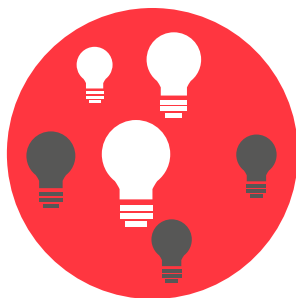
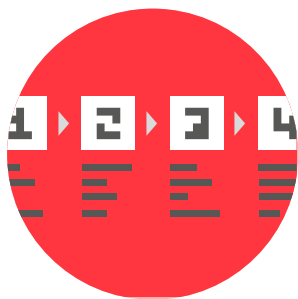
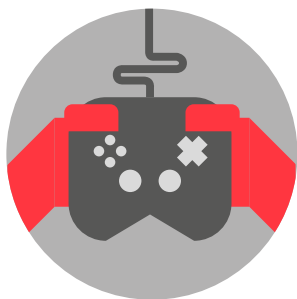




Ysmar Vianna
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Bruno Medina
Samara Tanaka



Recreating companies
through games



GAMIFICATION, INC.

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Recreating companies through games

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I'm very pleased to be writing about MJV Press' release, dedicated to the use of game mechanics in the business context. This book is written by an IT consulting team whom apply games to their customer's work processes in an innovating and pioneering way. In 2011, Gartner predicted that by 2015 more than 50% of innovation managing organizations will insert game methods to their processes and procedures, and more than 70% of the 2,000 largest companies in the world will be using, at least, one gaming application in their business. "Gamification" is the term in English, which defines the tendency to apply these mechanics to situations that are not just pure entertainment such as: "innovation, marketing, training, employee performance, health and social changes" - says Brian Burke, one of our collaborators.

The objective of game application into business context is: to obtain a high level of employee commitment, to facilitate the introduction of changes in the organization and stimulate innovation.

According to Gartner's analysts, games help achieve higher employee engagement through:

- Speeding up performance assessment cycles, causing employees to faster adapt to changes needed in the organization;
- Clarification inherent the objectives and rules of games, removing ambiguity and uncertainties in work procedures;
- Submitting a more persuasive narrative to performed tasks, while generating more engagement;
- Breaking down large tasks into shorter ones that can be achieved in short term, keeping employees engaged throughout the project.

In this book, you will find many examples applying these principles in Brazilian cases, and a practical methodology for immediate application to business context. Gartner has been following the process of implementing games in companies worldwide, and is convinced about the emergence of a professional community dedicated to this purpose as well as in Brazil.

Enjoy reading!

Márcio Krug
Gartner Brazil - President

Introduction

“Gamification means the use of game aspects in activities other than just pure entertainment.” The elements of this approach and its cases are the subject of this book. We aim to portray a contemporary vision of this new use of technology in companies' environment, regardless of its size, in order to support the objectives of their development. From this point of view, the use of games as part of work inserts a social component to the corporation's operations, consistent with the current use of technology out of the professional context.

Games are a modern model of people's self-organization to achieve a goal. Companies' operational structure and models have been the same since the 19th Century, based on hierarchy, bureaucracy and specialization of labor in order to scale and achieve efficient results. This model requires clearly defined roles and responsibilities, accurate procedures and management based on leadership and control, like in military organizations. However, in the modern world, these models restrain individual capability, the way tasks are demanded and the commitment with professional goals. Information Technology has created the possibility to organize work in a different way – through social aspects – and games are the platform that best fits as a tool for this new trend.

The common social platforms in the modern world allow people to interact, but they're not sufficient enough to achieve the purpose of organizing work. When using games, social platforms are amplified, allowing specialized content to be shared, powered by the context of use and by the communities around it. It's possible to change companies' tasks by introducing the social dimension of work from games that bring motivation, engagement, and personal satisfaction. Gradually, work platforms, such as software's and websites, besides their own business models, have been changed by the introduction of games mechanisms, creating new science, which we will hear a lot about in the upcoming years.

MJV is pleased to participate in this transformation as a pioneer in viewing the corporate use of games. This book has been prepared by a

team that includes experts in many different areas, as a result of years of experience with practical application on this new work platform. We sincerely hope to contribute to the rapid new development in this sector.

Ysmar Vianna
Maurício Vianna

Regardless the size or geographic location in today's world, organizations are invariably ruled by the symbiotic relationship between the constant market variation and the consequent attempt to overcome them through structured procedures along the way. The most visible side of this inglorious battle is known as organizational culture. Roughly speaking, we can say that the culture of a company merges with its historic peculiarities, as well as the people who helped write it.

To keep themselves profitable and overcome daily problems, companies usually need to challenge essential paradigms to its work flow which can determine not only the rhythm of the daily operations but also the directions for the coming years. Considering an extremely volatile scenario, as a result of fierce competition on conquering consumers who are even more aware of their needs, it is quite impossible to maintain a corporate strategy that is not aligned with the constant search for innovation. It's in this context that Gamification is inserted.

When it comes down to it, the more experienced readers ask themselves: Did I understand this correctly? So, the suggestion here is to use games to solve my business issues? The answer is "yes". For those who didn't consider this answer absurd and decided to give the authors a vote of confidence, we sincerely appreciate it and can see that we are not alone.

In a report published in 2012, the Gartner Group announced that by 2015 about 50% of all global innovation process will be "gamified". In 2016, according to the study, the Gamification market will be around \$2.8 billion. Need more numbers? In the approach delivered by American MTV with the Y Generation (people born from 1980 to 2000) half of respondents state that people their age see real life as a video game [1]. This group now represents 25% of the economically active population worldwide. This means that a quarter of the wealth of the planet is generated by people who grew up jumping on mushrooms, fighting monsters to save princesses, taking bolides in surrealistic circuits and exchanging coins for extra lives. More than just being

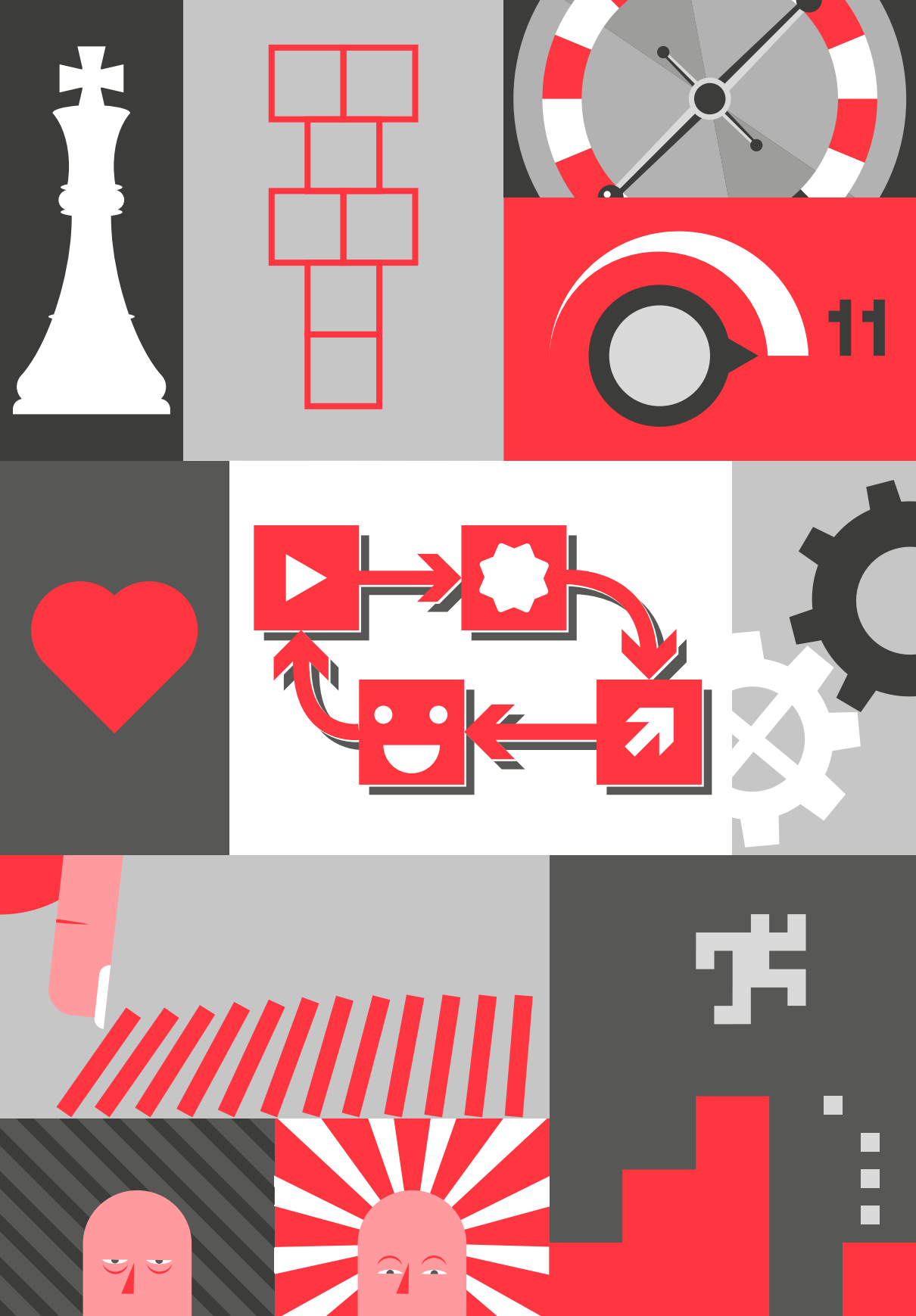
familiar in the language of games, these former children, that today occupy prominent positions in large companies, certainly do not see the deadlocks imposed to their careers in the same ways as those who designed the procedures, which they need to undergo to overcome professional obstacles. From this apparent inconsistency comes the certainty of an invisible gap between beliefs and expectations, regarding organizations and a considerable portion of their employees.

So, the challenge this book intends to face is set: considering the mechanisms originated by games, in contrast with current organizational procedures, as well as the way they influence the daily routine of the people involved, gamification can be used by companies to **engage, socialize, motivate, teach and retain their contributors and customers in an efficient way.**

In addition to this purpose, we should consider a second question, equally or more relevant than the first one: what aspects from the world of games, could be translated into the reality of organizations, in order to bring them closer to this new way of thinking which the assimilation seems essential to understand the world today?

Bruno Medina
Samara Tanaka

[1] Shore, Nick. "Millennials Are Playing With You" Hbr Blog Network, 12 December, 2011.
<http://blogs.hbr.org/2011/12/millennials-are-playing-with-y/>



1

First things first, what's Gamification?

Gamification is the use of game mechanics oriented to solving practical issues or to engage specific groups or audiences. By increasing frequency, these sets of techniques have been applied by several companies and entities from many segments as alternatives to traditional approaches, especially to encourage people to adopt certain behaviors, to get to know new technology, speed up their learning and training processes, and turning some tedious or repetitive tasks into pleasant ones. In recent years, game designers worldwide have dedicated their efforts to apply gaming principles in different areas such as health, education, public policies, and sports or to increase productivity.

The term "Gamification" was first used in 2002 by Nick Pelling, British computer programmer and researcher. The term became popular a mere 8 years later, in a TED speech presented by Jane McGonigal, an American world-renowned game designer and author of *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. Jane's argument grabbed the world's attention with the perception that if we sum up all hours players dedicated to World of Warcraft (traditional online game that has been running since 2001), 5.93 million years could have been spent on solving problems in a virtual world. Indeed, the number seems absurd, but it is actually correct: in the entire history of mankind on planet Earth, from the manifestation of our earliest primate human ancestors up till now, has developed itself in a shorter period of time than the total sum of hours that was spent in the fantastic world of Azeroth by its faithful admirers up until 2010.

It's worth thinking about the results that could be obtained, for example, if the same effort was applied to solve real world issues such as, the eradication of extreme poverty, global warming, mobility in big cities or research for healing a severe disease.

Fact, in 2011 Washington University's researchers were on the news because of the game "Foldit", a crowdsourcing [2] game instructed to gather group effort from thousands of anonymous participants,

motivated by the challenge in trying to understand how specific proteins could be used against Aids. The activity attracted 46,000 participants - the majority without any connection in the medical area - which in just 10 days solved a puzzle that took scientists 15 years with no success. This kind of initiative is referred to as *Serious Games*.

The gamification development comes from a somewhat obvious finding: human beings are strongly attracted to games. Over the centuries, most all known civilizations have been associated in a competition very important to social structuring of the community which they belonged to. Besides the most predictable examples, such as Greeks (Ancient Olympic Games), Romans (gladiator duels, chariot races) and Aztecs (Mesoamerican Ball Game), there is still a surprising amount of evidence [3] that supports these facts that occurred about 3,000 years ago in Lydia, a region located in ancient Minor Asia. In the times of climatic adversities, Atys, king at the time, established an unusual practice of food rationing: to intercalate game days - when eating wasn't allowed - and no game days - when eating was allowed. This policy lasted 18 years and it started by chance, from the perception that: when involved in long hours of competitions group members simply lost their interest in food. Continuing on in the same theme, renowned game designer Chris Crawford [4] described an interesting theory about evolution, the act of playing inserted in the species evolution context. By observing, for example, the way crocodiles or other reptiles hunt, one can notice that in these animals this action is made by an extremely simple mechanism consisting of three well-defined milestones: first of all they choose a place to hide, then they wait for the prey of their interest and only then they attack. The procedure is considered locomotors learning, since there is almost no brain activity involved. Mammals, on the other hand, have developed a more sophisticated method, sequenced in five steps: they prowl searching for their prey and, once they find it, they keep lurking, trying to get as close as possible. When they get close enough to pounce, they attack, which invariably involves the prey's chase and subsequent capture. Note that this way of hunting demands more brain activity than the one used by reptiles because it involves some sort of strategy, the same required by these animals to prevail upon their prey, even when bigger than themselves. And how did mammals learn this? They learned it through the exercise of playing. On herbivores, the relationship between playing and surviving occurs in a more visible way: because running is the best defense against predators, when they are not fighting for their lives, they are having fun jumping and kicking - which can even scare wolves, for example - running off through the field. For ancestral humans, one of the main ways of getting food was basically

consisted of throwing objects towards their targets. Maybe that's why we still love throwing objects: stones in water, spears, hammers, basketballs, volleyballs, footballs etc.

Due to this, it's natural that not just games but the act of playing has been, for a long time, topic for many academic discussions. During the 30's, a Dutch historian named Johan Huizinga, in his book *Homo Ludens*, [5] brought a significant contribution to related researches when stated the need of understanding the game beyond the entertainment aspect. By his theory, Huizinga shows how the act of playing is inserted in several social relationships, such as politics, work, poetry, and even nature. From the author's concept, games are considered artifacts that build dialogical and dialectical relationships with the subjects through its singular and distinct ways of interaction. Therefore, the act of playing has a meaning beyond entertainment. It presents its importance as a cultural element when: the game is more than a physiologic phenomenon or a psychological reflection. [6] It goes beyond physical or biological activity. It's a significant function. There is something in the game which transcends the immediate needs of life and gives meaning to the action. Every game means something.

But how exactly can games help the understanding or even the adaptation to changes in daily life? Also, for instance, what is the significant contribution to the business world, given that as a legitimate cultural element, games contribute to our cognitive, emotional and social development?

Perhaps the first step towards understanding the phenomenon that games represent may be related to the famous "Theory of Hierarchy of Needs", developed in 1943 by the American psychologist Abraham Maslow.

According to the study, human needs can be grouped in pyramid levels suggesting that the journey to self-fulfillment of any individual is only as successful as when the achievement of their desires occurs in an ascending order, starting from the most basic desires to the most complex ones. At the baseline of the pyramid are the physiological demands, such as eating, breathing and drinking water; followed by the demands related to security, love, self esteem and, finally, personal fulfillment, having a sense of morality, being creative and being spontaneous in relationships.

According to the suggested logic, the act of playing would be obviously related to the top of the pyramid, since it is considered as a desirable activity but not essential to survival. The point here is: the more individuals, societies and life itself become complex, the more the need for even more complex mechanisms becomes to experience

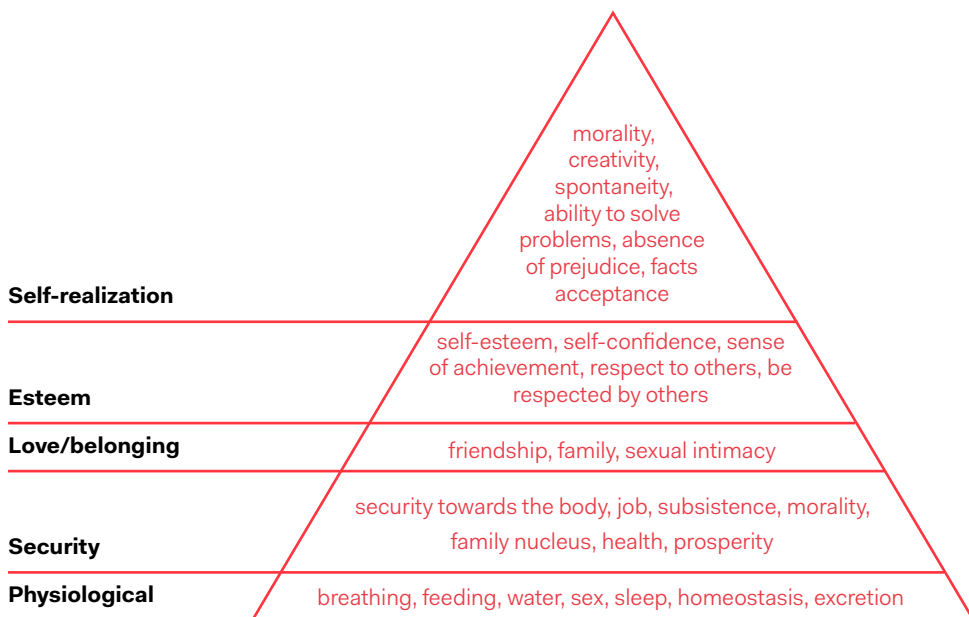
[2] Crowdsourcing: Model of collaborative production that put many people together, personally or virtually, to mitigate impasses, create content or develop solutions.

[3] MCGONIGAL, 2012

[4] Lecture conducted in Cologne Game Lab, 2011. Source: [youtube.com/watch?v=5LoMmcJA2JY](https://www.youtube.com/watch?v=5LoMmcJA2JY)

[5] HUIZINGA, 2001

[6] MASTROCOLA, 2012



the feeling of satisfaction in every day life. In our work or in personal relationships, the rules are often hazy; undefined goals, and the way to achieve them - unknown. Actions do not receive feedback, and rewards may take more time. Therefore, it is comprehensive that we have created games, as they satiate in a simpler, faster, clearer and more efficient way of constant search to conquer or achieve objectives.

At the end of 70's, Bernard Suits, in his acclaimed book

The Grasshopper: Games, Life and Utopia, defined the matter properly: "A game is a voluntary attempt to overcome unnecessary obstacles." Like in the game of life, winning and losing are quite subjective concepts; "unnecessary obstacles" assume the role of providing us some certainty among many assumptions. The relation and association between the games mechanisms with human behavior will be deeper explored when the players profiles and the motivations that sensitize them are presented.

Although games are an inevitable starting point to understand gamification as a methodology, it is worth saying something that will be fundamental to absorb this book's content in a more profitable and assertive way: although it is one of the most celebrated themes of the moment – gamification – as a concept has been systematically misinterpreted. It is wrong to think that it is science that focuses on the act of creating games, but yet a methodology through which

game mechanisms are applied to solve problems or impasses in other contexts. Wikipedia definition:

GAMIFICATION: use of game thinking and game mechanics in several contexts with the objective of improving participation and generating engagement and commitment from potential users.

In general, gamification application indicates situations that involve creation or adaptation of user's experience to a particular product, service or process; the intention to awake positive emotions, explore personal skills or engage virtual or physical rewards to complete tasks. Other than Serious Games, and according to its more acclaimed definition, to submit to a gamification process doesn't mean to participate in a game, but yet take over its most efficient aspects (aesthetic, mechanics and dynamics) to emulate benefits that are usually reached by it.

According to Yu-kai Chou, [7] probably the most respected gamification guru nowadays, the biggest contribution this methodology can offer to society would be human-centered design, in spite of design focused in function.

According to his theory, most of the known production systems are oriented to facilitate tasks performance in the shortest time possible. The simple fact that people who perform these jobs have feelings, insecurities and opinions about what is expected of them, or about how they should achieve their professional goals, already represents a shortcut to activate their self-motivations. This way of thinking about the organizational model can, for instance, lead to a cultural change in a department, or a voluntary acceptance of a new corporate process.

Also according to Chou, this is the reason for choosing the term "gamification", since, over the past four decades, the most notable brains in the gaming industry have been busy understanding how to motivate and engage people from the perspective of human behavior analysis. However, it's wrong to think that gamifying a process is just like reproducing a recipe. People generally do not behave as lab mice, which submit themselves without questioning and working for a piece of cheese.

Applying a well-succeeded gamification strategy is directly related to understanding the context where the user is inserted, and what their extrinsic (incited by the external environment) and intrinsic (self-motivated) expectations and constraints.

It is also noteworthy that we only get engaged in long term with games that make sense, emphasizing the importance of creating

[7] Source: yukaichou.com

71%

of Americans do not
feel motivated by
their work

=

us\$ 350 bi injury [8]

1

BILLION

active players
nowadays

100

MILLION

hours:

time to build
Wikipedia
knowledge

=

3 weeks

playing Angry Birds

=

7 days playing
Call of Duty

92%

0-2 children already
playing

arguments and weave feasible narratives, i.e., related to the reality of the target audience.

But, what about *Candy Crush*? *The story of a candy factory that could not be more foolish and unrealistic, and yet it's played by millions of people every day*, the reader may think. We must note that games like Candy Crush, Draw Something or SongPop, are a few that became extremely popular in a very short period of time and are nothing more than entertainment for their users while they wait for the subway or at the dentist. Unlike games designed strictly for entertainment, gamification uses game mechanisms to modify or develop new behaviors.

Nevertheless, this is never an easy goal to achieve. Investigating our routine and searching for new methods to apply gamification for many different purposes, each of us could create a list of initiatives that nobody cares about. You just need to think that, in theory, any game has "game elements", but this doesn't turn them into great games.

Paraphrasing Mario Herger, another gamification guru, gamifying a bad application only causes it to become an even worse one. [9] As the methodology achieves popularity, it is not difficult to predict a scenario in which scores, leader boards and wide badge distribution will be omnipresent, even being little or not effective at all, considering the real goals that were initially intended.

Even before considering gamification as a possible approach to the problem needing to be solved, it's necessary to keep in mind three questions, that if properly answered, often largely increases the chances of projects to succeed. The questions are: [10]

1. Why would a gamification strategy benefit the users?
2. What are the business purposes behind this gamification strategy?
3. How will game mechanisms enable users to reach the business purposes?

Next, we will present some examples from various areas, to measure the potential benefits that could be achieved by gamification.

Education

Duolingo

Duolingo is a collaborative online platform that combines free language learning and a crowdsourcing-based translation service. The system was designed so that, by studying a particular language, the student, even without being fully aware, helps translating

websites and online documents. Beginners start the course translating simple sentences and, according to their progress, they receive more complex texts, and so on. The platform users are then asked to rank their colleagues' translations, giving valuable feedback on understanding and learning from the work they've done.

While evolving their knowledge, the students receive points by the completion of specific tasks, and some of them include time constraints or are mandatory to "get to a new phase". Wrong answers result in losing points and "lives" as well as delaying the game's progress. Since the system is adaptive, each student has a learning experience that's absolutely customized to their needs, once the challenges are set according to their performance. It's interesting to observe how efficient the model is, considering that, despite Duolingo users are technically working without compensation, they don't seem to mind.

Financing Sector

Rabobank [11]

According to prevailing logic, words like "Bank" and "entertainment" are not to be used in the same sentence, at least before Rabobank — German financing institution acting in 48 countries, with assets up to € 770 billion, adopted gamification as a tool to boost their business. The first step on this journey was to use Serious Games to promote business on TV shows or to potential clients (actions geared towards 8-16 y/o audiences), but the project that really stood out from this strategy was chosen by the bank that was related to mortgage requests. The way the process was structured, a proponent needed to submit about 30 documents to the bank before getting access to the money. The intention of the project's developers was that the client could submit them online, without the need to deliver any paperwork to the agency.

By introducing the practice of providing feedback for each upload, the released amounts were more precisely defined and brought much less risk to the institution. The loan requesters were clearer about the process milestones, which reduced anxiety levels and consequently the need for more interaction with bank's staff. While customers witnessed this process as a type of competition for efficiency and quality of the data provided, its time length was reduced and became more assertive. The conclusion is that currently, 80% of mortgage requests are made through online system, significantly reducing the bank's process cost.

[8] Source: gallup.com/poll/150383/majority--american-workers-not--engaged-jobs.aspx

[9] HERGER, 2013

[10] Adapted from: enterprise-gamification.com

[11] For more information access enterprise-gamification.com/index.php/de/finanzwesen/144-rabobank-how-a-dutch-bank-wins-with-gamification

Health / well-being

SuperBetter [12]

Developed by Jane McGonigal's personal experience (years ago, the game designer had an accident that caused a serious concussion, which abruptly interrupted her career and endangered her life), this is a tool created to help severe patients to progress, improving their clinical conditions. Doctors, Psychologists, Scientists and researchers were involved for almost two years on the game's design, with the main objective to strengthen the physical and emotional condition of patients, by means of resilience. Keeping fit, changing one's diet and including exercise are already hard tasks for people in good health conditions. Imagine for those whom are somehow debilitated?

Therefore, when starting the game, users need to establish a goal and determine how to achieve it. By completing tasks and inspiring others with their progress, the player gains points in different areas of their profiles, such as mental, emotional, social etc. It's possible to submit themselves to specific guides that determine tasks like: walking around the block and dancing to your favorite song or even defeat "villains", for more than one hour, sitting on a chair or driving short routes that could be completed on foot. In any case where the player may need help, they can ask for support from their Facebook friends, or even get connected to other players from SuperBetter. Therefore, the battle against severe diseases should turn into an exciting competition where quality of life is the most valuable Prize.

Retail/e-commerce

Woot.com [13]

O Woot.com is a retail website which shows a quite peculiar business model: Only one daily offer available in a limited amount. The goods are updated at midnight sharp, meaning that: if customers really want to buy the website's items, they need to submit to its difficult rules. Because each product has limited availability and its availability is unknown until the moment the offer is posted; it's evident that these factors enforce the potential purchaser's impulsiveness.

After all, they know that staying up late on a workday can result in a big disappointment or the possibility of purchasing the item they always longed for, at an unbeatable price.

After submitting to the process for a few nights, most visitors change their real interest for the offered product to the sensation of

finally purchasing anything. In this case, the purpose is to over value the offer and get its advantage from the customer's impulsive nature to close the deal. Apparently, for some Woot.com clients, what really matters is to win the "competition" no matter what.

Technology/social

Game with a Purpose [14]

This website uses crowdsourcing and gamification to engage Internet users to train computers to answer researches in a more accurate manner. One of the available games is called Esp Game: two people look at one picture on their screens and type as many words as possible to describe the image. Once the provided descriptions by both players match, they earn points and go to the next level. The matched definitions turn into tags that help players categorize pictures to facilitate future research processes.

By observing these cases, and the way gamification can be applied as a structured process to achieve specific goals, we continue on to the next chapter where we will dive further into the essential aspects for using game mechanics properly. So, before getting down to work, we feel it is necessary to go back to the beginning, to understand exactly what makes a game, a good game.

[12] For more information access superbetter.com/about

[13] For more information access woot.com

[14] For more information access <http://www.gameswithpurpose.org>