Promoting Mobile and Interactive Learning through the use of MMS Over Wireless LAN

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Abstract

Multimedia Messaging Service (MMS) has brought about a new era of mobile communication and is believed to be the one of the key driving forces of mobile data service business for 2.5G and 3G. Major advances in technology of instant messaging and the rapid evolution of the capabilities of mobile devices has made it possible to provide multimedia rich messaging application to mobile users.

This paper aims on introducing the new platform for mobile and interactive learning developed in Nanyang Technological University, which is targeted as an effective communication medium between the lecturer and students during lectures. The idea is to combine the advantages of mobile computing and messaging service to bring an interactive learning experience into classes. For this purpose, we have developed a system that allows instant feedback on teaching using MMS on the NTU's campus-wide 802.11b Wireless LAN.

In the overall picture, both students and lecturers will be equipped with an MMS-capable device (which may be PDAs, Laptops, or Tablet PCs). During lectures, students can ask questions, response to questions or give immediate feedback on the lecture simply by composing an MMS message and sending it to the lecturer. A more comprehensive question can be asked by attaching pictures and sound files together in the message. The lecturer himself can choose to immediately respond to the comments so as to adjust to the

learning needs of the students, or to delay his response so as not to disrupt the flow of the lecture, and reply to the questions at the later stage. In this way, the lecturer can have full control on the teaching flow while maintaining a suitable pace for students.

Using this technology, immediate assessment on courses can also be done. Interactive quizzes for example, can be carried out during lecture simply by having the lecturer sending out the question to students in MMS format. The students' answers will be sent back to the lecturer and the average results can be calculated, tabulated and reviewed on the spot.

The main advantage of this learning system is that MMS messaging is easily extensible to the mobile GSM networks, so students are not restricted to use it only on campus. Sending MMS messages on the Wireless LAN will be free to students on campus, and only at a low cost outside. This system is particularly beneficial in engineering education, since engineering students are generally tech-savvy, and therefore can easily adapt to this medium. This learning system will also encourage students to be more participative in the learning process, since usually students tend to be shy to speak up in large groups.

We have developed a fully working prototype, and will be ready for user acceptance tests in July. At present, informal surveys have been conducted and results have shown favorable responses. In particular, students find this beneficial and are eager to make use of it.

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