

Evaluation of a Web Application for Creating Games that Support the Learning of Programming Logic

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Abstract

Programming logic has become a component of the curriculum at different educational levels. While its practical value may sometimes be debated, studying programming contributes to the development of students' analytical and problem-solving skills, even when the acquired knowledge is not immediately applied in real-world contexts. Student learning outcomes are also strongly influenced by the instructional approach adopted. In particular, the use of visual programming languages as opposed to traditional text-based programming languages can significantly affect students' understanding of programming concepts and their overall learning experience.

The main purpose of this presentation is to show the evaluation of a web application for creating games that support the learning of programming logic. The objective of the games is to move a character across a board using block-based programming to collect all the objects placed on it. The web application was designed for two types of users: teachers, who can create games by specifying the board layout; and students, who play the games by specifying the sequence of commands to collect all the objects on the board. The presentation includes an analysis of some systems similar to the web application developed, including the technologies and tools used for its construction. Finally, it also shows the evaluation instruments that were designed for both teachers and students, considering three aspects: aesthetic design, usability, and functionality.

Keywords

Programming learning, assessment tool, web application, block-based programming, programming logic.