

ABSTRACT

Explanatory note size – 137 pages, contains 18 illustrations, 32 tables, 7 applications, 26 references.

Topicality. This work examines the problem of gamification in software engineering education. Gamification is defined as the application of game technologies and methods to non-gaming activities to engage and motivate people for better results. A need has been identified to improve existing gamification methods and adapt them to the specifics of software engineering education.

The aim of the study. The main goal is to investigate the usefulness of gamification in software engineering education.

The object of research: educational process in software engineering.

The subject of research: methods and tools for gamifying the educational process in software engineering.

To achieve this goal, the **following tasks** were formulated:

- study the state of research on methods and tools for gamification in software engineering education through literature review;
- improve the method of gamification in software engineering education by adapting it to the specifics of relevant disciplines;
- create a software tool by applying the improved gamification method;
- demonstrate the usefulness of gamification and the functionality of the gamification tool in a real educational process.

The scientific novelty of the results of the master's dissertation results lies in the improvement of the Octalysis method for gamifying the software engineering educational process by expanding and customizing the game elements of the method to the specifics of software engineering education, which confirmed the usefulness of gamification.

The practical value of the obtained results is that the improved method of gamification in software engineering education can be applied not only in the educational process of higher education institutions for specialty 121 but also in professional and general secondary education, training courses, etc.

Relationship with working with scientific programs, plans, topics. Work was performed at the Department of Informatics and Software Engineering of the National Technical University of Ukraine «Kyiv Polytechnic Institute. Igor Sikorsky».

Approbation. The scientific provisions of the dissertation were tested at the VII International Scientific and Practical Conference of Young Scientists and Students «Software Engineering and Advanced Information Technologies (SoftTech-2024)».

Publications. The scientific provisions of the dissertation were published in:

1) Hordiienko M.P., Sydorov M.O. Method and Software Tool for Gamification in Software Engineering Education. Materials of the VII International Scientific and Practical Conference of Young Scientists and Students «Software Engineering and Advanced Information Technologies (SoftTech-2024)». Department of Informatics and Software Engineering Section. November 20-22, 2024. Kyiv.

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