

Interactive simulations for physics teaching

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Physics is believed to be a difficult subject for the students all over the world. In many countries, students are compelled to avoid taking Physics as a subject unless it is a compulsory for their course path. It has been shown that traditional teaching methods such as 'chalk & talk' and 'lecture plus laboratory experiments' do little to improve the conceptual understanding and more student-centered methods need to be utilized for effective teaching. With the development of computer technology, computers play vital role in Physics education and today there are many software packages, having potential to provide a better understanding of the subject. Further computer technology could be used to provide more information attractively with the aid of pictures, applets, video clips and many simulation programs etc.

The Sri Lankan students following Physics as a subject are not getting exposed to such environment due to the lack of computer facilities and the cost of Physics education software. However, opportunities to Sri Lankan students to use computers are growing fast. Therefore computer technology could be effectively used for education in the future.

The objective of this project is to develop Physics education simulations for tertiary level Physics education. Macromedia Director® technology has been used to develop the simulation and they have been embedded in the web pages with the view of uploading into the Internet. The CD version can be prepared for the users who do not have access to the Internet. In this presentation, simulations developed for the Motion under gravity, Electrostatics and Photoelectric effect are presented.