# A Study of Electronic Mathematics Authoring System


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**ABSTRACT**

There are some restrictions and difficulties in authoring and displaying math e-learning materials using the traditional math representations. To author a math problem, instructors have to suffer a very complicated editing and creating process; and then mathematic symbols and figures are shown on Web pages. The main shortcoming of such approach is that instructors can not easily revise the mathematic equations and figures on the Web pages. As a result, it substantially reduces the elasticity and the sharing of learning materials editing. Math figures based on image methods often causes distortion on screen when users interact with the figures by enlarging or shrinking. Consequently, the size of figures in displaying is not adaptable to fit users' need. To produce a figure or a math function, instructors have to spend much time on editing and creating process, which increases their burden. These problems will cause difficulties in creating electronic materials for Mathematics. To solve the problems of authoring and displaying math e-learning materials using the traditional math representations, we propose an Electronic Math Authoring System (EMAS) using MathML and SVG technologies. The system will provide an integrated interface for instructors to produce mathematic contents. Not only it allows instructors to edit mathematic equations and figures on-line directly, but also it offers a simple and elegant way to produce a complicate math function figure. Besides, the system provides the capabilities of e-Material management. It allows inserting, querying, modifying, and deleting electronic math materials from the e-material bank so that instructors can create math e-Materials more conveniently and easily.



Keywords : Math e-Learning, XML, MathML, SVG.


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