Optimizing Gamification Design

Demystifying players’ psychology can help ensure that game mechanics trigger intended behaviors and business outcomes for “gamified” activities.

Executive Summary

Gamification applies game mechanics and the principles of traditional games in a non-game context. The intent is to make any process or activity more fun and engaging. There are multiple game mechanics and game elements that gamification program managers (GPMs) leverage to “gamify” business processes. Key components can include points, badges, leader boards and avatars, for example.1

Gamification design is the process of designing the mechanics for a gamification program.

Given that multiple game components can be stitched into a gamification initiative, choosing the right ones is critical, and can be the defining factor in a successful design implementation.

Many gamification program managers see game design and its underlying components as merely a creative process—an assumption that oversimplifies its importance. Proper gamification design calls for a skillful mix of creative elements and behavioral economics.

Success typically requires a strong focus on user-centered design, which encompasses product design, economics and psychology. These elements are key to understanding the social, cognitive and emotional factors that influence people’s decisions—both at individual and social levels. In this white paper, we will explore the emotional drivers that must be mapped with game components to bring about desired behaviors and outcomes, and to ensure an effective gamification initiative.

Mapping the Emotional Drivers

Whether in a gamified or non-gamified system, there must be some type of enabler or motivator for performing a particular activity. At a fundamental level, designing game mechanics begins with identifying the emotional catalysts that must be evoked or accentuated in a particular scenario, activity or group.

At issue is defining the role that each game component plays in triggering certain emotions and provoking specific behaviors. This helps to map the game components with the right game scenarios and activities, and design a game that is both user-driven and supports organizational objectives.

Following are steps in the game-design process. Their purpose is to align emotional triggers and motivators with various game components. This involves:

1. Identifying player personas.
2. Delineating the behaviors of player types.
3. Mapping the right game mechanics to the activities.
4. Formulating the virtual economy.
Identifying Player Personas

The gamification design process is similar to human-centered design, where identifying user personas is an important aspect of defining behavioral patterns. For example:

**Context: ABC bank** is planning a gamification initiative to promote online banking, offer paperless statements, and increase customers’ awareness about savings and money management.

Below is an example of a customer persona that ABC bank identified:

**Kim, “The Techie”:** Kim is a 35-year-old software engineer who holds a master’s degree from a top university. She works within a well-known company’s IT organization. Kim accesses the Internet from home over a broadband connection, her mobile phone and her office workstation, and prefers e-mail over snail mail. She regularly purchases items and services online, but favors shopping at physical stores for clothes and expensive electronics.

She is fluent in English, Chinese and French. She rarely travels except during holidays. She has been a customer of ABC bank for eight years. Kim represents roughly 27% of ABC’s customers in North America.

This sample persona reflects the major characteristics that are critical to a gaming initiative:

- **Demographics**
  - Age
  - Gender
  - Geography
  - Education
  - Language
- **Personal traits**
  - Social: Introvert/Extrovert
  - Hobbies
- **Professional**
  - Designation
  - Competitiveness
  - Brief job description
- **Other**
  - Population share
  - Other key attributes

Importantly, the gamification program manager must ensure that the persona is at least broadly representative of a substantial number of players in the system.

Also, organizations should avoid developing more than four of five different player types for a certain group or population.

**Delineating the Behaviors of Various Types of Players**

After identifying the personas, the GPM must categorize the various player types to better understand players’ motivations, game styles and genre preferences, as well as the triggers for positive and negative emotions. This information is helpful in delineating player behavior patterns in certain situations and designing appropriate game mechanics.

Personas help reveal common baselines for human behaviors and capabilities, particularly regarding the role they plan in decision making.

For example, using personas, the GPM can broadly classify the player types into four categories per the Bartle model, which is based on player preferences and game styles (see Figure 1). Depending on the results of the observed classification, the GPM can create game mechanics that favor all or most of the player types. If the majority of personas fall under the “killer” player types, a game based on competitions and multi-player

![The Bartle model is based on player preferences and game styles.](http://en.wikipedia.org/wiki/Bartle_Test)

combats will have to be built. If there are more “socializers,” the GPM must ensure there are social elements plugged into the game scenarios. Similarly, GPMs can use personas to delineate player behaviors and identify the key motivators.

To accomplish the above, we suggest exploring the different types of motivators described in Maslow’s theory of motivation,^4 which is based on human beings’ hierarchy of needs (see Figure 2).

In both gaming and non-gaming scenarios, we have found that what motivates people can result from any number of factors, including social, emotional, financial and intellectual needs/influencers.

When needs move up the hierarchy, the motivators for satisfying them become stronger and more intrinsic, and as such cannot be fulfilled merely by material rewards. On the other hand, when motivators fail to satisfy the requirements of a person whose needs are lower in the pyramid, material rewards such as money are more effective than factors such as social recognition. It goes without saying that what may motivate one person may not motivate another. Similarly, an individual can be motivated by different factors at different points in their lives.

For example, a salesperson may be motivated by monetary rewards during the formative years of his career, whereas later, after he has established himself financially, he may be more motivated by a passion for his job and his accomplishments, rather than just the financial returns.

Using various facets of the identified personas, we can outline key behavioral patterns based on their specific needs, perspectives and underlying personality traits.

Mapping the Right Game Mechanics to Various Activities and Use Cases

In this step, the GPM assigns game components from the “emotional trigger mapping” of each activity and game component to identify the right set of game mechanics required as part of the gamification program. To perform this exercise, the GPM must broadly identify the types of emotions a particular set of activities or use cases evoke in the minds of the people performing those activities. These insights can be gathered during the persona-identification phase, when subtle variations in motivators and emotional triggers (if any) are observed when performing the activities for the different personas.

Context (as cited earlier): ABC bank is planning a gamification program to promote online banking and paperless statements, and increase customer awareness about savings and money management.

Below is an example of mapping game mechanics to use cases for different player types:
Opting for completely paperless transaction notifications and periodic statements is an activity that evokes emotions like “pride” and “social concern,” and appeals to people who are eco-friendly; others may see online transactions as being more efficient, or like the feeling of being tech-savvy. Different personas react differently to the same activities, since the underlying motivators are different. As a result, it takes different game mechanics to appeal to these motivators and make them more prominent for the players in order to make the activities “worth performing.”

Once the baseline motivators for each activity are identified, the GPM can map the game components with the activities.

Every game component has an underlying meaning, which dictates the game component that should be used in a particular scenario (see Figure 3).

Gamification motivators have three primary dimensions:
- Recognition.
- Progression.
- Rewarding.

All game components lie in a three-dimensional space. They function as one or multiple motivators. For instance, badges are primarily recognition components, while a leader board indicates both the recognition, as well as the progression, of a player in the game journey.

In our previous online banking example, recognition game mechanics for player types motivated by social factors can be addressed by awarding them an “I am going Green Badge;” a higher “Tech Skill” badge can be awarded to the players motivated by the technology aspect of the activity.

While designing mechanics, the following should be considered:
- Having multiple game components for the same motivator may not yield stronger motivation levels in the players.
- On the other hand, components that target multiple motivators can be more beneficial than those that target only a single motivator, since they cover a wider spectrum of player types.

Restrict the game mechanics to the bare minimum; too many game components tend to have a detrimental effect on the user experience and the efficiency of the gamification program.

Formulating the Virtual Economy
Once the right game components are identified, the more complex task of calibrating denominations and formulating the economy of the virtual currencies comes into play. For instance, how should a GPM determine the right number of points for each level, introduce the right number of badges in the system, and decide how many positions to show on the leader board?

There is certainly more than one right way to achieve this; it is an iterative process, and typically needs to be refined over time to achieve the optimal structure.

We recommend assigning value-based ratings for each activity (activity value rating) and virtual currency (currency value rating):

Activity value rating: This is the perceived business value of an activity, based on the various parameters associated with it. Among the key parameters are business criticality, time required, difficulty and cost to the player. The GPM needs to rate each parameter on a scale of one to 10, with
10 being the highest rating, to arrive at an overall score for each activity.

Below is a simple illustration:

For the previous example of paperless banking transactions, we assign the following ratings for each of the parameters:

- Business criticality: 9
- Time required to perform: 4
- Difficulty for user: 3
- Cost to the user: 2
- Cost saving to the business: 8

Activity Value Rating: 9 + 4 + 3 + 2 + 8 = 26 value points

Currency value rating: As with activities, the GPM can assign value-based ratings to various virtual currencies. Say we want to introduce coins, and a coin represents a 0.1 value rating. The GPM would then award 300 coins to the player upon the successful completion of a task that has an activity value rating of 30 value points.

Looking Forward: Proper Planning Avoids Poor Performance

Humans subconsciously calculate the underlying relationship between the effort and the outcome for any system — gamified or not. Game players are even more adept at doing so. Players are quick to find the game path with minimum resistance and maximum rewards. Are they cheating? Not really. These are the loopholes in the game design that are exploited by players to their advantage.

It is crucial to use a single baseline for the value of each task and virtual currency (in our example, value points), since it helps to rationalize the unit effort and unit outcome for the players in their game journey.

Correctly mapping emotional desires to the game mechanics causes players to believe that the game is designed “just for me” and that it is, in a way, connecting with them at a subconscious level. This helps to make their game experience consistent and to some extent predictable — using a system that can help them win.

Footnotes
2 This is the recommended number, based on previous studies and experience, and should be viewed differently on a case-by-case basis.

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