Evaluation of IMS Based Mobile Mass Examination System

Ahmed Barnawi, M. Rizwan Jameel Qureshi, and Asif Irshad Khan
Faculty of Computing and Information Technology, King Abdul Aziz University, Jeddah, Saudi Arabia
ambarnawi@kau.edu.sa, rmuhammd@kau.edu.sa, aikhan@kau.edu.sa

Abstract
This research is carried out to develop IMS-Based MOBILE Mass Examination (MOMEX) system. MOMEX system is intended to improve on management of examination process for large number of examinees. IMS based application is considered to be the next generation mobile applications that enable developers to take advantage of mobile networks resources. IMS-based application is attributed with robustness and improved Quality of Experience (QoE) for mobile users. Such quality is needed to ensure users reliability on the system. In this paper, we cover the analysis and design phase of MOMEX system. We have designed set of questionnaires aimed to gathering insights how much the concept of mobile exam and assessment will be accepted among the students and faculty members. Based on the results obtained, we concluded the functional requirements of MOMEX system prior to implementation phase.

Keywords: Mass examination system; Component-Based Development; IMS, SIP, Next Generation Networks

1. Introduction
In the recent years with the advancement of mobile wireless technologies, there is a significant shift in the academic from traditional way of teaching and examination pattern to mobile learning environment. Several universities incorporated the mobile technology into their teaching and learning environment and recognizes the potential of mobile technologies as an effective medium for teaching and assessment tools especially when there are mass students appeared in an exam (for example entrance exam for a university. There are already several research works published[1][2][3] on online E-exam systems to simplify the assessment process by automatic marking which significantly reduce the complex paper assessment work especially when

Figure 1 IMS-based mobile exam scenario [4]