World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:11, No:06, 2017

A Gamification Teaching Method for Software Measurement Process

Authors : Lennon Furtado, Sandro Oliveira

Abstract : The importance of an effective measurement program lies in the ability to control and predict what can be measured. Thus, the measurement program has the capacity to provide bases in decision-making to support the interests of an organization. Therefore, it is only possible to apply for an effective measurement program with a team of software engineers well trained in the measurement area. However, the literature indicates that are few computer science courses that have in their program the teaching of the software measurement process. And even these, generally present only basic theoretical concepts of said process and little or no measurement in practice, which results in the student's lack of motivation to learn the measurement process. In this context, according to some experts in software process improvements, one of the most used approaches to maintaining the motivation and commitment to software process improvements program is the use of the gamification. Therefore, this paper aims to present a proposal of teaching the measurement process by gamification. Which seeks to improve student motivation and performance in the assimilation of tasks related to software measurement, by incorporating elements of games into the practice of measurement process, making it more attractive for learning. And as a way of validating the proposal will be made a comparison between two distinct groups of 20 students of Software Quality class, a control group, and an experiment group. The control group will be the students that will not make use of the gamification proposal to learn software measurement process, while the experiment group, will be the students that will make use of the gamification proposal to learn software measurement process. Thus, this paper will analyze the objective and subjective results of each group. And as objective result will be analyzed the student grade reached at the end of the course, and as subjective results will be analyzed a post-course questionnaire with the opinion of each student about the teaching method. Finally, this paper aims to prove or refute the following hypothesis: If the gamification proposal to teach software measurement process does appropriate motivate the student, in order to attribute the necessary competence to the practical application of the measurement process.

Keywords : education, gamification, software measurement process, software engineering
Conference Title : ICSEA 2017 : International Conference on Software Engineering Advances
Conference Location : Vienna, Austria
Conference Dates : June 21-22, 2017