Dr SUST: Adaptive System for Programming Learning

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Abstract

Programming is a fundamental subject to computing students which is usually taught during their first year of study, and that will affect their whole studies. To excel in a programming course is a fairly complicated issue. Staff teaching programming subject realized that the course is time demanding and students required close follow up (in and out of class). If diagnosis of learning difficulties and timely help to students is not provided; struggle and frustration will happen. Personalized learning or adaptive systems that rely on user's model/profile could be designed to meet individual students' needs. We aim to build an adaptive system that provides students with the set of activities related to programming learning based on individual students' needs. Furthermore we tracked the students' different activities when using the system to define empirically the most practiced aspect of programming learning. The outcome of the system is in the form of log data concerning students' behaviour is made available for further study (navigation data set). Also suggested improvements to be integrated in the system are presented.