consequently provide more information while also at least hint in the direction of game design patterns used. Furthermore, as the scope of game design patterns in our case is expanded by the "serious" dimension, it is reasonable to review them and see how a game design pattern template could be linked to it as an explanation of game elements at a deeper level.

Considering numerous definitions of serious games and fields they address, it should come as no surprise that there are also many more or less successful classifications of serious games.

While the most common approach to classify video games is to categorize them into "genres", serious games classifications can in addition be market-based, purpose-based or based on multiple criteria [15]. However, a major limitation is that none of this classifications classifies "serious games" as "games" and does not provide relevant information about the game structure of the games it classifies [15].

To address this issue with more precision Djaouti et. al proposed a Gameplay/Purpose/Scope model (G/P/S model) that combines the analysis of both "serious" and "game" dimensions [15]. The G/P/S model analyses games from aspects relevant also for documenting (serious) game design patterns, such as how the game is played, what is the designed purpose beside entertainment and who it is made or targeted for. However, as a classification model designed intentionally to provide a general overview, its limitation is that the model is not able to provide detailed information concerning a specific area of the serious games field [15]. While it provides information about which main game design pattern is used it does not inform of all game design patterns nor their mechanics. In this regard the (serious) game design pattern canvas proposed in this paper presents a complementing tool.

Nonetheless, as much as the G/P/S model provides common ground with which we can browse the whole field of serious games, another limitation is that it does not address motivational aspects of games. In the context of a serious game purpose (e.g. therapy or education) motivation is the most expected and desired effect of a game. This issue is largely addressed in the player/game/therapy model developed by Mader et al. [7]. While the player/game/therapy model is intended as a design tool for serious games in the field of health and therapy, we can expand it for our purposes of our analysis to the whole field of serious games i.e. the effect of the game element of educational games is also motivation. This understanding is crucial for the design of serious games as the function of a serious game or (serious) meaningful play emerges from the relation between the player and the game. In addition, the therapy/game/player model provides another, more user-centric perspective on the analysis of serious games in order to find their interesting features and constraints which help facilitate the game designer's work during the design process [7]. In other words, it can help discover and suggest serious game design patterns to make the game more pleasurable and interesting. However, as much as it can add to analysis, it is limited to therapeutic purposes and still does not provide standardized description of the most granular part of game design that could also be used across different domains. In this regard, again, the later in the paper proposed serious games pattern canvas can be considered a complementary tool.

There are many other models and analyzing them all falls out of scope of this paper. Nonetheless, the process of creating a unified serious games design template should be guided by research done in all these fields.

GAME DESIGN PATTERNS FOR SERIOUS GAMES

WHAT ARE GAME DESIGN PATTERNS?

Alexander introduced the method of using design patterns in architecture: "Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of a solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice" [17]. Among other fields, this method was later applied also in software engineering, human-computer interaction and interaction design [18].

Kreimeier defines design patterns as conventions for describing and documenting recurring design decisions within a given context [11]. Thus, a design pattern is often defined as a

general reusable solution to a commonly occurring problem after it is repeatedly applied in specific context as a response to a specific design problem [12]. The pattern description itself is just a summary of cause and effect, describing one way to reach a given objective [11]. It is important to note that unlike earlier uses of patterns, Bjork et al argue that not all aspects of design can or should be seen as solving problems, especially in a creative activity such as game design [19].

Moreover, we should note that the use of game design patterns put forward by Björk et al. [19] is considered an evolution over the Formal Abstract Design Tools (FADT) suggested by Church and currently presents the most significant attempt to set up a database of design concepts [8].

WHY USE PATTERNS FOR SERIOUS GAMES DESIGN?

Even though it is not clear yet which approach to take, there is a wide consensus in the game design community that semi-formal or even formal game design methods must be developed as we must advance the way we discuss game design details [18]. Game design patterns seem to be a promising choice as they provide a means of capturing existing successful design practices, expand knowledge about game design and provide a shared design vocabulary for communication between researchers, game designers, and developers [12]. Furthermore, Björk et al. stress that game design patterns are beneficial to multidisciplinary groups as they ease communication by being neutral definitions based on the interaction in games and are not based on any research field or professional jargon [19]. In summary, the benefits of game design patterns are suitable for problem-solving during development, idea generation, creative design tool and communicating with peers and with other professions [18]. In addition, analysis, categorization of games and support for exploration of new mediums and platforms are listed [19].

For the domain of serious games, we can argue that some of these advantages are even more beneficial. As mentioned before, teams developing serious games face a major and recurrent problem which consists in combining or blending game and serious parts like learning or therapy within the same application [3, 7]. Patterns help to better understand features that make play engaging and motivating, thus, this helps in maximizing patient's intrinsic motivation and smooth out the medical aspect of therapeutic games consequently making a serious game more effective for treatment or therapy [7]. Moreover, we can argue that these benefits can be applied to other domains of serious games.

Furthermore, analysis and insights into games and design problems that come from using design patterns are especially important in what can be called experimental game design where the goal is to push the limits of existing games and genres [18]. As using patterns for the design of the actual game play can make the transferal between different parts of a project group easier [18], interdisciplinary teams can be more efficient. In addition, the documentation of design guidelines can assist in the knowledge transfer between generations of professionals [8] and different communities to a greater extent than before [18] which is a key factor for structured research built upon best and proven practices. For example, Dormann et al. proposed using game patterns as a conceptual tool to initiate discussions about the role of affect in games and to support the design of games situated in the affective domain [12]. In their research, they used game patterns to "bridge the gap between theories and high-level affective principles to their representation or actualization through games" [12]. Thus, developing a collection of game patterns helped gaining insights into the design of affective learning in games and raised a number of issues to take into consideration [12].

As patterns are a formal means of documentation [11] we can argue that they open doors to structured research in the serious game domain. Moreover, documentation of game design

patterns can be expanded with the "scientific part" as for example ethical concerns, serious purpose, data gathered, etc. – an example of such relevant and reusable information would be a research done in 2009 which demonstrated that the popular game Tetris is a visuospatioal task that can reduce PTSD flashbacks if played after a traumatic event [20]. Moreover, such re-use of established procedures is in accordance with the claim presented already in the introduction that currently, each project is more a new challenge and Serious Game development is therefore less efficient [3].

Based on evidence presented we can come to the conclusion that game design patterns need to become broader and expanded beyond game mechanics with purpose, scope, appropriate media channels, ethics and related research references to fit the context of serious games. However, in order to start this process of documenting research, a standardized and unified template or canvas needs to be developed.

CRITICISM OF PATTERNS

Most of the criticism of design patterns such as that patterns are a fad and either too formal or not formal enough comes from other fields, however it can be also applied to game design patterns [18]. It is important to note that game design patterns are only useful as long they can be used and applied with reasonable effort to support development of a game or solve particular design problems [18]. In this regard Almeida & Silva criticize game design patterns proposed by Björk et al. as not being enough documented, having contradictory documentation on patterns with disagreements between title, definition and usage examples while also lacking graphical models which together results in less intuitive use [8].

However, these objections do not really criticize the notion of patterns but rather the quality of their current conceptualization, use and unspecified level of analysis they address. Furthermore, it can be argued that with standardized design language and taxonomy the quality and usability of game design patterns could be improved. Nonetheless, as we can consider the game design patterns method still in its beginning, critiques like this should be addressed in future development of serious game design patterns. In addition, game design patterns need to be validated or it has to be at least specified in which development phase they are. As there is not much research on game design patterns validation, this can be considered as a major limitation and future research should also address this question.

DESIGN PATTERN CANVAS: A PROPOSAL OF GAME DESIGN PATTERNS TEMPLATE FOR SERIOUS GAMES

RELATED WORK

The following proposal draws, among others, inspiration upon previous work of researchers presented until now [7, 15, 19]. Furthermore, as design patterns are used in several other fields, we should not shy away from looking for best practices outside of game design. In this regard, a very successful tool is the so called Business Model Canvas (BMC) created by Alexander Osterwalder [21]. While the BMC serves as a strategic tool providing insights into business models on the highest level, its design and form could be applied to proposed game design patterns template in this paper. Furthermore, the BMC proved to be useful for practical and academic purposes, efficiently connecting both spheres and driving a dialogue of innovation. In addition, the BMC could be viewed as one of the "One Page Design" schemes proposed by Librande [22] who also emphasizes that visual models are more synthetic, naturally communicative and scale better.

CONSIDERATIONS

In general, designers want standardized tools and techniques that 1) do not sacrifice the freedom and creativity inherent to their craft and 2) allow them to build experimental prototypes directly from the definition of a set of game characteristics [8]. Furthermore, such a tool would have a positive influence on productivity as it would enable iterative process of design and testing of gameplay, instant proofs of concepts and help creating the design documentation [8]. To summarize, in order to be useful for game designers and other stakeholder, the canvas should be:

- intuitive and familiar,
- easy to update and enable iterations,
- not time consuming to create,
- short, one page preferable,
- using shared design language,
- facilitating knowledge sharing and transfer,
- a tool that would allow them to build experimental prototypes directly from the definition of a set of game characteristics,
- standardized,
- considering perspective of the designer and the player.

SERIOUS GAMES DESIGN PATTERN CANVAS – ALPHA PROPOSAL

The serious games Design Pattern Canvas or shorter Design Pattern Canvas (DPC) is a design template for developing new or documenting existing (serious) game design patterns. It is a visual chart with elements describing a pattern's purpose, mechanic, audience, consequences, collected data, related research and ethical considerations. It assists game designer in aligning their activities by illustrating patterns characteristics and potential trade-offs. One of the goals of the DPC is to either help break larger game design problems into smaller pieces or assist in a bottom up approach of designing serious games.

As “patterns, like any semi-formal method, are only useful as long as reasonable efforts to memorize and apply them suffice” [18], DPC is not designed with the intent to hold all necessary information. Thus, it is complemented with 1) underlying detailed description and 2) visual representation. Thus, a complete pattern description should consist of tag description (DPC), detailed description and visual (diagram) representation.

The higher abstract level is the mentioned visual chart which is tag based in order to provide a quick overview and understanding. At the same time, tags simplify search and navigation among different patterns. The chart can be looked at from the center, where the left side is aimed at design questions and the right side is dedicated to interaction design. In this regard, the left side can be considered for the design of the “serious” part while the right side of the visual chart is the “game” part.

The second level is a detailed description of tags within sections that is looked upon when necessary and serves as a reference. Eventually, the designer does not need to check upon specifics of the pattern and can use only the canvas view of the pattern. This is important to reduce the information presented in order to better streamline the design process and conduct meta-analyses. In addition, the visual representation of the design pattern helps better memorize and understand mechanics of the pattern. Moreover, visual representation could serve as a foundation for software implementation.

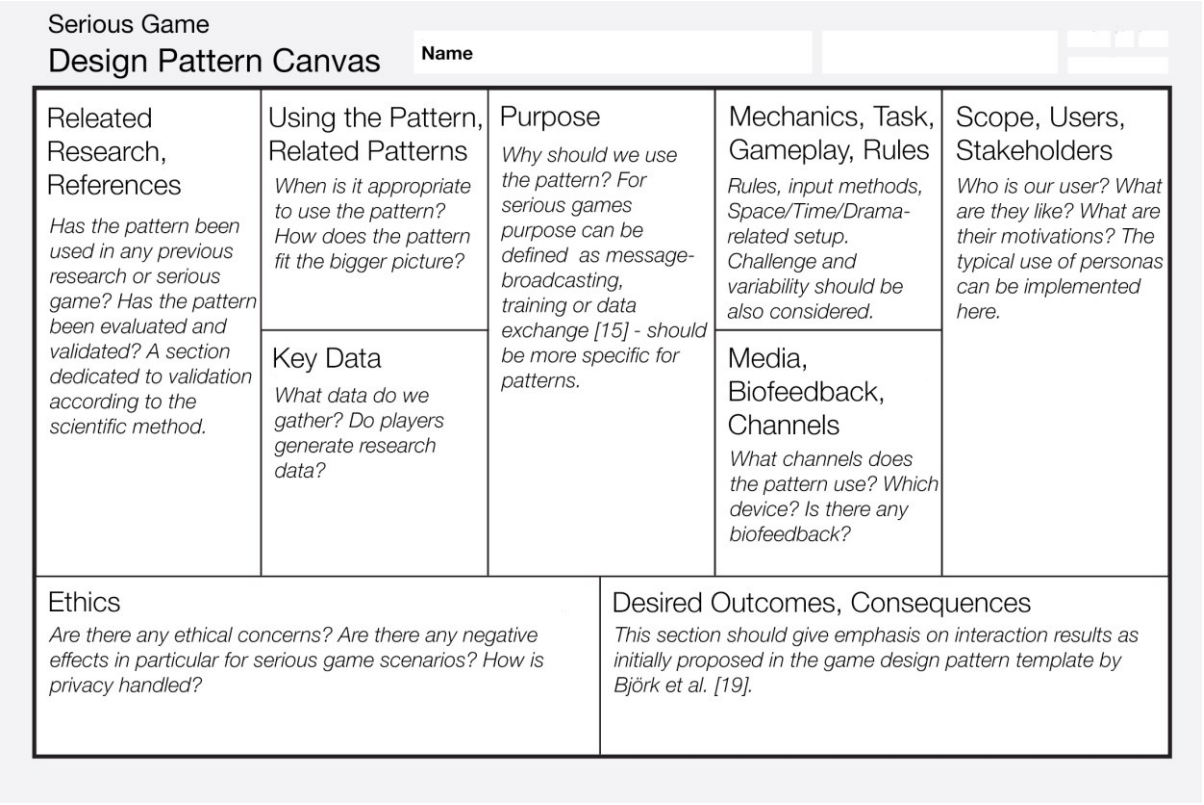

Figure 1. Serious Games Design Pattern Canvas (alpha proposal), inspired by the Business Model Canvas [21].

In order to address as many considerations and requirements, the proposed pattern template might be considered bloated. It certainly is including information, which might not be relevant for all stakeholders, nonetheless it is necessary. For this reason and to improve the usability and experience of using the tool, ideally the DPC would be used for full functionality on a tablet computer. The advantage of this is a better overview, user can select information needed and at the same time contribute to common design language as the tool should be connected to a central database and suggest expressions. Furthermore, a much desired upgrade of such an application would also be the main view where patterns could be arranged or connected with another application for game design, diagrams or game design document creation.

Design Pattern Canvas (DPC) – Visual Chart

Information provided by the DPC is divided in two parts, which is 1) Information about the game design pattern and 2) meta information pertaining to status of the pattern. It is important to note, that the current proposal reflects just the initial version (alpha) with the purpose to start a dialogue and search for a unified game design tool within the game design and research community. Because of this, some section names and content are not set yet but more proposal are given. The exact "layout" and game design pattern form should be the subject of future research and scientific consensus.

Main Section

Purpose

Djaouti et al. proposed purpose classification to fall into message-broadcasting, training or data exchange [15]. While this classification can be suitable for classifying games, pattern purpose should be more specific.

Mechanics / Task / Gameplay / Rules

Understanding and defining gameplay is a tricky issue. From the various definitions available, we will refer to the one proposed by Portugal, a Serious Game designer, who defines "gameplay" as the combination of five components: *Rules, Input methods, Space-related setup, Time-related setup, Drama-related setup* [15]. This is also in line with the proposal of Mader et al. regarding the gameplay analysis of therapeutic games [7]. Furthermore, challenge, variability and input/output elements systems should be considered [7], however these can be partially addressed in the section "Channels".

Scope / Users / Stakeholders

Who is our user? What are they like? What are their motivations? Understanding the player is an important aspect of game design as the game designer has to understand what the target audience is able to do [7]. The typical use of personas can be implement here. Additionally, Djaouti et. al suggest also determining the "type" which for classification purpose is simply differentiated between *General Public*, which refers to anybody, *Professionals* which represents workers from the targeted market, and *Students* which groups the people who are studying to join the professionals [15].

Media / Biofeedback / Channels

What channels does the pattern use? Which device? Is there any biofeedback? These are the questions that should be addressed here.

Desired Outcomes, Consequences

This section should give an emphasis on interaction results as initially proposed in the game design pattern template by Björk et al. [19].

Using The Pattern / Related patterns

When is it appropriate to use the pattern? How does the pattern fit the bigger picture?

Key Data

What data do we gather? Do users of the game contribute to the body of knowledge of that particular domain where the pattern can be applied?

Ethics

Are there any ethical concerns? For example, in the consumer space the adjective "addictive" for a game is seen as a compliment while this certainly can have negative effects in particular serious game scenarios.

Related research / References

A section dedicated to validation according to the principles of science.

Meta information

Name

Like rules, pattern names typically name the solution, not the problem [18].

Domain / Scope

Is it an educational game? Game for health? Entertainment game?

Level of design

Patterns can be applied at different levels and some patterns can be even applied at more levels. Specifying the level of game design adds to the formal aspect of documenting patterns while also sets the detail of description.

Genre

Genre information can be helpful in accelerating game development and knowledge transfer. At the same time it can provide one view of pattern categorization.

Version / Status

Version should reflect the phase of design and if the pattern has been properly validated and recognized by the scientific community. Evaluation is a major issue and needs to be addressed. Serious games have serious purposes and evaluation and validation should be done with the scientific method. However, in order to not exclude, game design patterns, which are still in development, this section should reflect the current version or status.

Author

Who created or introduced the pattern. This should follow standard authorship conventions of the scientific community.

DISCUSSION

The proposed DPC is in its initial stage and many questions need to be addressed which should be done throughout development of the DPC and the underlying tools. Nonetheless, we can argue that benefits of such a framework are worth pursuing and necessary. Games design is growing in complexity and research in this field is scattered. Furthermore, we need a shared design vocabulary, knowledge exchange between domains with means to also validate patterns and research.

CO-CREATION

As mentioned already in the description of the DPC, a very good study-case from a different domain is the development of the Business Model Canvas. The development of the canvas took 9 years and there are 470 co-authors. It is by no surprise, that in a very short time, the BMC has become a standard tool within the business development community (ranging from biggest corporations to startups) – an effective tool to foster innovation in these fields, enabling communication between entrepreneurs, potential investors and other stakeholders. It is the firm belief of the author of this paper, that a similar tool for game design can be only developed with a similar approach, that is co-creation.

VALIDATION

A major quality of a co-creational process is also validation, be that the validation of the DPC or design patterns (and their serious purpose). Validating DPC can be best done by repeated use and applying feedback from it. On the other side, while validating design patterns is not a much researched question in the domain of game design, there are two main ways to do it, that is either by expert review or by testing patterns through repeated use [12]. With this in mind DPC is designed and can be further developed to assist in this process. Furthermore, DPC could be used as part of the serious game analysis process to validate the design coherency. For therapeutic games, design coherency can be examined by evaluating the relation between each aspects of a therapeutic game as the player, the game, and the therapy [7], aspects covered in DPC. Empirical evidence of serious games efficacy is for example still a key scientific and methodological challenge within the domain of serious games in psychotherapy [23].

DEVELOPMENT OF TOOLS

Kreimeier argues that, unless there are editing and search facilities that support and enforce the format, defining a standard format for game design documents is of limited use [11]. It

has been already mentioned in the description of DPC that ideal use of the DPC would be on a tablet pc or similar in order to increase motivation and game designer's user experience through a more intuitive use with better organization of different views and data. At the same time, such an application would enable data collection for better meta-analysis of patterns and their external validation the need for which has been often outlined [3, 7]. Furthermore, such implementation could help in the formation of a shared design vocabulary.

These are just few of the open questions that have to be tackled. Through development of DPC or a similar tool, maybe we could also get deeper insights into what makes a successful and meaningful game. On a side note, maybe in the future we could also replace the word serious with meaningful and give games a purpose not beyond but in addition to entertainment.

CONCLUSION

Presented paper has outlined the practice and importance of design pattern use in serious game development. Design patterns can make development more efficient; enable knowledge exchange and better communication between different stakeholders. Furthermore, the use of design patterns provides a foundation for structured research and analysis of games in order to help advance the state of game design by having in mind that the possibilities of games are always expanding from rather simple kicking of the ball to complex dialogue with our bodies. Thus, we have started our own hero's journey for which we hope more people are going to join, as this is a necessary part of development a design tool that could also provide a shared design vocabulary. It is a long walk until the ring is going to be thrown into the Mount Doom and it is definitely not a one man's walk. So, let's get serious or let's not play.

REMARK

[1]Design Pattern Canvas was in the form of a poster for the first time introduced by the same authors at Sixth International Conference on Virtual Worlds and Games for Serious Applications: VS-Games 2014 that was held in Malta, September 2014.

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PODLOGA OBRASCA DIZAJNA: UVOD U OBJEDINJENE OBRASCE DIZAJNA OZBILJNIH IGARA

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SAŽETAK

Cilj ovog rada je započeti dijalog i potragu za alatom dizajniranja igara objedinjenim za potrebe dizajna igara i istraživačke zajednice. Kao mogući smjer, rad izdvaja praksu i značaj upotrebe obrazaca dizajna u razvoju ozbiljnih igara. U radu se diskutira o tome kako obrasci dizajna mogu učiniti razvoj ozbiljnih igara učinkovitijom pomoću omogućavanja izmjene znanja i bolje komunikacije između različitih dionika. Nadalje, korištenje obrazaca dizajna stvara temelje strukturiranih istraživanja i analize igara. Kako bi se doprinijelo unaprijeđenju stanja dizajna igara u radu se predlaže nova metoda – Podloga za obrasce dizajna ozbiljnih igara ili kraće Podloga obrazaca dizajna (eng. DPC). DPC je okvir dizajniranja za razvoj novih ili dokumentiranje postojećih obrazaca dizajna (ozbiljnih) igara. To je grafikon s elementima koji opisuju namjenu obrasca, mehaniku, publiku, posljedice, prikupljene podatke, vezana istraživanja i etičke razmatranja. On pomaže dizajnerima igara u usklađivanju njihovih aktivnosti pomoću ilustriranja karakteristika obrazaca i potencijalnih kompromisa. Jedan od ciljeva metode DPC je ili pomaganje u razlaganju dizajna veće igre na manje dijelove ili pomoć u pristupu dizajniranja ozbiljnih igara „odozdo nagore“. Važno je zaključiti kako rad predlaže prvi korak u kokreaciji alata dizajniranja igara kao i potrebna daljnja istraživanja i validaciju metode DPC.

KLJUČNE RIJEČI

metodologija dizajniranja, obrasci dizajniranja, ozbiljne igre, kokreacija