
Challenges of Implementing Gamification for Behavior Change: Lessons Learned from the Design of Blues Buddies

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Abstract

This paper reports some lessons learned from the first design stages of the gamified social network Blues Buddies, a persuasive intervention aimed at stimulating positive behavior in depression sufferers by influencing interaction and learning processes through gameful design. The challenges encountered are mostly at the level of the integration between persuasive design and gameful design, and in the design and development of a gamified system that stimulates positive instincts in people, according to the notion of a “compassionate” or “empathic” gamification.

Author Keywords

Gamification, gameful design, behavior change, persuasive design, compassion

ACM Classification Keywords

H.5.m [Information Interfaces and Presentation (e.g., HCI)]: Miscellaneous; J.4 [Social and Behavioral Sciences]: Psychology, Sociology

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Introduction

The challenges of creating gamified systems to the purpose of improving mental health are very different from those related to gamified systems for the general public. Persuasive interventions for mental health require a subtlety and sensitivity that make popular gamification strategies - mostly based on reward and punishment, point systems, ranking and competition - seem inadequate to say the least. Deterding et al. suggest the alternative definition of *gameful design* to define more precisely the practices that now are gathered under the umbrella term "gamification", but also to propose an alternative to a term that for many is synonymous with gimmicks and commercial exploitation [1]. Here the term "gamified systems" is preferred, to underscore how systems that use game elements are first of all information systems, and the terms "gameful strategies" or "gameful design" are used to describe design employing game dynamics.

Blues Buddies is a social network that encourages people with mild to moderate depression to learn tools for dealing with the everyday challenges of their condition, to reach out to others in the same situation, and to develop skills that enable them to give and receive help. Unlike existing forums and self-help systems, Blues Buddies promotes one-to-one relationships between users and provides a shared learning experience and reciprocal support system, by integrating social networking activities with game-like activities. The specific nature of the project (Beta version is currently in development) as both a mental health intervention and a persuasive intervention raises two main questions: which guidelines to follow to implement persuasive design - design that uses psychology to influence behavior - within a gamified

system, and how to avoid the example of gamified systems that focus on dynamics like competition, exploitation or "tokenizing" of others, and develop instead "sympathetic" interaction strategies.

Game-specific persuasion and persuasive design

Gamification, the use of game elements in non-game environments, often displays a persuasive intent, ranging from enhancing engagement and affective response with a product or system to the triggering of specific behaviors such as buying or interacting.

Several models are available to consider and evaluate persuasive design, but very few of them are comprehensive [2], and none is specific to games or gamified systems. The necessity is to develop models that focus on overarching models of behavior [3], but for persuasive games the main frameworks have been either the model that considers the game environment as a particular kind of HCI (without formalized relation to the issue of persuasion) [4] and the procedural rhetoric model [5], in which games express meaning rhetorically through the procedures they are composed of. These theoretical models didn't prove very suitable to the goal of understanding behavior change.

In fact, prior to clarifying the difference between fully fledged games and gamification, to understand persuasive strategies through gaming it is useful to clarify what is the strategy enacted by the game system in the persuasive process, and create a framework that considers first the persuasive approach and second the game aspect. According to Fogg's definition of persuasive technology, computers (and by extension games) can act as *actors*, by acting as

interlocutors and cueing social responses, as *media*, by transmitting a message from sender(s) to receiver(s), and as *tools* to perform tasks [6]. It has been argued elsewhere [7] that it would be useful to distinguish between systems that employ games as *computer mediated communication* to express an idea or convey a message and games that instead act like *human computer interaction*, providing the space or the interlocutors to create a dialogue between the users and the system, in a way analogue to what happens in online information systems [2].

By employing such distinction, it becomes visible that most of the systems defined as serious games that employ procedural rhetoric behave like computer mediated communication, while other systems that influence the players' actions during a process, such as learning or interacting or going through a medical procedure, behave either like HCI either like facilitation tools, to pursue the goals desired by the designers. Such a distinction makes the task of adapting existing tools for persuasive design to the design of gamified systems much easier, by allowing to pick the appropriate framework for each kind of interaction situation.

Compassionate gamification

The emergence of academic studies on the subject of compassion and altruism, such as those developed in research groups like Ccare, EPARG, the Compassion Lab and others, indicates an acknowledgement of serious deficits in Western society with regards to social interconnectedness and mutual care, resulting in loneliness, alienation and health-damaging behavior [8]. Social networks and location-based services produce a shift in such tendency by creating different ways in which people can be social [9], but the further

development of such positive tendencies in online and mobile interaction is ultimately a software issue, as interaction systems only rarely are consciously designed to elicit that kind of responses. Compassion is a concept present in different spiritualities and philosophies, indicating a three-fold process: feeling of empathy or understanding of others' negative feelings or situations 2) caring for the other person (affective arousal) 3) readiness to act upon such feelings and diminish the suffering of others [10].

In the case of gameful design, it is necessary to reconsider current popular gamification strategies based on competition and win, public humiliation though leader boards and accumulation of points and virtual wealth in relation to the above three-fold process, and conceive alternative design models that favor altruism (the motivation to increase others' wellbeing regardless of one's own), positive feelings towards oneself and positive social interaction. Some elements emerged during the design of Blues Buddies:

1) Emphatic feedback

A social network targeting mostly depressive individuals needs particularly strong and contextual feedback, which requires a system that displays at least rudimental features of emotional intelligence. Research on affective computing has focused on ubiquitous interfaces for emotional sensing at a deeper level [11], but in gamified systems more attention is required the social-emotional aspects of interaction during online communication (also a key feature in affective computing theories, that at the moment is receiving less attention from research than physical interfaces). A good alternative seems instead to develop practices that favor emotional communication in web and mobile

interface design, less innovative from the technological point of view but potentially more influential for social impact [12].

2) Use of psychology theories

Psychology theories are a central theme in the debate surrounding gamification, but there is need for further research and especially effective knowledge transfer between the fields of psychology and design. Techniques such as mood transfer, tension reduction, and social responsibility appeals are used to create positive feelings and stimulate exchange and reaching out, as well as techniques from learning theories.

3) Intrinsic motivation

For people suffering from depression, extrinsic motivation rarely works; in designing Blues Buddies we adapted the notion of situated motivational affordances [13] to isolate the single interaction experience moments and develop their related affordances within the specific situation of social networking.

Conclusions

There are many possibilities for creating gameful interactions that support positive values such as compassion and altruism through persuasive design; a first step is to learn more about the psychology of those processes and explore design alternatives beyond the current focus on the competition/collection model.

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