# SCENARIO GAMIFICATED PROPOSED TO THE VIRTUAL LEARNING ENVIRONMENT TEAR\_AD

Katielen Bissolotti<sup>1</sup>, Alice Theresinha Cybis Pereira<sup>2</sup>,

Universidade Federal de Santa Catarina, Florianópolis, Santa Catarina, Brasil, 88040-900

<sup>1</sup>kaathyie@gmail.com, <sup>2</sup>acybis@gmail.com,

Keywords: gamification, prototype, virtual learning environments

#### 1 Context

There is a long history of use of the fun and games to motivate people and make the work more enjoyable. Since 2010, the term gamification is a recent addition to the vocabulary, before that, a few designers and researchers who have worked with computer applications by adding games and fun. Malone [1], created the "Heuristics for designing enjoyable user interfaces", where he analyzed the capabilities of computer systems based on three categories: challenge, fantasy and curiosity, and that much of the motivation for the use of the systems depend on user motivation to achieve the goal.

With the development of research in the area of user experience (UX) - deals with the satisfaction of human needs (HASSENZAHL [2]) - the last two decades, researchers have considered the role of fun and the game in the user experience. The idea of this use of recreational software, was that instead of doing just useful interfaces, it could also be fun to use, causing positive emotions and feelings through features such as sound, graphics and challenges, thereby enhancing the user experience the software

Thus, in order to advance understanding of such features, this article presents a proposal for a low-fidelity prototype, the virtual environment TEAR\_AD learning with gamification elements. Looking up the latest knowledge produced on the subject, we discuss the concepts of gamification elements of games and design-centered player. Thus, in order to define variables for a comparative study, some projective stages of the project were developed and is found in full in the dissertation the author. It is noteworthy that this proposal does not involve the rest of hypermedia and yes, the inclusion of gamification elements in TEAR\_AD.

#### 2 Method

In order to promote action research was conducted by the TEAR\_AD project, the process of developing a low-fidelity prototype, the virtual learning environment with gamification elements. Among those mentioned elements are developed and selected in other steps of the practice and which is available in integrality on the dissertation by the author. According to Rogers, Preece and Sharp [3] the "low-fidelity prototype is one that looks a lot like the final product." The authors also state that this type of prototype tends to be simple, inexpensive and fast production and not intended as a final product, which only serves as operating and design ideas.

Thus, in order to define variables for a comparative study, some projective stages of the project were developed by designers and then sent to the author of this research. Due to this fact, this step is characterized as an action research, the involvement of the researcher in part of the process. However, it is noteworthy that this proposal does not involve the rest of hypermedia and yes, the inclusion of gamification elements in TEAR\_AD.

### 3 Results

For the proposed inclusion of gamification elements in TEAR\_AD was defined some elements: personalization, level, rewards, points, repeat or DoOver, feedback, ranking and integration. The process of design and construction of the interfaces involved a series of decisions. The first was the confirmation of gamification elements as satisfactory feature, nice, pleasant, interesting, etc. These features were pointed out as one of the possibilities of integration in the developed practices and you explain the thesis of the author.

The first step is gamificado has two elements inserted in TEAR\_AD system design. In this figure, the display screen corresponds to the creation of courses in design and elements introduced here will also be seen in other design interfaces. The first element incorporated to the system is the level, which will show the player where the experience of the system and also has a progress bar telling the count of points to reach the next level.

The second element included the system is the Repeat or DoOver, the element was inserted because it brings the player the permission that it fails to ongoing activity. This option is valid because "failure is an option, that [..] encourages exploration, curiosity and discovery-based learning" (KAPP [4]). Here, added the "Retry" button next to the "Back" button, this preference will be inserted in courses, activities and system Learning Objects.

Profile player were inserted five elements. The points earned by the player are displayed in full format won. There side of the frame to the rank two links, the first is a table about the points, tells the player how to achieve them; the second table is

shown the levels. Another element is the customization of the player's avatar, has the ability to edit the profile picture.

The reward received by the player are trophies won level. Zichermann and Cunningham [5] state that the rewards are great as incentive. On the screen designed for the system, rewards, points and levels are related. For when the player winning number of points, shall belong to the corresponding level, each level has its name and badge.

The Ranking is a list of the best scores in the system. In the picture is highlighted the "Leader" with the highest score, following the 2nd to 10th place. The last gamificado element inserted to the player's profile is the integration, which is the action of bringing a new player to the system. In the prototype was inserted the plug the Facebook social network, with a button to invite friends, will enable select the friends of the player of your social network and call to meet TEAR\_AD.

In another step, the last element inserted into the development process of lowfidelity prototypes of the virtual environment of learning with TEAD\_AD gamificados elements is identified. The Feedback learning or games is designed to evoke certain actions or behavior. It indicated the degree of right or wrong in a reply or action (KAPP [4]). It is designed so that the TEAR\_AD player system receives the result of an action or activity, stating the amount of points earned and if gain a reward, it is shown here, after fixing the reward in the photo of the player's profile.

In TEAR\_AD will also include other forms of feedback: alert messages to the player, positive messages and also negative messages.

#### 4 Conclusions

According to the study, the main contributions of this work given the low prototype of proposed loyalty, was a survey of the practice perceptions experienced in the development of interfaces that stimulated and encouraged reflection and evaluation of the inclusion of these elements in learning environments. It was identified that the main gamificados elements are those directly associated with the player's experience in the system.

How to improve user engagement with the system, has become a key challenge in designing intelligent environments. And with gamification is a new solution for better engagement with users

Thus, it was identified the need to implement strategies to complete the insertion of the elements and that will overcome future obstacles in development. Such strategies are related to the development of TEAR\_AD; monitoring of elements inserted with the players; management of change, if necessary (adding more elements, change the types of levels, points, etc.). It is noteworthy that these strategies described are affected by the large number of hits in the system. All other information is available in full in the dissertation of the author (2016).

## 5 References

- MALONE, T. W. Heuristics for designing enjoyable user interfaces: Lessons from computer games. In: Conference on Human Factors in Computing Systems - Gaithersburg, Maryland, United States, March 15 - 17, 1982. New York, NY: ACM. <a href="http://www.hcs64.com/files/Malone-Heuristiques.pdf">http://www.hcs64.com/files/Malone-Heuristiques.pdf</a>> Jan 2015.
- HASSENZAHL, Marc. User Experience (UX): Towards an experiential perspective on product quality. 2008. <a href="http://www.marc-hassenzahl.de/pdfs/hassenzahl-ihm08.pdf">http://www.marc-hassenzahl.de/pdfs/hassenzahl-ihm08.pdf</a>>. Mar 2015.
- 3. ROGERS, Yvonne; PREECE, Jennifer; SHARP, Helen. Design de Interação: Além da interação homem-computador. 3. ed., Porto Alegre: Bookman, 2013.
- 4. KAPP, Karl M. The gamification of learning and instruction: Game-based methods and strategies for training and education. San Francisco: Pfeiffer, 2012.
- 5. ZICHERMANN, Gabe; CUNNINGHAM, Christopher. Gamification by Design. Implementing Game Mechanics in Web and Mobile Apps. Canada: O'Reilly Media, 2011.