The Digital lab: a computer lab to replace microscopic slides by virtual slides

S. Hettige, D.I.K. Solangaarachchi, H.K.D.D. Thilakawansa, Prof. A. Pathmeswaran
Faculty of Medicne, University of Kelaniya, Ragama

ABSTRACT

Introduction
Traditional medical curriculum includes many laboratory classes where students learn to recognize microscopic structures and pathological changes by looking at prepared slides using light microscopes. The periodic preparation of identical sets of slides is not an easy task.The use of virtual microscopic slides as a cost effective solution to the use of traditional microscopes at lab classes in the Faculty of Medicine is described.

Materials and Methods
The digital lab is equipped with 65 PCs and a server. Server is run on Linux platform while the PCs have both Windows Vista and Ubuntu platform access. Moodle learning management system is used to deliver lessons that contain virtual slides prepared by the teaching staff. Open source virtual network computing software is used to mirror the teachers computer screen to students desktop when required.
The microscopic simulation of zooming is done by mapping area in the virtual slides in HTML pages to the correct slides that is available in another HTML page using <MAP></MAP> tag. This is done by using Amaya Web Editor. The traditional lab class teaching method is enhanced by adding Java scripts, audio clips, and video clips to the teaching materials.

Results Discussion
The teachers can upload the lesson to the server and make assignments via the LAN. The students are given access to the virtual material any time. The problem of vanishing slides near the exams will be also solved. We did not incur any expenses on software as we have used open source software and Windows OS through Microsoft Academic Alliance.