

User-centered gamification: how to design, develop and evaluate it

Ana Carolina Tomé Klock
Federal University of Rio
Grande do Sul
Porto Alegre, Brazil
actklock@inf.ufrgs.br

Isabela Gasparini
Santa Catarina State
University
Joinville, Brazil
isabela.gasparini@udesc.br

Marcelo Soares Pimenta
Federal University of Rio
Grande do Sul
Porto Alegre, Brazil
mpimenta@inf.ufrgs.br

PRESENTATION

Gamification is the use of game elements in contexts which the main purpose is not playful and it has been widely applied in order to motivate and engage users [5][11]. However, since each user has different characteristics, the user experience during the interaction with these game elements becomes singular and it does not always have the expected outcome. Many studies point out the influence of users profile on the effectiveness of gamification in relation to the purpose of its application [1][2][4][3][6][7][9], but surprisingly little has been explored about the processes of design, development and evaluation of the user-centered gamification to promote a better user experience and, consequently, a greater motivation and engagement [8]. Thus, this course aims to cover personal, functional, psychological, temporal, playful, implementable and evaluative properties of gamification in order to enable the participants to design, develop and evaluate a user-centered gamification, while allowing the improvement of the gamification results. For this, the methodology to be employed by this course involves two parts: theoretical and practical. In the theoretical part, the exposition of concepts related to gamification will be carried out, followed by examples, in an interactive way with the participants. In the second part, participants will be invited to bring examples of scenarios that they would like to work on and the concepts presented will be put into practice so that the public can participate and share their experiences while designing the user-centered gamification.

EXTENDED SUMMARY

To achieve the expected results, the course will cover the following topics:

- **Gamification fundamentals:** include the concept, origin, MDC (Mechanics-Dynamics-Components) framework and common game elements applied;
- **Gamification personal aspects:** explain the users' characteristics that can influence the gamification results, such as

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sex, age, game preferences (i.e., player type), personality traits, and culture;

- **Gamification functional aspects:** comprise the application domain and the tasks to be performed by the users, which will be exemplified in educational context;
- **Gamification psychological aspects:** describe the emotional influence of gamification, comprising some stimuli as motivation, engagement and fun;
- **Gamification temporal aspects:** consist of the interaction evolution with the gamified application (i.e., player journey) and the use of regular reinforcements to motivate users and keep them motivated (i.e., schedules of reinforcement);
- **Gamification playful aspects:** relate the MDC framework with the previous gamification aspects, explaining how to design the user-centered gamification step by step;
- **Gamification implementable aspects:** illustrate the development process with the Lifecycle Model for Interaction Design [10], but any Software Engineering (e.g., Waterfall) or Human-Computer interaction (e.g., Star) model can be adopted, according to the skills and knowledge of the development team;
- **Gamification evaluative aspects:** present the evaluation based on a protocol, defining the hypothesis and metrics, collecting data with the users' consent, and using statistical methods (with R) to refute or accept null hypothesis.

TARGET AUDIENCE

This course will attract, among others, the following public:

- Academics and Professionals who are interested in learning about gamification fundamentals and how to apply it;
- System Analysts, Designers or User eXperience Specialists looking for a way to make their applications more attractive or to promote the loyalty of users.

No prerequisites are required to attend this course.

AUTHORS' BIOGRAPHY

Ana Carolina Tomé Klock is a PhD Candidate in Computing at Federal University of Rio Grande do Sul (UFRGS), while having a Master's degree in Applied Computing from Santa Catarina State University (UDESC). Her main interests

are Gamification, Human-computer Interaction, Adaptability, Games, and Education.

Isabela Gasparini is a Professor at Santa Catarina State University (UDESC). She received her PhD and Master's degree in Computer Science from Federal University of Rio Grande do Sul (UFRGS). Her main interests are Human-Computer Interaction and Education, focusing on Adaptability and Personalization, Usability Evaluation, User Modeling, Technology Enhanced Learning, Gamification, Data Analytics, Context-aware Systems, and Cultural aspects.

Marcelo Soares Pimenta is a Full Professor at Institute of Informatics (INF), Federal University of Rio Grande do Sul (UFRGS), in Brazil. He is head of LCM, the INF-UFRGS Computer Music Laboratory. He received his PhD in Informatique at Universit Toulouse 1, France, in 1997 and the bachelor and master's degree in Computer Science at UFRGS in 1988 and 1991, respectively. Since 1998, he is member of a multidisciplinary research group at UFRGS working with topics in Human-Computer Interaction, Software Engineering, and Computer Music with emphasis in the integration of these areas.

COURSE DURATION

Three hours.

COURSE LANGUAGE

English (Portuguese is an option if it is the preference of all attending participates).

INFRASTRUCTURE AND MATERIALS NEEDED

Projector, Notebook with USB input, and stationery materials (e.g., blank or recycled sheets of paper, colorful pens - purple, blue, green, red, pink, orange, yellow and black ones, and post-its).

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