

Gamification Aware: Users Perception About Game Elements on Non-Game Context

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ABSTRACT

Many applications such as Foursquase, Stackoverflow and Livemocha are using gamification to try keep users motivated to perform tasks that require the users collaboration and to increase data collection from users feedback. The term gamification refers to the use of game elements on systems and researchers from human-computer interaction (HCI) area have recently started studies to explore its effects on user experiences. In this paper we report the results from a survey performed with 368 participants about the use of gamification, their motivation and perception about it. The results show that users are not aware from some game elements and they have distinct motivation and knowledge about gamification.

Author Keywords

gamification, social network, interaction

ACM Classification Keywords

H.1.2. User/Machine Systems (e.g. HCI): Human factors

INTRODUCTION

Many applications and systems are totally dependent from users engagement and feedback to filtering data properly to improve recommendation, to discovery users preferences and to promote better services. The data exploration from users' feedback and actions allows companies and enterprises to discover customer opportunities, to solve business problems and to promote the collective intelligence[6]. The collective intelligence expression defines the capacity of a system or application to collect information and interpret the users behavior through their actions and feedback on systems. However, this systems depend from data and basically it becomes from the users interaction, and interaction depends on motivation.

Distinct environments are adopting game elements to improve users engagement in distinct type of tasks that require

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motivation and so far there are good reports from its adoption [7]. The gamification term [5] refers to the use of elements related to games and their concepts within applications and it has become popular mainly by the adoption of badges and leaderboards on applications.

So in this context, are users aware of the game elements that they are interacting with? To answer this question (and others) we performed a survey with 368 participants asking users questions about applications and their perception of the adoption of gamification. In this paper we argue that some users are not totally aware from the game elements embedded in systems. The results from our survey show that some gamification elements are not explicit for users and they not recognize it as game elements.

In order to deepen this discussion, this paper is structured as follow: in the next Section we present an overview of gamification. Next, we present the Related Works in this area. After, we presents the results from the survey, the analysis of game elements and the users experience related to motivation and perception. Finally in last Section, we present the conclusion about this paper and its possibilities for future works.

GAMIFICATION

Gamification consists in the use of game design elements in a non-game context to motivate users' activities [5]. According to the Self Determination Theory [3] (SDT), people have intrinsic and extrinsic motivation to perform tasks. Intrinsic motivation is related to those activities that people perform because it is fun, or because they like and it is only for the own sake. On the other hand, extrinsic motivation is about rewards, or prizes, or the consequences that a task or activity will result. Some systems such as Foursquare¹, Waze², LiveMocha³ and others have using game elements to motivate users to perform tasks and to improve user activities on these environments. These applications and systems use game elements related to extrinsic and intrinsic motivation for keeping users motivated.

¹<http://foursquare.com>

²<http://www.waze.com>

³<http://livemocha.com>

The most popular game elements used are badges, leaderboards, reputation, status, progression bar, and others. In general these game elements are supported by points, e.g. users that have obtained an x number of points can win a badge or improve their reputation, status or position on a leaderboard. However, reputation and status sometimes depend from the community feedback from a system or application. For example, Livemocha an online language learning community, adopted the peer-based reputation that allows users to evaluate both learning and teaching contributions. This game element helps users to improve their reputation when they perform a good job learning and also evaluating other users' assignments. Reputation can be considered as an extrinsic motivator because it has a reward involved (the recognition by reputation), but also some users can be moved by intrinsic motivation to perform tasks within Livemocha, because they are helping other users while they are learning and improving their own skills.

Trying to explore the effects of gamification in users' routine we present in the next section some related works that aim to understand the users behavior about gamification.

RELATED WORKS

The perception of game elements on non-game context is a new area of investigation and there are some works trying to understand the users' interpretation about gamification and their behavior within gamified environments. In [1] it was performed a pilot test using Foursquare to analyze the effects of gamification on users. They discovered that even those users that responded that points are not an important aspect on the application, it had a positive impact in their motivation when they won a badge.

Also, in [4] it was performed a large scale experiment to evaluate the effect of badges within an online learning tool. The results showed that badges had a significant positive effect on the number of questions answered with the tool and in addition, students enjoyed being rewarded with badges for their contributions. In this paper, we analyze the perception of gamification and the reasons that some users are not aware of game elements within applications. In the next section we present the results obtained by the survey' answers.

SURVEY RESULTS

In order to understand the users motivations to use some systems/applications and their perception of game elements on it, we designed a survey and we made it available online for two weeks. A total of 368 participants completed the survey, 222 (60%) male and 146 (40%) female, with an average age of 30 years. From this sample 240 (65%) informed to belong to the IT area and 144 (39%) were participants with a graduate degree, 80 (22%) graduate students, 73 (20%) with undergraduate degree, 67 (18%) undergraduate students and 5 (1%) were high school students.

In the next sections we present the gamification use from the participants, their perception about it, their motivations to use it and also a qualitative analysis about what is gamification.

Gamification use

The initial focus of this study was to discover which gamified systems the participants are users from, and their motivation to use them. We asked them if they used systems and applications that have game elements on it and 172 (46%) of them responded positively. Also, we asked them about which were the applications that they used, and in this question we discovered that 116 (59%) of the participants that previously said that they were not users from gamified systems, in reality they were (196 - 54%). From this observation we investigated which gamified applications these participants were users and which elements of gamification were not clear in the interface.

Perception

According to the answer related to the use of gamified system, we observed that many users were not aware of the use of game elements in the systems which they were users. Most of participants that responded before that they were not users of applications that use game elements, were users from LinkedIn 77(66%), Orkut⁴ 49 (42%), LiveMocha 25 (21%) and Foursquare 19 (16%).

LinkedIn, for instance, is a social network that aims to link people for professional reasons. LinkedIn allows for users to maintain and expose a profile resume, showing the users skills, past and actual occupation, their background degree, recommendations and so on. The adoption of gamification on LinkedIn is related to the "Profile Completeness" that allows users to recognize the completion level of their own profiles and the "Skills & Expertise Endorsements" that allows for users to recognize the expertise of their friends. Figure 1 shows the "Profile Completeness" that is related to intrinsic and extrinsic motivation. This task does not promote rewards, badges or points, the users do it for their own sake (intrinsic motivation). However, if a user is looking for a job, the more information it has, more likely a user is to receive opportunities through LinkedIn, so in this case it is related to extrinsic motivations.



Figure 1. Profile Completeness

LinkedIn has recently changed the visualization of the "Profile Completeness" for "Profile Strength" shown in Figure 2 that also refers to the completeness of the profile and it increases as the user add more information on it.

Also, the "Skills & Expertise Endorsements" is related to extrinsic motivation, since it promotes reputation. Figure 3 shows the progression of the Skills Endorsements given by friends of a user from LinkedIn. The user status and recognition increases as he/she receives skills endorsements from

⁴<http://www.orkut.com>

Profile Strength



Figure 2. Profile Strength

other users. This element could not be explicitly related to gamification for users, because it does not represent a competition with other users since it does not have a leaderboard for comparing the best users according to their skills.

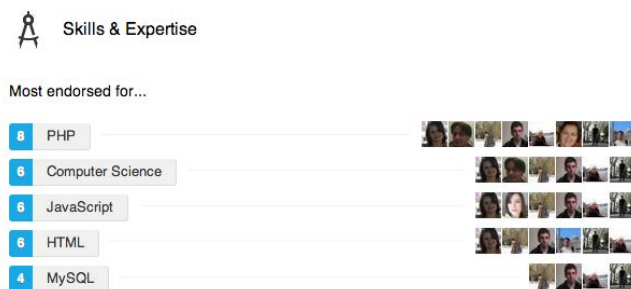


Figure 3. Skills & Expertise Endorsements

Moreover, Livemocha also uses the reputation (Figure 4) as a game element to keep users motivated and to involve the users community. The teacher score increases the users reputation as they are helpful within the community, reviewing other users' works and helping them to improve their language skills. Users that have high reputation tend to have many friends requests because other users feel that users with good reputation can provide good feedback about their assignments.

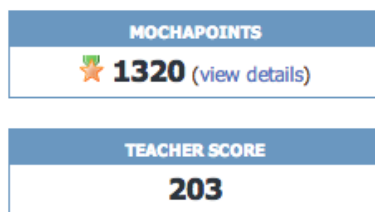


Figure 4. Reputation of a user from Livemocha.

We also analyzed the game elements from the Orkut interface. This social network was pretty famous in Brazil and India and adopted in 2010 the use of badges (Figure 5) to try to engage users on its use. In the context of online social media, badges are "virtual goods" that have some visual representation and users are awarded when completing tasks [2] or points etc. However, the use of badges on Orkut was not enough to keep the users' social engagement. The game elements from Orkut do not have a user progression or feedback about users' actions that could help them to know how and why they could

have a badge. Consequently, it could be one of the reasons for users not exploring the environment since they do not have directions to achieve tasks.

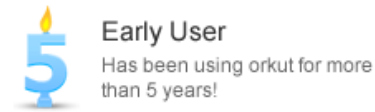


Figure 5. Badge related to the years that a user has an Orkut account.

On the other hand, Foursquare⁵ has the badges (Figure 6) as its primary game element to motivate users. This application makes it clear for users how and what type of badges they can get. Recently, some companies as Starbucks⁶ are using the check-in from Foursquare to give to their customers, prizes after they check in an x number of times that they have used the company's services.



Figure 6. Foursquare badge for users that check in 30 times in a month.

Among all the participants, we verified that LinkedIn and Foursquare are the most popular gamified systems and they use distinct approaches to keep users engaged within the environment.

Users Motivation

Since the main reason for systems to adopt gamification is to keep users motivated, we analyzed the participants' motivation to use gamified systems. The main responses were related to networking (20%), to share information (18%), to have fun (13%), to learn (12%), as a hobby (11%), to improve their reputation and recognition (8%), to help other users (7%) and other reasons (11%).

There are clearly categories related to intrinsic motivation. Those participants that reported to use a gamified system because it is fun, it is a hobby or to help others, they are intrinsically motivated. They are not focused on the consequences that could benefit them, but they use these systems by free will. Also, other reasons to use gamified systems were related to extrinsic motivation. The more explicit reason of extrinsic motivation was related to reputation and recognition. The respondents reported to be users from these systems because they want to improve their reputation and the main goal here are the benefits that could result from its use. Some other reasons could be categorized as intrinsic and extrinsic motivations, the reasons reported by the participants were: to share

⁵Foursquare is a location-based application that allows for users to check in their location in places.

⁶Starbucks loyalty special on Foursquare.

information, to learning and to increase their networking. Depending on the context these reasons to use the gamified system could be motivated or not by its consequences.

What is gamification? A qualitative perception analysis

“What do you understand by gamification?” This question was made to 368 participants and 85 (23%) of them answered it. Each answer was analyzed in order to identify if the participants’ perception about gamification was correct or not. After the analysis we concluded that only 13 (15%) of the respondents from this question had a wrong knowledge about it. One of them said “*It is learning through game*”. Another one reported that gamification is “*the use of games in order to promote a product or a service*”.

On the other hand, 72 (85%) of the participants that responded this open question expressed a correct perception about its meaning. They expressed a complete answer using examples and concepts. It showed that even some participants were confused about the term, the term is growing and making part of users’ routine. One of the probable reasons to this understanding about the gamification term is because from this last users’ group, 59 (82%) of them were from the IT area.

Also, we analyzed the answers from the group of 116 participants who said not use gamified systems, but in fact they were users. Only 20 (17%) of them responded this question and only three had a wrong perception about gamification. From this group, we verified that the most used system is the LinkedIn, used by 12 users (10%). In second, the Orkut was cited by 8 users (7%). So, why are LinkedIn’ users confused about the gamification presented in the system? The users reported to know correctly the meaning of gamification, but they did not identify the gamified elements in this system. For these 12 users the gamification is related to points, reputation, rewards, status and competitive edge. As it was previously shown the LinkedIn use an discrete gamification to encourage users. We still raise as hypothesis that in this case the users do not see an explicit competition, and because of it, they are not considering the “Profile Completeness” and the “Skills & Expertise Endorsements” as game elements.

CONCLUSION

Gamification is a pretty new approach to keep users motivated through the use of game elements within applications. In this paper we investigated the users’ engagement in gamified system, their perception of it and their knowledge about the term. The results showed that users are interacting with game elements on non-game context but some of them are not aware of gamification within some systems. Moreover, we discovered that users were mainly intrinsic motivated to use these systems. In general most of them were not concerned about their reputation or the rewards that a gamified system can provide, but they use it to increase their networking, to share information, just for fun, as hobby and so on.

Further, the participants that reported to be users of gamified systems can be divided in two distinct groups: the participants that have a complete knowledge about the term and about the use of gamification, and those participants who are strongly

confused about it. About, this second group we identified participants that had knowledge about what means gamification, but were confuse if the systems that they use were gamified or not. As it was shown, the reason is maybe because in this case the competition was not explicit and probably because users are confused about the use of game elements in the system context.

This paper provides the initial elements to start a deeper investigation about users perception regarding gamification. Based on the results reported here, we intend to investigate the game elements and its effect on users experience. Furthermore, we expect in the future be able to confirm the hypothesis that users do not see reputation as a game element when it does not show a leaderboard or a explicit competition.

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