

## Interactive formula handling for UbiLearn Tutoring System using Maple Software

Philipp Maske, Thomas Schumacher and Michael H. Breitner

Institut für Wirtschaftsinformatik, Leibniz Universität Hannover,  
Königsworther Platz 1, 30167 Hannover, Germany,  
{maske;schumacher;breitner}@iwi.uni-hannover.de

**Abstract:** Mathematics as a subject has remained mysteriously difficult and unpopular for most people. This is despite the fact that no one is in doubt of its importance in almost all careers, especially in the science of economics and technological fields. Additionally, in a global perspective, mathematics is an important enabler for the worldwide development from an industrial society to a knowledge society and touches technological, economical, social and political impacts. A possible solution to make mathematical education more attractive is the use of modern E-Learning technologies which allow a convenient and flexible environment without restriction of learning space, distance and time. Unfortunately common mathematical software often lacks of E-Learning capabilities and common E-Learning platforms often lack of mathematical capabilities. Since fall 2002 the U(biquitous)-Learning system UbiLearn is developed at the Institut für Wirtschaftsinformatik, Leibniz Universität Hannover. Its modularity, flexibility and multiusability gives a adequate background to enhance it with mathematical capabilities. Secondary its ubiquity approach allows to enhance mathematical E-Learning with mathematical m-Learning on mobile devices. Currently research focuses on integrating interactive formula handling to the Web Based Training. Later it is planned to add Mobile Based Training on smartphones and PDAs.