Review of Currently Adopted Intelligent Programming Tutors

Authors : Rita Garcia

Abstract : Intelligent Programming Tutors, IPTs, are supplemental educational devices that assist in teaching software development. These systems provide customized learning allowing the user to select the presentation pace, pedagogical strategy, and to recall previous and additional teaching materials reinforcing learning objectives. In addition, IPTs automatically records individual's progress, providing feedback to the instructor and student. These tutoring systems have an advantage over Tutoring Systems because Intelligent Programming Tutors are not limited to one teaching strategy and can adjust when it detects the user struggling with a concept. The Intelligent Programming Tutor is a category of Intelligent Tutoring Systems, ITS. ITS are available for many fields in education, supporting different learning objectives and integrate into other learning tools, improving the student's learning experience. This study provides a comparison of the IPTs currently adopted by the educational community and will focus on the different teaching methodologies and programming languages. The study also includes the ability to integrate the IPT into other educational technologies, such as massive open online courses, MOOCs. The intention of this evaluation is to determine one system that would best serve in a larger ongoing research project and provide findings for other institutions looking to adopt an Intelligent Programming Tutor.
Keywords : computer education tools, integrated software development assistance, intelligent programming tutors, tutoring systems