Gamification: When It Works, When It Doesn't

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Abstract. The concept of using game mechanics to attract and retain customers in the consumer space is now well accepted. However, the use of gamification in the enterprise space is still catching on. There are a number of reasons to believe that acceptance of gamification will grow in the enterprise space. The most likely reason is that companies are increasingly concerned about the effect of employee engagement on productivity. But, there are circumstances where gamification can be successful and circumstances where gamification can fail.

Keywords: Gamification, Game Mechanics, Enterprise Software, User Experience, User-centered design.

1 Introduction

Gamification as defined by Deterding, S., et al [1] is the use of game mechanics in non-gaming environments, such as websites, education, and social networks. The concept of using game mechanics to attract and retain customers in the consumer space is now well accepted, however the use of gamification in the enterprise space is still catching on. The idea is that you can use game mechanics in a way that captures the advantages of games while integrating those mechanics into actual work flow. It has been said that gamification is the way you can uncover the game within work and there are a number of reasons to believe that gamification will grow in the enterprise space. The most likely reason is that companies are increasingly concerned about the effect of employee engagement on productivity. But, there are circumstances where gamification can be successful and circumstances where gamification can fail.

Gamification has become a hot topic in a variety of areas from consumer sites to enterprise software. In 2011 and 2012, Gamification was included in the Gartner Hype Cycles for Emerging Technologies, in both cases just at the edge of the peak of inflated expectations (see Fig. 1).

Gartner has pointed out some of the potential hazards in the use of gamification. In late 2012, a separate Gartner report concluded that 80% of current gamified applications would fail to meet business objectives, primarily due to poor design [2]. In that report, the author states: "The focus is on the obvious game mechanics, such as points, badges and leader boards, rather than the more subtle and more important game design elements, such as balancing competition and collaboration, or defining a meaningful game economy, as a result, in many cases, organizations are simply counting points, slapping meaningless badges on activities and creating gamified applications that are simply not engaging for the target audience. Some organizations are already beginning to cast off poorly designed gamified applications."
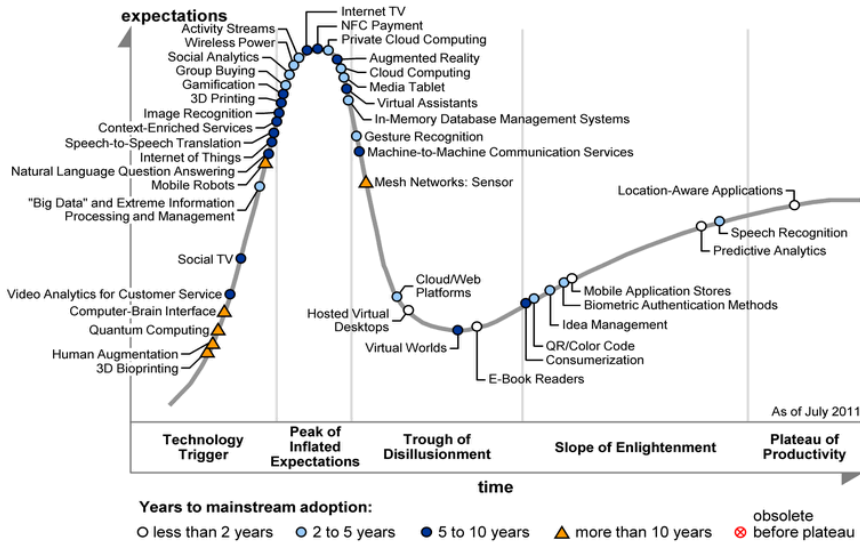
Fig. 1. The 2011 Gartner Hype Cycle (http://www.gartner.com/hc/images/215650_0001.gif)

2   Main Problem

To understand the potential conflict that was described in the Gartner report, it's important to understand the essence of games. Deterding created a set of game principles [3] which are adapted here. Games typically have a number of features.

- Games have SMART goals. That is, games have goals that are specific, measurable, achievable, realistic and time bound. If you play a game, you know that your goal in a game is to move from Level 1 to Level 2 in the short term, but in the long term, you want to get to level 15. You know what you need to do conceptually to make progress on these goals.
- Games have actions and choices that are easy to see. If you are playing a game, you can fairly easily see what actions and choices are available. In addition, there is a clear relationship between actions/choices available and goals you are trying to achieve. This combination of SMART goals, clear actions and choices, and obvious relationships between my actions/choices and goals make games very appealing.
- Games provide a lot of feedback. In a game, you get a lot of feedback about what you are doing, when you are successful, and when you are not. At any point, you can tell where you are in the game, because your current status is obvious.
- Games involve increasing challenges for growing skills. Most games have layers to them, where the game can become increasingly challenging as the player gets better and more skilled at the game.

- Games generally involve a degree of social comparison. Even in games that are played as individuals, often there is an aspect of social comparison such as a leaderboard.

A simple transference of game principles to work flow is not always possible, however. Games are often about emotion, intensity and duration. Work, however, is about tasks, efficiency and speed. As a result, you can't always make the goals of each come together.

3   How to Gamify Successfully

Gamification is not just about applying points and badges. In order to effectively gamify an application, several key issues need to be considered.

3.1   The Business Goal

The first is to understand the business goal behind gamification. Every time you consider adding a gamification element to a business flow, you need to determine what you hope to accomplish. In a business case, the company needs to determine the answer to a few key questions. Will gamification improve productivity in a particular product or business flow? Will it make the tasks involved in that product or flow more interesting to the end user involved? Will it improve employee engagement in that product or flow? For example, if you know that end users are not completing a task that you would like them to do, would gamification make them more likely to complete that activity?

Customer Relationship Management (CRM) tools are a good example of a product that a company would like their sales teams to use, but encounter resistance. Sales people often do not see the value of the CRM application to them. The company, however, would like to collect as much sales data as possible to better understand who their sales people are talking to, how often, and what makes some sales people more effective than others. Sales people, on the other hand, often feel that time spent entering information into a CRM tool is time spent not selling. Since they get rewarded financially on the basis of sales completed, the CRM tool is considered overhead by many. As a result, CRM tools are a good example of where gamification might be used to engage users in activities that the company values but that the end user does not. There are a number of examples of how CRM tools can be gamified available on the web [4-5].

3.2   Measurement

Once a business goal has been identified, the next step is to define how the company can determine whether gamification is successful in driving user behavior to meet these goals. What part of the product does the company want to gamify? Not all areas of a product may be good candidates for gamification. It is essential to select areas where outcomes can be measured [6-7]. In that regard, it is essential to make each

goal as specific and discrete as possible. If the goal is too large, it will be difficult to determine whether the specific game mechanics utilized are successful in altering the behavior of the end user.

The business goals for gamification need to be based on areas in which metrics can be attained both before gamifying and after gamification is applied. Ideally, gamification would be applied and measured with A/B testing, or other test methods, in which some users work with the gamified system while others use the non-gamified system [8].

3.3   Understanding Your User

One of the most important aspects of successful gamification is understanding what motivates the system user. It is crucial to understand the users and their motivations before blindly slapping points and badges on interactions that many have no meaning to them. For example, outgoing, competitive types may want to see how they compare to others while more introverted, quiet types might be turned off by the same mechanics.

Some gamification experts recommend that you start with Bartle's 4 player types [9] to decide if your users fit best into the categories of Killers, Achievers, Explorers or Socializers. While this may have some value, Bartle was describing types of players of a multi-player online games. Enterprise software users may not fit neatly into a set of categories developed for people playing an online game, although some have tried to modify the descriptions for employees (see Fig. 2). But when trying to define a worker whose main job responsibility is General Ledger accounting, it may be difficult to decide which of these descriptions adequately captures their motivations.

Killers
Defined by:
A focus on winning, rank, and direct peer-to-peer competition.
Engaged by:
Leaderboards, Ranks

Achievers
Defined by:
A focus on attaining status and achieving preset goals quickly and/or completely.
Engaged by:
Achievements

Socialites
Defined by:
A focus on socializing and a drive to develop a network of friends and contacts.
Engaged by:
Newsfeeds, Friends Lists, Chat

Explorers
Defined by:
A focus on exploring and a drive to discover the unknown.
Engaged by:
Obfuscated Achievements

Fig. 2. A matrix of employee types based on Bartle's 4 player types. (http://frankcaron.com/Flogger/?p=1732)

In the case of enterprise software, the end user of a system is often described by a user profile or persona [10] for the purpose of helping develop the software flow. A persona is a fictional representative of the users of your software or system based on research about that user type. It often includes details about their demographics, job responsibilities, goals and tasks as well as the environment in which they work. Taking the time to research the user and their context of use is one aspect of the user-centered design (UCD) process that helps ensure that the software is designed around the users' needs and work process. Just as with the UCD process to develop software, understanding the end user of a system is critical to gamification as well. By developing an understanding of what your user is trying to accomplish, their motivations and what they find rewarding will help you to apply appropriate game mechanics to an enterprise software flow.

3.4   Bringing the Business Goal and User Considerations Together

Once you have considered what your business goal is and have developed an understanding of your user and their motivations, the next step is to consider what game mechanics would help you accomplish your goal. Consider the Fogg Behavior Model [11], which posits that persuasive designs get behaviors to occur because they merge a trigger prompting the behavior, with the motivation to do something and the ability to do it. Take the CRM example from earlier. If you have a business goal to have users enter more sales information into the CRM system, you can consider what might make that behavior more likely. The first might be to establish a trigger that prompts the behavior that plays on some other motivation they may have and at a time that they have the ability to perform the behavior. According to Gabe Zicherman [12], people are motivated by Status, Achievement, Power and Stuff, in approximately that order.

Since sales people as a general rule are gregarious and social, they may be motivated by elements that play on status and achievement more than they are by material goods. Therefore it may be useful to consider more social aspects of game mechanics such as points and leaderboards. As a behavior trigger, you might consider a challenge to the sales groups which involves entering more complete information into the CRM system which they see when they log in, which is the time they have the ability to enter the information. You might also consider prompting them with reminders of the challenge while they are on the pages you want them to fill out more completely.

3.5   Avoiding the Unintended Outcome

One key consideration in gamification is to consider the unintended outcome in your design. Put another way, people will always try to game the system if they see a way to do it. Your gamification model needs to consider what you can do to ensure that the data they put in satisfies your real requirements in order to win. For example, if your business goal is to increase the number of invoices a user completes per hour, you may increase speed (intended) at the expense of accuracy (unintended). In some cases, such as invoicing, it is impossible to know immediately whether the information is accurate and may be several days before errors are uncovered. So how can you

achieve the balance you need between speed/accuracy? In adding game mechanics to that process, you might consider a reward for speed that is balanced with a loss of points if accuracy drops below some baseline measure. In this way, you may achieve your ultimate goal, which is to have invoices processed as quickly as possible while maintaining accuracy at an acceptable level.

3.6   Test, Test and Test again

In the end, it is important to test design concepts with prospective end users and be willing to modify your design. Again, a standard process in UCD is to research, design, and evaluate, continually iterating the to improve the product. If gamification is considered as another aspect of the user experience, involving many of the same ideas of good usability, then gamification should be approached in the same manner. Prior to creating a gamified system, it is useful to test the concepts with end users of the system. This process can be as simple as creating paper prototypes and asking end users to evaluate the suggested flows and specific game mechanics.

Once gamification has been employed, a company needs to be willing to test whether they are effective in making changes to the business goal and be willing to modify and adapt. Gartner's suggestion that 80% of gamified applications will fail due to poor design can be avoided by early testing but also by evaluating whether the application of game mechanics has succeeded in achieving the business goal. Using the earlier example of sales people and the CRM system, after the application of game mechanics, the company needs to determine if users are entering more information. This requires knowing what the behavior was prior to the application of the game mechanics to ensure that you have, in fact, moved the needle on the dial. For any gamified system, analytics are essential.

If the game mechanics have achieved the business goal in the short term, the goal is now to make this a sustainable process. As anyone familiar with Foursquare can attest, once you have earned badges for a while, you can lose interest in the game. Returning to Deterding's description of games, it is essential to consider a key aspect, which is that games involve increasing challenges for growing skills. As the users attain new levels, the gamification layer should evolve to increase the challenges. This can be accomplished in a variety of ways, either by updating the challenges for the users or increasing the rewards within the system.

4   Conclusions

Gamification can be a powerful way to increase employee engagement and productivity within an enterprise software system. However, as with any UCD process, successful gamification requires a thorough understanding of the end user of the system, design based on that user's motivations and goals, and testing both during development and following release. Just as other areas of good usability practice, a gamified user experience should be reviewed, evaluated and updated regularly to ensure that it continues to meet the goals of both the users and the companies.

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