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Torry Harris Business Solutions
#71, Sona Towers, Millers Road, Bangalore – 560052, India

Abstract

The premise behind the integration of the Power Trio is: to be able to better understand customers and their experiences by consistently gathering experience data (from the front-end & back-end channels), consolidating and correlating it, analyzing it to make sense of it and finally, optimizing it. Experiences can be made happier while optimizing the data through customizing mobile, web, call center, IVR and other front-end interactions, changing the experience flows and better configuring the data collected.

This paper details the value offered by the trio - SOA, Enterprise Mobility and Gamification. While each element in the trio represents value to business in its own merit, it is interesting to see how all three trends can be leveraged together to maximize business benefits. Starting with the objective of gamifying a customer engagement scenario, this paper illustrates different pieces of customer data that need to be aggregated. These pieces of information, such as customer's recent transactions, purchases, top-ups, claims, etc. would need to be retrieved from different front-end and back-end IT applications. If these IT applications are SOA enabled, it is that much easier to extract and combine the required data to analyze and tailor a personalized gamification experience.

When designing an experience to engage customers/employees/partners, it is important to analyze their daily behavioral patterns. Statistics indicate that mobile as a channel and gamification as a medium represent a great opportunity, given the increasingly limited attention spans of consumers today and the information overload they are subject to. Gamification design, by nature, allows the use of short, but interesting game elements to motivate consumers to learn something new in a fun way or better use a product/service. SOA at the back-end allows for quicker, near real-time changes to the delivery of these experiences to better optimize them. This paper attempts to show the application of these principles to create a personalized game experience using SOA as the means and mobile as a channel.

Happy Reading!

Gamification: An Introduction

Gamification is a technique of motivating and engaging an audience to achieve a desired outcome. The technique is based on application of key concepts from games to real-life, business scenarios such as to increase customer loyalty, increase sales of a product group, improve the effectiveness of customer service, improve participation in community forums, improve effectiveness of training and other such. Some of the proven gaming concepts to engage an audience are as below:

- A scoring opportunity – example: Points System
- Concept of progression, i.e. moving up levels
- Story telling
- Concept of a challenge, i.e. an opportunity for the audience to think and solve problems
- A fantasy environment experience that is fun



These concepts are called “Game Mechanics”, and are used widely by players in the entertainment industry – board games, casinos and video games. These game mechanics can be used as building blocks by literally any business, to achieve the outcomes as mentioned above, example: increase customer loyalty, increase sales, increase community

participation, etc. Gamification is not new, it has existed in different forms for more than a decade - in the form of airline miles, shopping points, credit card rewards and similar loyalty programs. The primary element of game mechanic used in these kinds of programs was the Scoring opportunity, with a points based system. There is a definite opportunity for businesses to think beyond the scoring mechanic and improve the engagement experience by leveraging all the other available game mechanics, explored further in this paper.

The Human Side of Gamification

To re-iterate, Gamification deals with the technique of motivation and engagement to achieve a desired outcome. The concept of motivation and engagement involves understanding of behavioral science and to a certain extent, human psychology. Gamification relies on the two pillars of motivational science, namely

- Extrinsic Motivation and
- Intrinsic Motivation.

The word 'Motivation' is derived from the word 'Motive'. There are, again, two types of motives when it comes to motivation:

- Explicit Motives are formed based on stated goals, social norms, financial targets etc.
- Implicit or Sub-conscious motives are unspoken motives that an individual possesses that have an influence in his/her overall motivation. Examples are Power, Status, Recognition and Achievement.

Studies indicate that individuals do not necessarily experience inherent pleasure and reward during the journey of pursuing explicit motives. They do so only if they achieve them. On the other hand, individuals always experience pleasure and reward during the journey of pursuing implicit/sub-conscious motives, even if they do not achieve explicit motives. In this context, we could examine the difference between extrinsic motivation and intrinsic motivation.

Extrinsic Motivation

The word is derived from 'External', i.e. motivation from external factors. For example, you can extrinsically motivate a person to wash your car if you offer him €200. It is like the 'Carrot and the Stick' approach. The person will definitely wash your car, but the real motivation is the end result – the €200. The experience of washing the car may not be a fun and fulfilling experience, but the reward certainly is. In Gamification, this refers to the points



based system, or a badge based system. You earn points or badges based on tasks you perform in real life. The business achieves its stated goal from the gamification exercise, at the same time, the customer or employee feels rewarded and satisfied by earning more points.

Intrinsic Motivation

The word is derived from ‘Internal’, i.e. motivation from within. Extrinsic motivation is not sustainable in the long run, especially if there are no new scoring mechanisms, badges, etc. Over a period of time, customers get bored with just external motivation factors. The focus should hence be on how to motivate customers from their “inside”, how to make the experience of the engagement enjoyable – whatever that be. Be it online shopping, transferring funds, using a product/service, etc. To trigger intrinsic motivation, the sub-conscious motivational elements of the customer must be triggered – such as power, a sense of achievement, status, recognition etc. This can be achieved by providing a fantasy game-like environment where the player sees himself/herself in the form of the main character in the game and plays the game thereby performing the required set of tasks to achieve a certain outcome. While doing so, the player sub-consciously enjoys the experience of performing the task, as a result of experiencing the fantasy environment.



It is often recommended for businesses to use both intrinsic and extrinsic motivational factors when designing an end-user experience.

Examples of Gamification

Gamification of Banking – Gameo

The DSK Bank, Bulgaria, used Gamification to improve customer engagement through mobile channel. Their mobile app Gameo incentivizes customers to learn about bank products.



The app allows customers to set and achieve financial goals with points that can be redeemed for prizes such as tickets to concerts and sports events.

Epic Win – A Mobile App to Gamify To-Do lists

This is a classic example of Gamification that exploits the Intrinsic Motivation technique. It is about making the chores in real-life fun for people who are used to writing to-do lists, but do not have the motivation to actually do the chores. It combines To-do lists with RPG – Role Playing Game. All the chores are mapped out as a quest and shown in a

map that can be ticked off. The more chores you do, more secrets and quests get uncovered, which helps the audience to level up.



The game presents an opportunity to develop your virtual character in an ongoing quest to level-up, gain riches, and enhance skills.

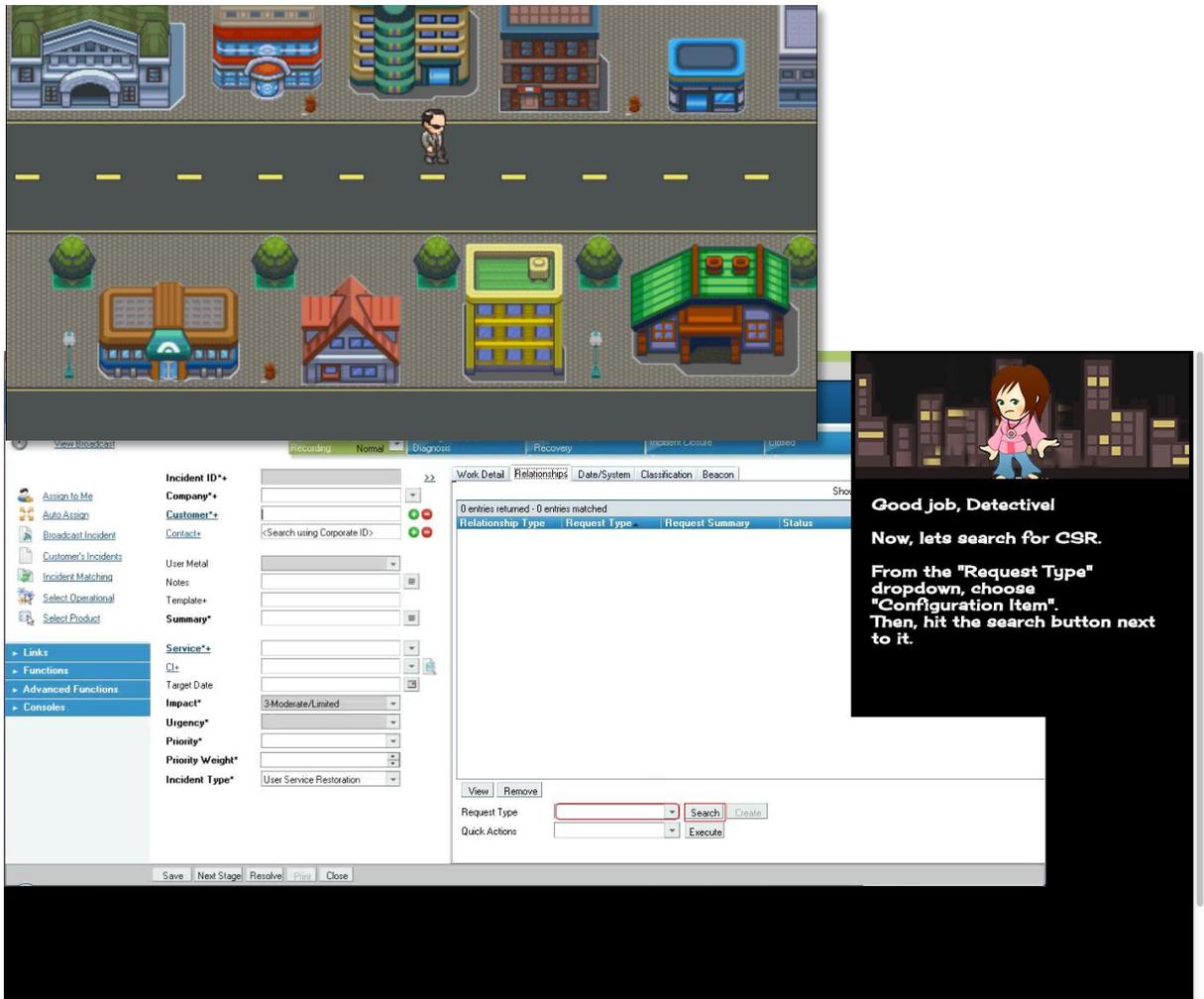
Starbucks – Customer Loyalty

Starbucks has leveraged Gamification by means of a Mobile App to increase customer loyalty. The mobile app introduces the “My Starbucks Rewards system” that rewards users with a gold star whenever they use the mobile app to pay for a coffee. When the user gets 5 stars, which is the first milestone, that user is instantly rewarded with a “Green Level” status and is granted a special perk of being able to receive free refills on coffee or tea purchased that day. There are also more benefits when users reach the gold level at 30 stars, one of them being a customized gold card to indicate status.



Gamification of Training – Secret Agent Sam

Gamification is a very effective means to increase the effectiveness of training. This example is about gamifying the training of incident management system called Remedy. Torry Harris Business Solutions developed this training tool for one of its Telecom customers.



The system presents the challenge in the form of a detective game where the hero, Sam, has to solve an imaginary incident of a Bank Robbery and in the process learns how to raise a trouble ticket and use the Remedy software. The game presents a virtual world, a top-down cityscape, where Sam talks to people and collects clues to solve the case.

Role of Mobile in Gamification



The prediction is that by end of 2014, there will be more Smartphones than the number of people on this planet! Statistics also indicate that gaming is one of the most used categories of apps on mobile devices. If this is any indication to go by, businesses today cannot ignore this channel for revenue generation and customer engagement. This presents a unique opportunity to leverage gamification elements within the mobile. Example: Points and badge system embedded inside the

application – Like Starbucks Rewards and Epic Win.

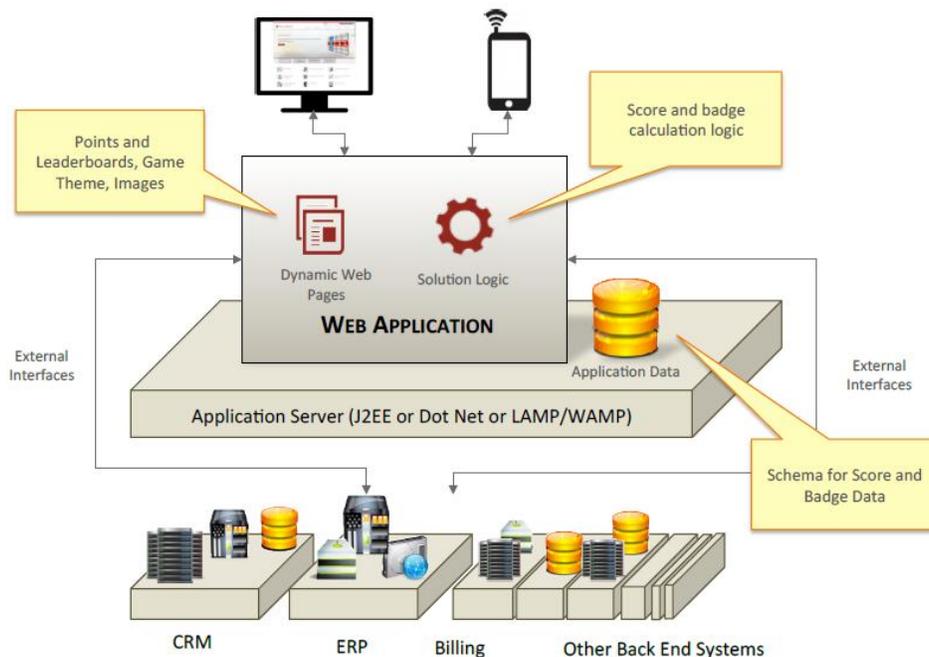
Special Considerations for Game Design for Mobiles

Considering the screen size of mobile devices and people's attention span when they play mobile games, it is important to keep the following facts in mind when designing an experience. People use Mobile devices in short bursts of time, such as 5 to 10 minutes, when waiting for a bus or a train, waiting in a queue, or travelling in underground trains. Typically, they do not use their mobile phones for long periods of time though there are exceptions. Statistics indicate that tablets are being used for long periods of time and more often, used at home or long travels. These factors have to be considered when designing a game-like experience so that people are able to finish their fun tasks within short periods of time. This fact has been acknowledged by most of the mobile game designers. It reflects in the form of hundreds of playable levels, but each level can be finished fairly quickly.

Role of SOA in Gamification

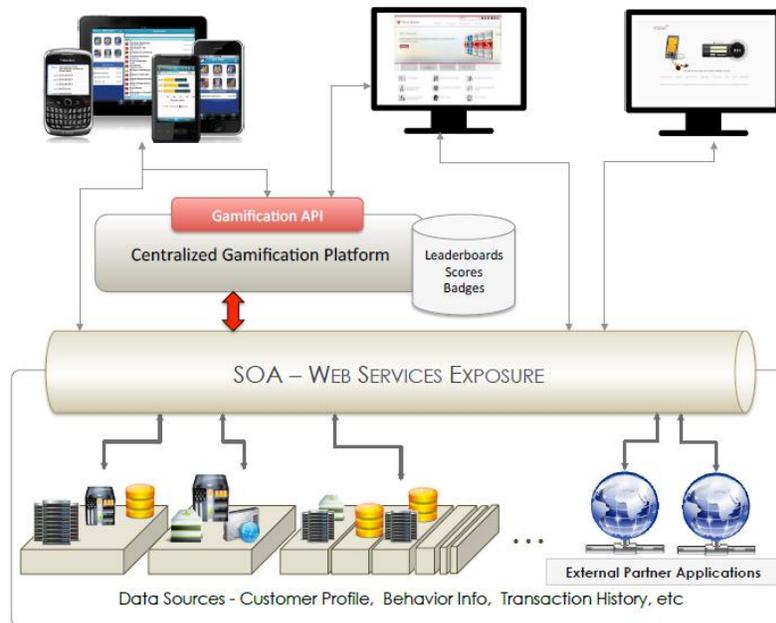
When using gamification, businesses need to map the customer data to scores, rewards, points, badges and levels. The customer data could be recent transactions, spend behavior, usage patterns, customer profile, etc. These discreet pieces of data will typically be fragmented across multiple systems – like CRM, ERP or Billing systems. SOA is a means to integrate, aggregate and transform data and present it to upstream systems in the form of easily consumable web service APIs like SOAP or REST. This loose coupling opens up endless possibilities, like third-party integration, partner application integration, etc. Any attempts to gamify existing mobile apps and customer-facing portals could greatly benefit from the loose coupling and service orientation.

To understand the role of service orientation in Gamification, let us look at the solution from a traditional web application architecture point of view. The diagram below illustrates a typical solution that comes to mind when changing the application architecture to introduce gamification elements – like leaderboards, badges, scoring systems, etc. Though, it looks logical, it is not sustainable in the long run when multiple applications have to be gamified.



The Trio: An Integrated Experience

The approach illustrated in the previous section is not sustainable because the solution is not re-usable. The solution logic to process, store and maintain a scoring system can be designed outside of the web application architecture and exposed as APIs. As an architectural best practice, it is important to apply the 'separation of concerns' principle. Therefore, a gamification platform must be built and made available to applications with the means of a web service API. This approach follows the service-oriented architecture (SOA). This is illustrated in the diagram below:



The approach makes it extremely easy for web and mobile channels to consume gamification APIs using standard web service interfaces. Moreover, from an overall architecture perspective, there is a clear separation of concerns between core logic and gamification logic. The diagram also illustrates the benefit of having the entire IT landscape service enabled, so it is easy for extracting data from partner applications. Integration with partners is important for businesses from a gamification perspective. It allows creation of an attractive scheme where scores can be increased based on a transaction in a third-party website. This creates a win-win situation for both businesses.

SOA allows you to customize and optimize customer experiences in near real-time using the integrated Trio. By re-organizing your IT assets and capabilities into loosely coupled services, it is possible to tailor the customer experience based on current market need. SOA not only acts as an enabler for mobility and gamification, which are latest trends today, but also creates opportunities for other customer engagement channels of the future that are yet to be invented.

Torry Harris Business Solutions (THBS) is a niche provider of IT consulting and services in the areas of SOA, Mobile, Cloud and Big Data. Our differentiator is to add value to our customers' offerings with focus on User Experience. We consider gamification as a means to enhance the experience of our customers' end users with SOA/Integration as the backbone.

THBS provides software services to enterprise clients across different industry verticals through a combination of offshore and onsite services. The quality management system practices and processes at THBS have been assessed at CMMI level 3 and the security management system is ISO 27001 certified.

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