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Abstract

A Web-based Intelligent Tutoring for Elementary Algebra

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The use of computer in education has been more than twenty years. The goal is to enhance instruction of teacher and learning of students. However, in a traditional class, the ratio of teacher to student is still too great. The teacher is unable to serve all the students' need while the learning pace of students varies. The question of how to help all the students with limited number of teachers arises. Since elementary algebra is an important topic in junior school, it is selected to investigate the above question through the use of intelligent tutoring system (ITS). In this thesis, we first describe the background of ITS and how it might solve our question.

As Web becomes an important vehicle for distribution of information, a web-based intelligent tutoring system is an effective learning environment which combines the advantages of standalone ITS and the Web. The detailed design outline, the system architecture of our proposed system and the ways to overcome the challenges in building the system are mentioned in this thesis.

Keyword: web-based learning, intelligent tutoring system, elementary algebra