

IMPROVING TEACHING USING A GAME ENGINE

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Abstract: *All IT teachers know how difficult it is for students to acquire desktop development knowledge that is necessary for an individual to be competitive in the labour market. Being familiar with a game engine can be very profitable and it can also be combined with knowledge derived from desktop programming, such as C# taught at ICT College.*

In ICT College for vocational studies, students acquire programming skills for desktop and web. It turned out that web development is easier for the students, and many related schools had the same experience. In order to make it easier to master C#, which proved to be difficult for students, we tried various changes – increasing the number of exercise classes, having smaller groups of students on the

exercises, dividing subjects in order to reduce the volume of materials, but it turned out that the gain was extremely modest, while school expenditures were highly increased. Understanding how important personal motivation is in mastering a skill, we sought ways to raise student motivation. Through interviews with students, we found out that market demand for this kind of knowledge is not sufficient, but it is also important for them to do something they like and that occupies their attention. Students are therefore more receptive to web development because they can quickly see the results of their work, which is not the case with classic desktop development. Linking desktop development and software games, that students are rather familiar with, proved to be a great motivational move.

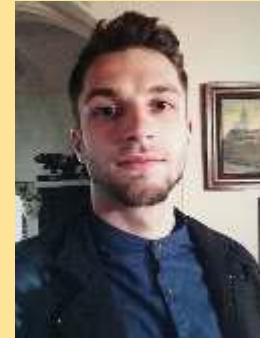
Software games can be viewed both as desktop development and as a web application, which is an interesting mix for our students. Through certain projects, that students choose themselves, using the game engine, the students apply existing knowledge and acquire new ones that are required and well paid in the labor market. By making a game for a teaching project, the student gets acquainted with the game engine environment and gets new competencies in a very short time. One of the most important benefits is the personal satisfaction of the student, as well as his motivation to learn more. Increased enthusiasm of the students facilitates learning of an objectively difficult subject.

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At the moment the most used engine is Unity, as it is one of the best free game engines, and it is free as long as the developer does not earn on the products made in it. The concept of the game, the characters within the level, their animations and effects can be developed in the Unity game engine, a platform for making games and simulations. For defining the movement engine of the players, opponents on the map, missiles thrown by both the user and his enemies, etc., C# code can be used.

Key words: *Game engine, IT education, innovation in teaching, desktop programming, Unity*
