

(Re)Defining Gamification: A Process Approach

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Abstract. Gamification is a growing phenomenon of interest to both practitioners and researchers. There remains, however, uncertainty about the contours of the field. Defining gamification as “the process of making activities more game-like” focuses on the crucial space between the components that make up games and the holistic experience of gamefulness. It better fits real-world examples and connects gamification with the literature on persuasive design.

Keywords: Gamification, games, persuasive design, persuasive technology.

1 Gamification as a Process

There is a long history of organizations leveraging games, play, and competitions in the workplace, school, and elsewhere. Around 2008, a variety of examples combining game-derived concepts and digital platforms for motivation suggested that a new field was emerging. Practitioners settled on the term “gamification” to describe it [11]. The term has stuck, despite criticisms of both the word and the phenomenon [12]. Over the intervening years, gamification has enjoyed significant growth in both adoption and academic interest.¹ Yet questions remain regarding what is unique and valuable about gamification. Some critics even argue that gamification is inherently exploitative [3].

If gamification is to mature as a field, its boundaries must be better understood. Gamification is should be understood as a process. Specifically, it is *the process of making activities more game-like*. Conceiving of gamification as a process creates a better fit between academic and practitioner perspectives. Even more important, it focuses attention on the creation of game-like experiences, pushing against shallow approaches that can easily become manipulative. A final benefit of this approach is that it connects gamification to persuasive design.

Of course, defining gamification in certain ways will not necessarily alter practices. The “correct” understanding of gamification is ultimately what exists in the world. The goals of the exercise here are two-fold. First, in a new and contentious field, designers, users, and commentators sometimes do look to prevailing definitions to understand what is considered mainstream or a best practice. Second, investigating

¹ As of February 27, 2014, Google Scholar returned 6,120 results for the term, “gamification.”

definitions can reveal aspects of gamification that are not obvious from examples themselves.

In the tradition of ordinary language philosophy, this paper takes the view that a gamification definition should be evaluated based on the common usage of terms. Specialized language may enhance precision within discourse communities, but when a phenomenon cuts across many such communities, it can obfuscate more than it clarifies.

In the existing literature, the most widely-used formal definition of gamification is “the use of game design elements in non-game contexts,” as proffered by Sebastian Deterding and three co-authors in 2011 [5]. Others, including myself, offered similar definitions around the same time [17]. Because the distinguishing feature of this approach is the emphasis on game design elements, I label it the *elemental* definition.

This definition is valuable in many ways, but the concepts of “game design elements” and “non-game contexts” are both contestable. As Deterding et al concede, there is no universal list of game elements. This inherent uncertainty is problematic. For example, if, according to Koster, narrative is not a game mechanic [9], but it is to other game design theorists, does applying narrative to business processes constitute gamification? In fact, some definitions of game mechanics expressly exclude the points and reward structures that are typical features of gamification.

A related problem concerns the relationship of elements to experiences. Clearly not everything that includes a game element constitutes gamification. Examinations in schools, for example, give out points and are non-game contexts. If virtually every test were an example of gamification, the term would lose all meaning. Worse, by singling out atomic elements, the definition reinforces the notion that they are the most important aspects of games. Critics of gamification have effectively attacked this perspective [12].

By defining gamification as a process, we can talk about activities being more or less game-like, without needing to define a point where the designed system crosses over into gamification. This framing encourages designers to think about how to enhance and deepen the game-like aspects of their designs, rather than thinking their job is done once they drop in points or badges. Moreover, a key aspect of games is that they are voluntary [4][14]. If gamification designers view their task as pushing towards experiences that players engage with voluntarily, it may help to combat the possibility for manipulation or exploitation highlighted by Bogost and others [3].

Moreover, with this approach there is no need to limit the definition of gamification artificially. Deterding et al separate gamification (involving parts of games) from serious games (involving whole games). However, the dividing line is often difficult to see. Systems such as Foldit (for crowdsourced protein folding research) and Duolingo (for language learning) are game-like but not immersive simulations like the typical serious game. With the process approach, these can be seen as gamification examples, without struggling over whether they involve “non-game contexts.”

Similarly, there is no need to insist that games cannot be gamified. Microsoft’s Xbox Live online service, for example, incorporates an additional experience of gameful achievements on top of an existing game environment. It operates exactly

like many other gamification systems, yet Deterding et al state they would exclude it, in order to separate the enterprises of game design and gamification [5]. This is unnecessary: Someone can be engaged in game design and also engaged in gamification, without conflating the two. One activity seeks to create games; the other seeks to make *games or non-games* more game-like.

The deeper reason to reconceptualize gamification as a process is to focus attention on the types of experiences it seeks to create, and the mechanisms to do so. To be sure, the question of what constitutes a game has long bedeviled game designers, theorists, and even philosophers [4][14]. There is even a view, most prominently expressed by Ludwig Wittgenstein, that a game cannot be formally specified at all [18]. A useful definition of gamification need not resolve this debate. “Game-like” implies a constellation of attributes (Wittgenstein’s term is “family resemblances”) associated with certain kinds of experiences, without necessarily giving primacy to any of them.

As Huotari and Hamari note, the experiences games create may involve hedonic pleasure, suspense, or feelings of mastery [8]. A successful game is engaging; players commit to playing it voluntarily. As a practical matter, gamification operates as an applied practice in business (conceived broadly), which seeks to tap into that engagement to serve goals associated with some underlying activity. Those might involve signing up new customers, encouraging students to complete assignments more conscientiously, or any number of behavioral objectives.

What exactly does it mean to make something more game-like? Mollick and Rothbard capture this well when they say, in distinguishing gamification at work from simple sales contests, “[a] game is designed when it is purposefully created with reinforcing contexts, interactions, and mechanisms that create a more immersive feeling of play” [10]. Game elements are one means to the end of gamification, but what matters is how those elements are selected, deployed, implemented, and integrated. Experts recognize that, to use Schell’s term, many “lenses” can be employed in game design [13].

Gamification is the process of making activities more game-like. In other words, it covers coordinated practices that objectively manifest the intent to produce more of the kinds of experiences that typify games. The designer’s subjective mental state is relevant, but ultimately gamification is a process in the world manifesting that intent. Similarly, the player’s subjective experience is an aspect of the gamification process, but not a necessary condition.

For example, the designer of the Stack Exchange developer question-and-answer site modeled it on the game Counter-Strike, in which “working *together* [is] the most effective way to win” [1]. The resulting design incorporated game elements such as badges, but what made it successful was this deeper effort to create a collaborative experience around an activity that would normally be highly individualized.

Another means of making activities more game-like is to try to make them more fun. Fun is a contestable term, but on some level it captures the ineffable qualities that distinguish games. Volkswagen’s The Fun Theory contest illustrates how a process of incorporating fun into activities can produce valuable results. Volkswagen

asked for entries that illustrated the concept that “fun can change people's behavior for the better.”

One of the winning entries was “the deepest trashcan in the world” [7]. It enticed people to avoid littering by simulating the sound of a deep cavern when trash was thrown into an ordinary receptacle. Under the process definition, this would be understood as gamifying the activity of throwing out the trash, even though it does not involve any specific game design elements. The design of the physical trashcan is a concrete manifestation of the gamified activity.

There is an existing definition of gamification that uses the language of process, but it goes in a different direction. Drawing on concepts from the theory of service marketing, Huotari and Hamari define gamification as “a process of enhancing a service with affordances for gameful experiences in order to support user’s overall value creation” [8]. In this way, they avoid the over-focusing on specific attributes and static nature of the elemental definition. In doing so, however, they resort to specialized language, which may not be accessible to researchers in other fields or to practitioners.

A bigger consideration is where the service marketing analogy leads. First, to Huotari and Hamari, drawing on the service marketing literature, the “value of a game service, be it ‘pleasure’, ‘suspense’, ‘mastery’ or ‘gamefulness’, is always determined by the player’s individual perception.” The trouble with this conception is that it implies that a bad game is somehow not a game at all. If I happen to feel that *Call of Duty* lacks challenge, suspense, and hedonic qualities, it does not call into question whether the developer is engaged in game design. Huotari and Hamari acknowledge that attempts at gamification may be more or less successful in creating the requisite player experience. However, their player-centric perspective goes too far in disregarding the designer’s intent. The subjective gamefulness of a system is an important factor in assessing gamification, but not the only one.

A further difference in the service marketing definition is its conception of gamification as an enhancing service that supports a core service. This leads Huotari and Hamari to claim that the social location app Foursquare is “not a gamified service in itself [8],” but a gamified enhancement to restaurants and bars. This seems unnecessarily constrained. Foursquare users who enjoy checking in are experiencing gamification, regardless of what they are checking in to. Many of the badges on Foursquare (such as the swarm badge for checking in with many other people) do not directly involve an underlying business. If what matters is the experience, why isn’t that enough?

2 Definitional “Fit”

From an ordinary language perspective, a good definition should cover the systems that are generally understood to involve gamification, and exclude those that aren’t. The important question isn’t whether a definition is “right” in an abstract sense, but whether the distinctions and boundaries it creates are useful. Three examples illustrate how the process approach meets this test.

Virgin Healthmiles is a program that employers deploy in order to encourage health and wellness among their employees [16]. The program uses challenges, competitions, and virtual points redeemable for real-money rewards to encourage healthy behaviors. It is widely recognized as a gamified service [2], and all the leading definitions properly classify it as such. For the elemental definition, the key is that Virgin Healthmiles uses game design elements such as points and challenges. For the service marketing definition, the key is how the system's interface uses feedback to promote outcomes the user values. For the process definition, the key is that the program takes otherwise dull healthful behaviors and makes them more fun, rewarding, or attractive as competitive challenges.

The process definition therefore works as well as the other definitions for the classic PBL ("points, badges, leaderboards") systems [17] that are the most familiar examples of gamification. Where it shines is for examples closer to the periphery.

The Face Game is embedded in the intranet log-in process at online retailer Zappos [19], as a way to promote community and cross-organizational collaboration. When a worker signs in, they see a randomly chosen photo of another employee, with several options for their name. If the employee selects the wrong one, they see a page about their colleague from the company directory, and an invitation to connect with that co-worker to get to know them better.

The Face Game uses no common game design elements, unless that concept is expanded to include things as basic as guessing an answer from a list of choices. If that satisfied the elemental definition, gamification would be so broad as to lose any distinctiveness. Under the service marketing definition, the Face Game would not be an enhancement to a core service, because the goal is to promote camaraderie, not to improve the log-in process. Yet it is usefully identified as a gamified system. The Face Game is an effort to make an activity (logging in) and a business objective (fostering collaboration) more game-like, if only a little. The Face Game is not really a game at all, because the interaction is so lightweight. It is gamification because it involves leveraging curiosity or fun to serve business goals. Only the process definition covers it.

If the Face Game illustrates the insufficient coverage of existing definitions, the opposite scenario is where they are overbroad. LinkedIn's use of a progress bar to encourage users to add details to their online profiles has been cited as an example of a gamified activity [17]. And indeed, it meets the test of the elemental definition, because progress bars are used in game design.

If this is the only condition, however, the definition is radically over-expansive. Microsoft uses progress bars for Windows software installation. A strict reading of the elemental definition would call this gamification, yet that seems implausible. The process definition properly excludes the Windows progress bars, because they involve no gameful intent. LinkedIn uses progress bars to create an experience; Microsoft doesn't. The service marketing definition would get hung up on whether LinkedIn's online profile and the Windows installer are core services, which is not the real issue.

3 Gamification as a Form of Persuasive Design

Because gamification seeks to influence behavior, the literature on persuasive design can be brought to bear. Fogg's behavior model for persuasive design, for example, situates systems within a continuous space defined by motivation on one axis and ability on the other [6]. The desired action is triggered at a certain point, but designing the appropriate trigger involves an understanding of where the user sits within the graph. Game-like experiences can promote both motivation (by making activities feel more engaging) and ability (by promoting learning, achievement, and feelings of confidence).

Viewed as a process, therefore, gamification can function as a specialized tool to enhance the behavior change interventions that Fogg and others describe. And indeed, when a system such as the Zamzee fitness tracking and motivation platform for underprivileged youth utilizes game structures like rewards, levels, and challenges, it does so in service of persuasive design [20]. The process definition makes this clear and thus focuses attention on how the game-like attributes contribute. The elemental definition would founder on the artificial games/gamification distinction (Zamzee's tagline is "The Game That Gets Kids Moving") and de-emphasize the persuasive aspects relative to the design elements. The service marketing definition would search – perhaps with difficulty – for a "core service," and de-emphasize the persuasion in favor of co-creation and user value propositions.

Viewed through the lens of the process definition, gamification and persuasive design mesh well. A game is an inherently persuasive artifact, because it is by nature voluntary and goal-directed [14]. Games push toward objectives, but they do so in a non-coercive way, as do persuasive technologies [6]. Tromp, Hekkert, and Verbeek define a matrix of four ways that design can influence behavior: coercive, persuasive, seductive, or decisive [15]. Gamification techniques can be deployed in each quadrant. When offered voluntarily to users, as a marketing inducement or behavior change opportunity, gamification is likely to fit into the persuasive or seductive categories. When mandated in a workplace, it could be decisive or coercive.

It is these later applications, especially coercion, that raise the greatest concerns about manipulating or exploitation. A coercive experience may use game design elements, but arguably it would be *less* game-like due to its departure from voluntariness. To reiterate, the process definition will not itself prevent gamification designers from exploiting participants. However, to the extent that a definition helps to clarify norms and focus conversations around player-respecting attributes, it could make a positive contribution.

Gamification is still a young field. How scholars and practitioners define it will affect the coherence of their efforts, and shape the critical debate over its legitimacy. A definition of gamification as "the process of making activities more game-like" best captures the essential aspects of the practice. It fits what gamification is today, and provides valuable direction for the future.

References

1. Attwood, J.: The Gamification, Coding Horror (October 12, 2011), <http://blog.codinghorror.com/the-gamification/>
2. Boese, S.: Scoring Serious Results Through Gamification. HREOnline.com (May 13, 2013), <http://www.hreonline.com/HRE/print.jhtml?id=534355401>
3. Bogost, I.: Persuasive Games: Exploitationware. Gamasutra (May 3, 2011), http://www.gamasutra.com/view/feature/6366/persuasive_games_exploitationware.php
4. Carse, J.: Finite and Infinite Games. Ballantine, New York (1986)
5. Deterding, S., Dixon, D., Khaled, R., Nacke, L.: From Game Design Elements to Gamefulness: Defining “Gamification”. In: MindTrek 2011, pp. 9–15. ACM Press, New York (2011)
6. Fogg, B.: A Behavior Model for Persuasive Design. In: Persuasive 2009: 4th International Conference on Persuasive Technology, April 26-29 (2009)
7. Fun Theory, The: The World’s Deepest Bin (September 21, 2009), <http://www.thefuntheory.com/worlds-deepest-bin>
8. Huotari, K., Hamari, J.: Defining Gamification: a Service Marketing Perspective. In: MindTrek 2012, pp. 17–22. ACM Press, New York (2012)
9. Koster, R.: Narrative is Not a Game Element. RaphKoster.com (January 20, 2012), <http://www.raphkoster.com/2012/01/20/narrative-is-not-a-game-mechanic/>
10. Mollick, E., Rothbard, N.: Mandatory Fun: Gamification and the Impact of Games at Work (June 10, 2013), <http://ssrn.com/abstract=2059841>
11. Paharia, R.: Loyalty 3.0: How Big Data and Gamification are Revolutionizing Customer and Employee Engagement. McGraw-Hill (2013)
12. Robertson, M.: Can’t Play, Won’t Play. Hide & Seek (October 6, 2010), <http://hideandseek.net/2010/10/06/cant-play-wont-play/>
13. Schell, J.: The Art of Game Design: A Book of Lenses. Morgan Kaufmann, San Francisco (2008)
14. Suits, B.: The Grasshopper: Games, Life and Utopia. Broadview Press (2005)
15. Tromp, N., Hekkert, P., Verbeek, P.-P.: Design for Socially Responsible Behavior: a Classification of Influence Based on Intended User Experience. Design Issues 27(3), 3–19 (2011)
16. Virgin Healthmiles: Employees “Got Game?” Press Release (August 23, 2011), http://us.virginhealthmiles.com/news/Pages/PR_110823_Gamification.aspx
17. Werbach, K., Hunter, D.: For the Win: How Game Thinking Can Revolutionize Your Business. Wharton Digital Press, Philadelphia (2012)
18. Wittgenstein, L.: Philosophical Investigations. Wiley-Blackwell (2010)
19. Zappos: You’ve Been Faced, <http://zappified.com/face>
20. Zamzee, <https://www.zamzee.com/>