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A SHORT OVERVIEW OF PROS AND CONS OF GAMIFICATION

Recently, along with the increase of the role of various social media, a new trend in the field of software design appeared — gamification, which main goal is to increase the user engagement while working with software. This article is an attempt to analyze this phenomenon, especially concerning its pros and cons.

Keywords: *social media, software, gamification.*

Мацей Ласковські

КОРОТКИЙ ОГЛЯД ПЛЮСІВ І МІНУСІВ ГЕЙМІФІКАЦІЇ

У статті показано, що разом зі збільшенням ролі різних соціальних медіа з'явився новий тренд в області розробки програмного забезпечення — гейміфікація, головною метою якої є підвищення активності користувачів при роботі з програмним забезпеченням. Зроблено спробу проаналізувати це явище, зокрема його позитивні і негативні сторони.

Ключові слова: *соціальні медіа, програмне забезпечення, гейміфікація.*

Таб. 1. Літ. 13.

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КРАТКИЙ ОБЗОР ПЛЮСОВ И МИНУСОВ ГЕЙМИФИКАЦИИ

В статье показано, что наряду с увеличением роли различных социальных медиа появился новый тренд в области разработки программного обеспечения — геймификация, главной целью которой является повышение активности пользователей при работе с программным обеспечением. Сделана попытка проанализировать это явление, в частности его положительные и отрицательные стороны.

Ключевые слова: *социальные медиа, программное обеспечение, геймификация.*

Introduction. By definition, gamification means using the mechanics and techniques known from various kinds of games (including board games, role-playing or computer games) in order to increase user's involvement in performing various types of activities in non-gaming context, especially if those activities are considered boring or routine [1].

Although the notion of gamification appeared in the middle of last decade [1], the idea itself isn't new, e.g. using games for researching human mind and behavioral mechanisms is widespread in psychology [1]. Moreover, the researchers point out that the whole idea may have truly international roots: it may derive both from Soviet socialist work competition and motivational techniques used in American corporations in the 90s [2, 3].

What is a game? Huizinga [4] defines game as a voluntary activity intentionally separated — as "less serious" — from the everyday world. An activity that absorbs player in a full and intense way and is not related to any kind of material benefit. Game requires player to play it in a specific time and place and do it according to the established order and rules.

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This definition is often criticized due to the potential conflict of "detaching from reality" and the cultural background of a player, as the majority of people choose the way of spending their spare time (therefore, their methods of entertainment) in a manner appropriate to the culture and norms of their social background [5]. However, it should be noted that this slowly changes due to globalization [6].

Huizinga's definition was developed further by Roger Caillois, who divided the game forms into 4 different groups [7]:

- agon — competition — players are competing which each other and the satisfaction from a game is achieved both from winning and defeating other players. Example: chess.
- alea — randomness — a game itself is strongly influenced by uncertainty, which disrupts the simple relation between a winner and a loser. Example: game of dice (hence the name: alea).
- mimesis — imitation, role-playing in which players are virtually put inside the game world (e.g., by using avatars). Example: any role-playing game.
- ilinx or vertigo — changing the perception of the world. Games from this category allows player experience strong sensory stimulations and often forces him to overwhelm their weaknesses in order to complete the game. Example: roller-coaster.

It should be noted that many games fall into two or more categories presented above. For example, poker can be treated as an example of agon (as players compete with each other by selecting cards and betting) and as (since cards are distributed randomly).

Moreover, Caillois states that games form a continuum, from the spontaneous forms of entertainment, unfettered by any rules (paidia) to ordered forms, with a specific set of rules and customs (ludens). Those states are undergoing constant changes — despite the creation and implementation of specific rules (transformation paidia — ludens), players tend to bypass them or adjust them for their needs (transformation ludens — paidia) [7].

Caillois notes also that often game context may be strongly dependent on its form: e.g., alea is a desired factor in lottery, but it may also be accepted in economy or finances (vide options) [7].

The purpose of gamification. The mail goal of gamification is to change the task for a user to complete some kind of game by adjusting it into a specific structure in order to define both game objectives and rules.

There are several specifications for creating game structure. One of the most popular was created by Jones [8]:

- winning condition — the criteria for player to reach in order to win the game;
- game goal — the game aspect not identical to wining condition. Player should strive to obtain the goal in order to reach the winning condition. Example: the game goal is to become the wealthiest landlord in Monopoly, while the winning condition is together the biggest fortune within the defined time limit;
- action (actions) — taken by players during a gameplay in order to achieve the victory;
- obstacles — different kinds of problems for players to overcome during a gameplay;

- rules — principles that players must (or should) follow during the game, as well as various types of ingame restrictions (such as board size or number of pieces and their associated moves in chess).

Bartle also distinguishes game mechanics — additional factors for both increasing the satisfaction of gameplay and for introducing incentives for a player to take new challenges. These include (basing on [9] and [1]):

- ingame achievements, which are awarded to players for their commitment to playing it. These include, inter alia:
- scoreboard, allowing players to compare their results with those achieved by others;
- progress bar, illustrating the progress of a player within a game or the level of game completion;
- list of achievements, such as different types of badges or titles earned by or given to a player during a game;
- depth of the game which can be understood twofold: either as a storyline, bonding all of game mechanisms together and thus encouraging a player to playing further (e.g., accessing new levels, solving the storyline puzzles or emergence of new puzzles etc.) or as an opportunity to complete the ingame task or even the entire game in many ways;
- influencing others, both through cooperation and rivalry with other players.

Example of gamification in public-service applications. The popular belief is that gamification is a miraculous remedy for improving users' commitment and experience while working or performing a specified task. But as the research shows [10], it is estimated that by 2014, 80% of gamified applications will fail to meet business objectives. This is primarily because of poor design or applying only very basic game mechanics, like points, badges and leaderboards without implementing any in-game depth.

Moreover, poor implementation of some of those mechanisms, especially competitive ones, may result in the directly opposite outcome than desired: for example, if a game is reduced strictly to competition, e.g., the top salesman will be awarded for selling the most, this will result in maximizing performance of only peak performers, but the people who realize during the gameplay they are not performing well (or even are aware of their poor sales abilities before the start of a game) will probably resign or are probably not even going to participate because they know they're not going to win — thus leading to lowering the results of the whole competition.

However, studies do show that proper implementation of even simple game elements into a task or process may significantly improve the achieved results. This especially (but not only) applies to public-service applications.

The examples described above represent only a small part of the gamification trend. Almost every of those applications turned out to be enormously successful.

But it should be noted, that those results cannot be treated as 100% reliable, due to several different factors. First of all, results for Bottle Bank, Piano Stairs and The World's Deepest Bin were measured for only one day. Moreover, as for the Bottle Bank — many of the people who participated in the project were planning to place their bottles in the recycle bin anyway — they were just attracted to the particular one due to the fun factor. However, as proved by The World's Deepest Bin, the imple-

mented gamification technique attracted not only people who wanted to throw their rubbish into that particular bin, but also many passers-by who started to pick up the trash laying near the bin in order to produce the "falling down" sound — this resulted in cleaning up the nearness of the bin. However, some people participating in the experiment (especially children) seemed to throw anything (e.g., stones or twigs) into the bin — therefore filling up the bin not only with trash (as it was planned).

Table 1. **Examples of gamification applications and their results**

name	description	result
Bottle Bank	The mail goal of this activity was to increase the amount of glass for recycling purposes. An "improved" glass waste container was placed in one of the streets. The container had a simple display showing 2 numbers: the points awarded to the last person who used it (100 points per bottle) and the best result achieved.	Over 50 times more glass was collected [11]
The World's Deepest Bin	This activity was similar in idea to the Bottle Bank - in order to encourage residents to throw their waste into bins, not on the ground — a container was equipped with a sensor that emitted the cartoon-style falling sound when something was thrown into the container.	An increase of more than 130% of the collected waste [11]
Piano Stairs	In order to increase the amount of people who choose stairs over escalators, a group of engineers turned the stairs into piano keys — hence each person using the stairs can use them to play music	66% increase in stair traffic vs. escalator traffic [12]
Idea Street	Idea Street is a social networking platform based on the gamification techniques, created by British Ministry of Work and Pensions in order to increase both innovativeness and creativity among the employees of the Ministry	During the first 18 months of usage, 4000 users have proposed almost 1,400 ideas, 63 of which were eventually implemented [11]
Samsung Nation	A group loyalty program in which users can e.g. post opinions about Samsung products.	With the implementation of badges acquisition mechanism, number of published opinions was increased by 500% [11]

Summary. Gamification is an interesting trend, which — if applied correctly — may have a positive impact on both improving user experience and his commitment into performing the task. However, gamification cannot be treated as a remedy for all the problems of user-application relationships. Poorly designed application or its interface can significantly affect the user (player) willingness to participate in it [13].

Moreover, implementing gamification mechanisms into an application should be carefully deliberated, especially in selecting the elements of the process which should be gamified. As the business analyses prove, gamification cannot be limited only to applying points, badges and/or leaderboards [10] to any process. In order to get the desired effect, the gamified factors should be implemented as the cohesive elements of the whole application, supplementing — not replacing — its base functionality and goal.

References:

1. *Tkaczyk, P.* (2012). Grywalizacja. Jak zastosowac mechanizmy gier w dzialaniach marketingowych, Helion (in Polish).

2. *Nelson, M.J.* (2012). Soviet and American Precursors to the Gamification of Work, Proceedings of the 16th International AcademicMindTrek Conference.

3. *Deterding, S. et al.* (2011). From game design elements to gamefulness: Defining gamification, Proceedings of the 15th International AcademicMindTrek Conference, pp. 9-15.

4. *Huizinga, J.* (1955). Homo ludens: a study of the play-element in culture. Beacon Press.

5. *Sutton-Smith, B.* (2001). The Ambiguity of Play, Harvard University Press.

6. *Sztompka, P.* (2005). Socjologia zmian spolecznych, Znak, Krakow (in Polish).

7. *Caillois, R.* (1961). Man, Play and Games", Free Press of Glencoe.

8. *Gaming Brands* http://gamemybrand.files.wordpress.com/2010/08/gaming-brands-printer-friendly-tim-jones-bbh.pdf (accessed 14.02.2013)

9. *Bartle, R.* (2003). Designing Virtual Worlds, New Riders Publishers.

10. *Wolpe, T.* (2013). Why gamification apps are playing out badly for business, http://www.zdnet.com/why-gamification-apps-are-playing-out-badly-for-business-7000011184/ (accessed 25.01.2013).

11. *Enterprise Gamification* http://www.enterprise-gamification.com/index.php/en/facts (accessed 29.01.2013).

12. *Piano Stairs/Gamification Examples* http://mindofmiller.com/piano-stairs-gamification-examples/ (accessed 29.01.2013).

13. *Laskowski, M.* (2011). Czynniki zwiekszajace jakosc uzytkowa interfejsow aplikacji internetowych; Logistyka 6/2011, Instytut Logistyki i Magazynowania 2011, pp.2191-2199.

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