



Badges in Gameful Design: How users perceive them and how are they motivational

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INTRODUCTION

Badges are one of the most used elements in gameful design. They have been listed by many different gamification researchers and experts as one of the basic gameful design elements. But do you know exactly what role do badges perform on a gameful application? How do users perceive them and interact with them—do you know that there are at least nine different ways? How do badges motivate users to engage with the gameful system?

This article summarizes the latest research on how badges are perceived by users, what kind of users prefer to use them, and how do they motivate users of gameful systems. Finally, we give design guidelines to make the most effective use of badges in gameful design.

PREVALENCE OF BADGES IN GAMEFUL SYSTEMS

According to a recent academic review of published gamification research [7], badges (along with similar elements such as achievements, medals, and trophies) were the third most used gameful design element, just behinds points and challenges (or similar elements such as quests or missions). On the context of education, reviews published in 2015 [3] and 2018 [6] showed that badges were the most used game element, closely followed by points and leaderboards.

Badges have received considerable attention from gamification and education researchers. Although one of the shortcomings of currently published empirical studies of gameful systems is that they implement several elements without analyzing the individual contribution of each one, there are a few studies that specifically studied the effects of badges. For example, Tvarozek and Brza [22], Hamari [4], and Laubersheimer et al. [9] found positive effects of badges on educational and e-commerce systems. On the other hand, Kyewski and Krämer [8] implemented badges in an online educational system and found no significant effects on students' motivation and engagement.

Therefore, just adding badges to a system is not a guarantee of success. It is important to understand what different users might enjoy badges or not, or what different perceptions do users have of their interactions with badges. The following sections will explore these two topics on gamification research, then conclude with guidelines for using badges in gameful design.

INDIVIDUAL PREFERENCES REGARDING BADGES

Probably, all gameful design methods list badges as one of the basic game design elements to use (or at least, I have never seen one that did not mention badges). However, some go beyond that and explain what kind of users are more likely to enjoy interacting with badges.

For example, Marczewski [11,12] suggests that badges are a form of feedback that can be awarded to people for their accomplishments. Thus, they are likely to be enjoyed by users with higher scores in the Player Hexad user type [13,20]. For Chou [1], badges are one type of implementation of the game technique “achievement symbols”. Therefore, they are useful tools to motivate users through Development and Accomplishment (one of the Octalysis framework’s core drives). But to accomplish this, they must symbolize actual achievements, obtained through overcoming some form of challenge. For Peters and Cornetti [14], badges are an acknowledge of achievement or a form of feedback, which can be used to motivate people with a high desire for acceptance, power, saving, or status [15].

In research, I have asked participants what kind of gameful design elements they prefer and correlated their answer with their Hexad user type scores [20]. The results showed that users with higher scores for Player and Achiever tend to say they are motivated by badges, as well as Socialisers but to a smaller degree [20]. In another study [19], I grouped gameful design elements based on user preferences. Badges appeared in the group of Incentives, alongside achievements, certificates, collections, rewards, prizes, unlockable content, and quests. This means that individuals who tend to enjoy badges also tend to enjoy these additional design elements [19]. Jia et al. [5] found that participants who said they liked badges were a bit less emotionally stable (one of the five-factor personality traits [2]).

HOW DO PEOPLE FUNCTIONALIZE BADGES IN ONLINE SYSTEMS?

Van Roy et al. [16] conducted a very interesting study in which they asked users of Codecademy¹ and Khan Academy² how they interacted with the badges in the platform and how badges motivated them or not. They found out that badges worked in nine different ways for participants, which they further classified in five groups:

1. *Badges as rewards*: when users feel that they just receive badges after completing some tasks in the system.
2. *Badges as goal setting*: where badges work as calls for performing certain actions in the system. This can happen by seeing badges as collectables (so the goal is to collect many badges), challenges (so users wanted to prove to themselves that they could obtain those badges), a finish line (so badges helped participants feel that they had completed a goal), or competition (so users could compare themselves with others).
3. *Badges as social signalling*: when participants used badges as a form of impression management, i.e., shaping how one is perceived by others.

¹ <https://www.codecademy.com/>

² <https://www.khanacademy.org/>

4. *Badges as encouragement*: when users perceived badges as a form of feedback that encouraged them to keep working. This happened when badges were seen as a form of (immediate) positive feedback or as an overview of progress made or milestones completed.
5. *Badges as information*: when users checked the unlockable badges to find out what they could do in the system.

These results show that users perceive and interact with badges in different ways. Therefore, designers must keep this in mind when creating gameful systems. Although van Roy et al.'s study did not investigate if the different perceptions of badges were correlated to different user types, we can speculate that users with high scores as Players may tend to see badges as rewards, users with high scores as Achievers and Players may see badges more as opportunities for goal setting. Perceiving badges as a means for competition could be a tendency of users with high Socialiser and Player scores, whereas using badges for social signalling can be a tendency of users with high Socialiser and Free Spirit scores.

It is also noteworthy that some participants did not enjoy interacting with the badges and would prefer to not have them at all. This echoes results from Lessel et al. [10] that suggest that some users may prefer to disable gamification entirely when using an online system.

GUIDELINES FOR GAMEFUL DESIGN

Although badges can be a very effective design element, especially when combined well with other elements, they are not perceived and do not motivate all people in the same way. Therefore, designers should be aware of these differences to intentionally decide how to adapt badges on their systems or allow users to customize their experience.

These are some design guidelines based on the reviewed research results:

1. *Badges are often seen as a form of incentive or reward*. As such, they can be appealing especially to users with high scores in the Player Hexad user type. *To appeal to these users, it is important for them to know how they will be rewarded and what actions they can take to earn those rewards*. On the other hand, designers need to be careful because this kind of rewards can be unappealing to other types of users, especially when the badges have no other utility (e.g., they cannot be exchanged for something else and do not unlock new features or activities).
2. *Badges are also frequently seen as a means for goal setting and a measure of accomplishment*. As such, they should be particularly appealing to users with high Achiever and Player scores. *To be appealing as a form of goal settings, users should be able to clearly identify what badges they can earn and what they must do to obtain them. To signal accomplishment, users must clearly understand what challenges they had to overcome*, so the badges have a personal meaning to them.
3. Although badges are not usually listed as a social element, *users with social tendencies may enjoy utilizing badges as a means for social interaction*. This can happen as a form of

competition, or just as a form of self-expression and impression management. *If designers want to facilitate the competitive role of badges, they should make it easy for users to compare their own badges with others. To facilitate the social signalling role of badges, the design should allow users to easily display their badges on their profile.*

4. *Badges can be useful as a form of positive feedback and encouragement, or as a form of progress overview. This happens more easily if participants can perceive badges as a reward for good performance, instead of just a reward for just putting effort in or just completing an activity.*
5. *Badges can get in the way if users are already motivated to engage with the task or if they do not perceive any real value in the badges. Therefore, designers should consider letting users disable or hide badges if they are not interested in using them, or maybe even disable gamification entirely (see my work on [Personalized Gameful Design](#) [17,18,21] for a discussion on how to build systems that allow users to customize the game design elements that they want to use).*

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REFERENCES

1. Yu-kai Chou. 2015. *Actionable Gamification - Beyond Points, Badges, and Leaderboards*. Octalysis Media.
2. Paul T. Costa Jr and Robert R. McCrae. 1998. Trait theories of personality. In *Advanced Personality*, D. F. Barone, M. Hersen and V. B. Van Hasselt (eds.). Springer, 103–121. https://doi.org/10.1007/978-1-4419-8580-4_5
3. Darina Dicheva, Christo Dichev, Gennady Agre, and Galia Angelova. 2015. Gamification in Education: A Systematic Mapping Study. *Journal of Educational Technology & Society* 18, 3: 75–88. Retrieved from <http://www.jstor.org/stable/jeductechsoci.18.3.75>
4. Juho Hamari. 2017. Do badges increase user activity? A field experiment on the effects of gamification. *Computers in Human Behavior* 71: 469–478. <https://doi.org/10.1016/j.chb.2015.03.036>
5. Yuan Jia, Bin Xu, Yamini Karanam, and Stephen Voida. 2016. Personality-targeted Gamification: A Survey Study on Personality Traits and Motivational Affordances. In *Proceedings of the 34th Annual ACM Conference on Human Factors in Computing Systems - CHI '16*. <https://doi.org/10.1145/2858036.2858515>
6. Ana Carolina Tomé Klock, Aline Nunes Ogawa, Isabela Gasparini, and Marcelo Soares Pimenta. 2018. Does gamification matter? A systematic mapping about the evaluation of gamification in educational environments. In *Proceedings of SAC 2018: Symposium on Applied Computing, 2006–2012*. <https://doi.org/10.1145/3167132.3167347>
7. Jonna Koivisto and Juho Hamari. 2019. The rise of motivational information systems: A review of gamification research. *International Journal of Information Management* 45: 191–210. <https://doi.org/10.1016/j.IJINFOMGT.2018.10.013>
8. Elias Kyewski and Nicole C. Krämer. 2018. To gamify or not to gamify? An experimental field study of the influence of badges on motivation, activity, and performance in an online learning course. *Computers and Education* 118: 25–37. <https://doi.org/10.1016/j.compedu.2017.11.006>
9. John Laubersheimer, Dorothy Ryan, and John Champaign. 2016. InfoSkills2Go: Using Badges and Gamification to Teach Information Literacy Skills and Concepts to College-Bound High School Students. *Journal of Library Administration* 56, 8: 924–938. <https://doi.org/10.1080/01930826.2015.1123588>
10. Pascal Lessel, Maximilian Altmeyer, Lea Verena Schmeer, and Antonio Krüger. 2019. “Enable or Disable Gamification?” - Analyzing the Impact of Choice in a Gamified Image Tagging Task. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI 2019)*, 150. <https://doi.org/10.1145/3290605.3300380>
11. Andrzej Marczewski. 2015. Gamification Mechanics and Elements. In *Even Ninja Monkeys Like to Play: Gamification, Game Thinking & Motivational Design*. CreateSpace Independent Publishing Platform, 165–177.
12. Andrzej Marczewski. 2017. 52 Gamification Mechanics and Elements. *Gamified UK*. Retrieved January 1, 2018 from <https://www.gamified.uk/user-types/gamification-mechanics-elements/>
13. Andrzej Marczewski. 2018. User Types in Gamification (The HEXAD). In *Even Ninja Monkeys Like to Play: Unicorn Edition*. Gamified UK, 105–119.

14. Jonathan Peters and Monica Cornetti. 2020. *Deliberate Fun: A Purposeful Application of Game Mechanics to Learning Experiences*. Sententia Publishing.
15. Steven Reiss. 2013. *The Reiss Motivation Profile: What Motivates You?* IDS Publishing Corporation.
16. Rob van Roy, Sebastian Deterding, and Bieke Zaman. 2019. Collecting Pokémon or receiving rewards? How people functionalise badges in gamified online learning environments in the wild. *International Journal of Human-Computer Studies* 127: 62–80.
<https://doi.org/10.1016/j.IJHCS.2018.09.003>
17. Gustavo F. Tondello. 2020. Personalized Gameful Design – Part 1. *Gameful Bits*. Retrieved from <https://blog.gamefulbits.com/2019/12/05/personalized-gameful-design-part-1/>
18. Gustavo F. Tondello. 2020. Personalized Gameful Design – Part 2. *Gameful Bits*. Retrieved from <https://blog.gamefulbits.com/2019/12/15/personalized-gameful-design-part-2/>
19. Gustavo F. Tondello, Alberto Mora, and Lennart E. Nacke. 2017. Elements of Gameful Design Emerging from User Preferences. In *Proceedings of the 2017 Annual Symposium on Computer-Human Interaction in Play - CHI PLAY '17*, 129–142.
<https://doi.org/10.1145/3116595.3116627>
20. Gustavo F. Tondello, Rina R. Wehbe, Lisa Diamond, Marc Busch, Andrzej Marczewski, and Lennart E. Nacke. 2016. The Gamification User Types Hexad Scale. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play - CHI PLAY '16*, 229–243.
<https://doi.org/10.1145/2967934.2968082>
21. Gustavo Fortes Tondello. 2019. Dynamic Personalization of Gameful Interactive Systems. University of Waterloo. Retrieved from <http://hdl.handle.net/10012/14807>
22. Jozef Tvarozek and Tomas Brza. 2014. Engaging Students in Online Courses through Interactive Badges. In *Proceedings of the International Conference on e-Learning '14*, 89–95.