Designing for Fun and Play: Exploring possibilities in design for gamification

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ABSTRACT
Gamification – the use of game design elements in non-game contexts – is touted by many as the solution of how to make applications and processes more engaging to people that may have little or no motivation to engage with them otherwise. Based upon a literature review, the paper argues for guidelines concerning two aspects of gamifying an activity: ensuring that a continued focus on the main activities can be preserved and considering designing for playful aspects. Furthermore, the relation between gamification and play is discussed, and some possible issues with gamification are presented.

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Gamification; playfulness; play; games; intrinsic and extrinsic motivation; fun; design suggestions

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H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

INTRODUCTION
Gamification - the use of game design elements in non-game contexts – has caught on in recent years and services such as Stack Overflow, Foursquare, Fitocracy and Zombies, Run! have been used to argue that gamification can motivate and engage users [5, 18, 24, 25].

This paper makes a number of suggestions on how to approach gamification, and how to avoid some possible issues with the more common gamification designs. This is done primarily through two sets of suggested guidelines. First, in order to make activities more fun and engaging, designers could enhance them through gamification, but should preserve the focus on the activities themselves. Second, designers should take into account the playful aspects of the games that gamification seeks to emulate.

In order to do this, the paper will discuss the relation between play and games, followed by recommendations on designing for gamification.

PLAY, GAMES AND FUN
Fontijn et al. suggest that fun is an evolutionary mechanism that rewards behaviors that make us more likely to survive, e.g. skills, knowledge and social cohesion. This maps to what they define as the three core sources of fun: accomplishment, discovery and bonding [11]. Play in turn has been defined as a voluntary activity which we engage in in order to have fun and feel pleasure [1, 3, 14]. That play has also been classified as inherently unproductive from a utilitarian perspective [14] is probably most easily resolved by attributing the differing opinions to different requirements on when the play activity needs provide a “useful” value.

Related to play and fun is motivation, and research typically distinguished between two different types. Intrinsic motivation occurs when the activity is inherently satisfactory, pleasurable or fun for the user, while extrinsic motivations are based on a separable outcome, such as money, approval, or self-endorsement of goals [16]. Noteworthy, extrinsic motivations have been shown to undermine intrinsic motivations [6].

Fontijn’s theories bear some resemblance to the Self Determination Theory, which states that there are three innate needs that must be satisfied in order to achieve well-being – competence, autonomy and relatedness [16]. These are factors, it has been argued, that help internalization of the extrinsic motivations into the sense of self, leading to persistence and engagement [16].

In recent game research, there has been many definitions of what a game is, but many agree that games are activities...
with rules that define limits, mediate conflict and define goals; and there exists at least one player, who tries to fulfill the goals [2, 21, 22]. Early game researchers, like Huizinga and Caillois, however focused mainly on play, arguing that games emerge from play. In Homo Ludens, Huizinga tries to, in his own words, "ascertain how far culture itself bears the character of play" [1].

Caillois coined the words paidia and ludus which roughly map to playing and gaming. Paidia is the uncontrolled play with aspects of improvisation, exuberance and carefree gaiety. Ludus, the opposite principle, is described as an attempt to restrict play with "arbitrary and tedious conventions" adding "gratuitous difficulty" [3]. Caillois also writes "rules are inseparable from play as soon as the latter becomes institutionalized." [3].

The difference between gaming and playing can be said to be that while gaming is rule bound and goal-oriented, playing is an open-ended activity with strong exploratory tendencies [1, 3, 8, 23]. The relationship however depends on what perspective one takes: games have both been described as a formalized subset of play (when taking an activity perspective), and as a phenomenon which includes play as one aspect (when taking a perspective on how games can be studied or designed)[2].

Besides wanting rules for their own sake, one can ask what need there is for gaming when playing exists? One explanation can be found through the concept of “flow”. Flow is a term coined by Csikszentmihalyi, and is defined as the optimal experience of an activity, that is reached when goals are clear, feedback is immediate, and there is a balance between challenges and skills. The participants are so involved and focused on the present moment that nothing else matters, with a sense of control and the experience that the activity is intrinsically rewarding [13, 15]. Developing clear rules and goals for activities make feedback clearer and make flow more likely to occur. In other words, formalizing gaming from playing activities can help increase the chance of people having “optimal experiences” while at the same time making them become autonomous from their original purposes.

GAMIFICATION
The idea of using games to enhance engagement for activities that had little or no intrinsic motivations is based on the observation that people are willing to play games without tangible rewards. An early application of this idea – at least from the 1950s – can be found in Educational games, which use games in a school setting [12]. The first documented case of the term gamification occurred in 2008, but the concept itself has existed since at least the 1980s [4]. It could be argued that it is possibly as old as games themselves, as religious rituals has elements of both play and games [1]. Aspects of play and games may always been incorporated in non-game activities, but gamification represents a more ordered and aware approach. It has been defined as being distinct from design for playfulness, while still often resulting in playful behaviors [5].

An advantage of gamification is that the system can be designed to introduce clear goals and feedback, and challenges that can be tailored to match the abilities of a user. These are some of the qualities needed to help the user to achieve flow [13].

Commonly used game elements in gamification are systems that define goals and allocate points and badges to reward activities, often as a gamification “layer” that is added to existing systems [4, 29]. Point and badge systems can be used to send immediate feedback to encourage the user, and for sharing in social media and on leaderboards, strengthening social bonds as well as encouraging competition. They can also present a way of “rating” an activity that can be less complex for the user than understanding the activity itself.

There are, however, a number of challenges when designing good gamification experiences, some of which the following two sections will address by looking into them and giving design suggestions. First the relation between the gamification layer and the activity it is there to support will be addressed, and then the development of intrinsic motivation for the gamification layer itself.

SUPPORT THE ACTIVITY
Possible Issues
One of the main challenges of adding gamification is designing how it should support the main activity, as there is a number of issues that may arise if the users focus solely on the gamification layer.

When gamifying an experience, goals and ways to measure goal compliance are introduced. By necessity, these models are often less complex than reality and designers have to decide which aspects of the activity to encourage in order to simplify the experience. This simplification in itself can steer the user toward a less effective behavior. As a hypothetical example, users who depend on weight watching systems allocating points to food will try to find the most desired foods for the least points. A scoring system that allocates a specific point value to “muffin” but does not take in account the varying sizes and contents of muffins could easily lead users to choose oversized muffins while claiming to adhere to the system correctly.

Besides encouraging suboptimal behavior, the gamification layer can overshadow and obscure the activity itself. Users that seriously engage in the gamification layer may focus on this simplified model to the point where it hinders the user from gaining knowledge and self-efficacy in regard to the main activity. As told to the authors informally by a developer, a gamification layer that penalizes bus drivers when they break (since breaking is not fuel efficient) may lead bus drivers to stop the bus through other means – like
running into the curb – rather than to learn how to drive fuel efficiently.

Although the reason for engaging in the gamification layer is that it has intrinsic motivations, it acts as an extrinsic motivation for the activity in is meant to enhance. Extrinsic motivations have been shown to harm intrinsic motivation in many studies [6]. It is possible to argue that if there is no intrinsic motivation, extrinsic motivation is harmless. This may be true for short-term efforts, but not necessarily if the goal is permanent behavior change. If the user mainly focuses on the game elements, she or he may not have the chance to develop motivations related to the activity itself that could have supported further involvement.

Another problem with introducing a gamification layer is that users may knowingly manipulate flaws in the models, regardless of whether the user understands this to be the desired outcome for the activity itself. This is often called “gaming the system”. This is not necessarily malicious, as gaming the rules system can be part of the fun when playing games – an intrinsic motivation in itself.

To play and game, the participants must be willing to engage in an activity that may lead to few or no advantages in real life. If they are unwilling to do so, a gamification layer would be in the way of the actual experience, and may contribute to information overload for users and their friends who feel spammed. An example of this occurred when “Google News Badges” was introduced; the gamification layer was perceived as disruptive to the main activity of reading news at Google News [26].

**Design Suggestions**

Based upon the analysis above, the following specific guidelines are suggested:

- The gamification model should not obscure the main activity, as it may provide intrinsic motivations for the user. The user should be encouraged to engage with the activity itself, as it will help him or her to keep or develop intrinsic motivations in regard to the activity. This will also help them to understand and avoid flaws in the model.

- Make the gamification layer opt-in or invisible, in that users should not be forced to interact with it unless they want to. Users who prefer not to engage with the gamification aspects should not feel short-changed.

- Mandatory actions should always be meaningful in regard to the main activity. The user should not be forced to take actions only to support the gamification layer unless they wish to, as these may harm the user’s focus and interrupt the flow state [13].

- The gamification layer should also not spam unwilling users (or their social media networks) with information unless it is wanted. The user should always feel in control of the information flow.

- Keep in mind that no gamification model is perfect. The flaws in the model can lead to unwanted behaviors, either intentionally or unintentionally.

**SUPPORT PLAY AND INTERNALIZATION**

Gamification has been viewed as a complement to designing for playfulness [4, 5], but if play is an integral part of games [2], it is also possible to argue that affordances for playfulness should always be considered when designing gamification.

If the main difference between playing and gaming are goals and rules systems [2, 3], then gamification that mainly introduces these systems is not focusing much on the play aspect of games. The play aspects of gaming in themselves support a number of inherent intrinsic motivations - pleasure that arises from a sense of accomplishment, of discovery, and a way to connect and bond to people [11].

Research on users who exhibit pleasure in playful discovery of an activity has suggested that they are willing to spend more time on a task and has a lowered perception of effort [17]. The processes of exploration can be seen as a precursor to playful behavior [19]. An example of this is the “Zombies, Run!” fitness app that enhances the running activity with an audio narrative – zombies hunting the runner – that the user interacts with. The user discovers and relates to the story as it happens, and the story reacts to how the user runs [28].

If there is no or little intrinsic motivations for the user to engage with the main activity, and they are not expected to develop any, the designer may have to focus mainly on the extrinsic motivations provided through the gamification. In these cases it becomes even more important that the gamification itself supports intrinsic motivation for the user.

**Design Suggestions**

With respects to supporting playing and playfulness, the following guidelines are suggested:

- In order to make the users engage with the gamification layer, it is important that it is motivating in itself.

- In order to engage the user, aim for gamification that makes the user feel competent and autonomous [16]. Design ways for the user to share information with people whose opinions the user values, but only if this information results in positive feedback on the user’s actions.

- Support affordances for play, like possibilities for playful behavior and exploration, as it can make interacting with the activity more effortless and fun and hopefully allow the user to find and develop intrinsic motivations related to the activity. Costello et al and Lucero et al have proposed idea generation and evaluation frameworks that can be used to aid in finding possible play affordances in the activities [19, 20].
CONCLUSION
Gamification can be used to make activities more engaging, but the common approaches to gamifying activities often focus too narrowly on rules and reward systems as a layer separate from the main activity. This paper has proposed two sets of guidelines to help achieve the main purpose of gamification, i.e. to make activities more motivating. The first set advises designers to take care to not distract users from the focus on the activities, this in order to preserve the intrinsic motivations that these may contain. The second argues that since play is an integral part of games that provides intrinsic motivations that lead to pleasure, it is useful to explore possible affordances for playfulness. While these sets of guidelines can most likely be extended and complemented with other sets, we believe they may help the development of a collection of best practices within gamification design.

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