

The Business Love Triangle- Smartphones, Gamification, and Social Collaboration

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Abstract. Gamification is becoming popular in enterprise applications due to benefits such as motivating employees to work harder through team competition and rewards. Mobile workers are a perfect audience for gamified applications as they need to be connected to their teams and aware of important business goals. Smartphones have specific characteristics that make them an ideal medium for gamified applications. However, designing these types of applications correctly is critical in determining their success. This paper will discuss gamification in terms of mobile workers and their needs, smartphone characteristics, and five mobile gamification design principles that help mobile workers stay connected to the business goals at hand.

Keywords: Gamification, Mobile, Smartphones, Design, Social Networking.

1 Introduction

As the computer industry matured, designers and researchers started evaluating the role of play and fun in computer applications. For example, in the early 1980s, Malone created a set of heuristics for designing enjoyable user interfaces and Draper discussed when “fun” is an important component of software design. The field of user experience became more popular in the 1990s and 2000s and further investigation was done to understand what created an enjoyable computer interaction and enhanced user satisfaction. For example, Blythe, Overbeeke, Monk & Wright discussed how interfaces do not just need to be usable, they could be fun as well by using things such as graphics, sound, challenges, etc. to elicit positive emotions.[1]

Fast forwarding 30 years, a new approach to engaging users has emerged. The term “gamification” has become a buzzword across industries and software companies are quickly working to gamify their applications. Gamification goes beyond just making applications fun; it consists of using game design techniques and elements in non-game contexts.[2,3] “The overall goal of gamification is to engage with consumers and get them to participate, share, and interact in some activity or community. A particularly compelling, dynamic, and sustained gamification experience can be used to accomplish a variety of business goals.”[4] This can be achieved by using the right

set of game mechanics, which are the tools or actions or behaviors that create the game infrastructure. Examples of these include points, levels, challenges, leaderboards, and virtual goods. Game mechanics work best when they naturally tap into a user's motivation or human desire such as reward, status, achievement, competition, and self-expression. [4,5]

The gamification market rose in 2012 by 150% compared to the prior year, and equals 242 million dollars. Of all the gamified applications, consumer applications account for 64% and the other 38% is comprised of enterprise applications. [6]

Gamification has become popular in the enterprise space because it has the potential to: increase user engagement, influence user behavior, motivate participation, increase user adoption and loyalty, meet customer expectations, and increase ROI. In addition, there are benefits to the workforce such as energizing employees, driving performance, identifying leaders, and motivating teams. [7]

Another reason for the popularity of gamification in the workplace was described by Arun Sundararajan, digital economics professor at NYU Stern School of Business. He told *Network World* that people want workplace technologies similar to home technologies. In addition, concepts similar in gamification have had a long history in the enterprise space. For example, sales contests are nothing new. [8]

In addition to desktop applications, enterprise companies are also considering mobile platforms. According to Carter Lusher, a research fellow and chief analyst at Ovum who speaks regularly at industry events, many companies start with mobility when gamifying applications. This is because employees can access these applications from anywhere. Also, these applications can extend to roles such as sales and other on-the-go employees that normally have limited access to desktop computers [8]

2 Mobile Workers

The division of what constitutes a worker on-the-go has blurred. The trend is now for companies to provide mobile devices to all of their workers, because all workers are on the move to some degree and the work day is no longer confined to 9 to 5. Being able to monitor progress, quickly know what is coming up next, giving updates on status, entering new information, and performing certain actions (e.g., approving a time card, assigning a task) are essential tasks all employees and managers appreciate being able to complete at all times of the day no matter where they are.

The Oracle Mobile User Experience team recently completed an international ethnographic study of the enterprise mobile workforce in 2012. They followed and observed 31 mobile workers in four locations: Stockholm, Sweden; Beijing, China; Chicago and the San Francisco Bay Area, U.S.A. Researchers spent between 5 and 6 hours observing each participant throughout their work day. Each participant also was interviewed at the start and end of the observation period. It has become crystal clear that the dedicated field worker has become a true mastermind of using smartphones and other mobile technologies as an extension of themselves. Since the last time the Mobile User Experience team conducted field research, we found that mobile users download and keep many more mobile applications than they did four years ago.

They can and do most of their work throughout the day using their mobile devices, only logging into their laptops and desktops at the end of the day to use applications that aren't available to them. Key mobile tasks across all mobile roles included: taking notes, researching information for a client or something they needed for work on the web, verifying and making appointments, emailing, messaging, tracking what they are doing, taking photos related to their work, and noting what they need to do. If they had a dedicated enterprise application for their work then they used it. Most users had dozens of other applications, including many utility and business oriented apps. For example, VPN access, banking, note taking, and applications for public transportation schedules.

Since mobile devices are used throughout the day in various locations, there are generally some gaps in a person's daily schedule where they are waiting for the next meeting, client, or activity to begin. Mobile devices are often used to fill these gaps and often non work related activities such as communicating with friends or family, surfing the web, and playing games offer just the right amount of distraction – a little, but not too much to interfere with the upcoming job. Of particular note, was the amounts of social networking mobile workers were engaged in. Social networking was important for those in the field to keep up with what is going on. We even discovered that in most of the locations we visited, the mobile workers who did play some games on their mobiles, preferred to play against other players they knew rather than strangers or against the computer. They tend to find it more social to play against someone they know and they find it more rewarding to win the game when knowing who they played against.

Sales is one area that many enterprise software companies, such as Salesforce, SAP, and Oracle, have looked to enrich the user experience through gamification. After conducting many research studies at Oracle it is known that one of the driving factors of sales representatives is to make money. This often is very important to the sales rep because their income is based solely on commission. Therefore, a traditional mobile sales application can be gamified easily by including a competition with other sales reps in the organization to make the most sales in a given timeframe. In order to play the game, sales reps would be required to track all their sales activities in the mobile application – which they are already expected to do. By making it competitive against other sales reps it will keep them motivated to play the game for three reasons. First, we know from past research that mobile workers prefer to play against each other. Second, they will stay informed of how they and their team are doing as a whole (information is important to them). Third, it would meet their own intrinsic needs of “winning” which translates to higher commissions. The outcome of the game would be a bonus or monetary reward for the sales reps that make the most sales.

The company who is providing the mobile application would also “win” in this situation for several reasons. Employees are driven to go above and beyond to make the most sales for the monetary reward and to beat their colleagues in the game. In addition, sales data would be entered in the system, which is often overlooked by sales representatives because they have other tasks they feel are more important to do.

3 Smartphone Characteristics – A Gamification Match

Smartphones have characteristics that make them an ideal medium for gamification. First, they are personal devices with people having an intimate connection with them which increases the likelihood of a higher impact. Second they are time sensitive devices, people always have their mobile device on them and they are always connected to the network. Therefore, time based mechanics can be used, such as the ability to define when an interaction should take place (e.g., something pop-ups up after meeting a client). Direct response is easier through mobile applications because they provide more simplified interactions than web-based applications. Third, they are optimized for rich graphical information, making them a natural medium for analytics, gamification, and visual content. Lastly, since applications are real time on a mobile device, interactions can be tracked resulting in more accurate measurement.[9]

Even with mobile devices being an ideal medium for gamification with benefits for both companies and their workforce, careful consideration needs to be made when designing these applications. According to Gartner, 80% of current gamified applications will not meet their intended business objectives due to bad design. The reason for this according to Brian Burke, research vice president at Gartner is “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.” In other words, the target users are not having a meaningful experience with rewards that are beneficial to them. [10]

A properly designed game would result in mobile workers using their mobile enterprise solutions more to accomplish their daily tasks not only because they had to, but because they want to. In addition, companies greatly benefit from employees using these types of applications to get data entered into the enterprise system in a timely manner and to increase overall profits.

4 Mobile Gamification Design Principles

There are many general mobile design principles, including Oracle’s Mobile Design Principles. [11] Based on our recent mobile research and enterprise design trends, we would like to focus on five principles that will make gamification mechanics more successful in your mobile application and leverage the strengths of the smartphone. At the heart of this discussion is the concept of “staying connected” – whether it is to the company, data, or people.

1. Pick ONE motivational factor. Determine only one motivational factor that you want to drive an increase in a specific behavior. Make sure it is specific to a business goal that can be translated to the individual user. Too many motivations or goals can overwhelm the user or cause them to ignore any of the additional objectives, as a user can’t determine what is important to the business. Another

reason it is important to keep it to one motivational goal is that well designed mobile applications focus only on essential tasks required while a user is out in the field. Mobile workers are constantly on the move and distracted by their environment. Therefore, they only have a few seconds to a few minutes to accomplish a task. If there are many motivational factors trying to be accomplished, too many gaming mechanics will clutter the application and take the focus off the essential tasks at hand. Motivational areas that synch with typical mobile users are: complete more of a certain activity, do it more quickly, and include more information or details. Do you want the user to increase a certain behavior, for example, make more sales? Do you want the mobile worker to do their job faster: complete a service request more quickly? Do you want more information about what is happening in a timely fashion: log notes or details about a client meeting after it occurs? These are business goals that a simple gamification mechanic could provide the right amount of information to help a user know what they need to be doing and provide the incentive to motivate them to continue with the new behavior (e.g., I'm at the top of the sales chart, I shaved 3 hours off of my service requests this week, all of my client folders are at 100% complete).

2. Include analytics that complement the business goal that you are gamifying. Analytics have become an important element in smartphone design as they provide information that a user can act upon or help in the decision making process. Both of these are key to a mobile worker's core tasks. What do I need to do next? How am I doing right now in my job? Where is an area that I need to focus on or fix? Having a synthesized graphical view of information that communicates meaningful patterns in data that is relevant to the user and provides insights allows our users to make more meaningful decisions. Analytics should be considered in conjunction with any gaming mechanic used. These are not separate objectives and should be considered at the same time. Often it is these analytics that will be used to drive the user to want to compete in the game. Without this type of view there is often no way for a user to know how they are doing compared to others or compared their individual goals set by their manager or company.
3. Keep it simple. Smartphones have a limited amount of screen real estate. Keep gamification mechanics proportional to the task at hand. In other words, don't create large gaming mechanics that overwhelm the rest of the user interface and experience. Subtle is better. This is particularly important with the new design trend to simply use interfaces. For example do not just stick badges or colorful elements all over the screens. Consider other options such as having separate pages with the key gamification analytics that users can easily navigate to when they have the time to do so. Also, gamification elements can be hidden to the user but affect their overall score in the game, for example the action of entering in the appropriate information could raise their place in the game, which they then can be notified later by email, a notification in their application, or in some other unobtrusive way.
4. Incorporate collaboration and social elements. These elements are strong tools to consider when mapping out how to gamify a mobile application. Smartphones are a natural communication medium. Oracle's field research validates the importance

of mobile workers staying connected with both work and personal sources throughout the day. Workers are often in the field alone and finding ways to keep them connected to the rest of the company would be of benefit to all parties. Motivating users through playing on teams or understanding how they are doing with respect to the organization (e.g., sales leaderboards, etc.) can provide workers additional incentives to accomplish certain business goals. We would caution against too much competition, but if put forth in a positive way or keeping it more team based can re-energize a company toward a unified focus. It also gives users greater visibility into what is happening in a company and make them feel more integrated.

5. Leverage mobile device capabilities as part of the gamification strategy. Encouraging behaviors that meet the business goal while leveraging the fact that the person is using a mobile device takes your application beyond just being another tracking tool. For example, if you have mobile workers use their smartphone camera to post pictures of interest to others in the company (e.g., clients, company head quarters, environments, how your product is being used, etc.) then you bring value to those remote workers and useful information back into the company. It will make your employees feel valuable and give you added information to use in your business. This tightens the communication channels with your remote workers and makes everyone be a team. If you tie these behaviors with a business goal, such as updating an opportunity after meeting with a client (e.g., get extra points for posting notes, photos, something relevant to the location you are in) your company will be the winner with having robust and complete client records.

5 Conclusion

Recently there has been a trend for companies to include gamification in their enterprise applications. These types of applications are beneficial for employees because they often provide both intrinsic rewards such as motivation along with extrinsic rewards such money or prizes for winning the game. In addition companies win from implementing these applications because employee performance often increases as they try to succeed in the game.

Mobile technologies lend themselves perfectly for supporting gamification of mobile enterprise applications as they work well with visual content and anything that increases mobile workers connectivity to the company (e.g., team based incentives) is positive to the revenue line. However, just because they have inherent characteristics that make them a perfect technology to support gaming mechanics does not mean that the applications will automatically be successful. Companies cannot just simply include some badges and assume they have gamified their application in a way that employees will adopt it and look at it favorably.

When including gamification in your mobile enterprise applications consider using the five mobile design principles we have included to help guarantee the success of the product. These include narrowing it down to one motivational factor, incorporate

analytics to complement the business goal you are gamifying, keep it simple, use social collaboration and social elements, and leverage mobile device capabilities. Smartphones, gamification, and social collaboration work well together as they increase workers ability to stay connected – to their company, to the information necessary for business, and to the important people in their lives.

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