

Smart-Hadir - Mobile Based Attendance Management System

ABSTRACT

Manual time and attendance systems are still being practiced within a considerable number of universities, colleges, government departments and companies. This traditional system requires the user to fill in their timesheets or sign on the attendance sheet manually. The practice inefficient and ineffective for university's student attendance recording due to, i) lecturer may lose the attendance sheet, ii) student may sign for their friends, iii) student may forget to sign on the attendance sheet, and iv) challenging to monitor attendance rate and analysis. Thus, there is a necessity to change these traditional attendance recording methods to a more efficient one. The attendance rate is significant because students are more likely to succeed in academics when they attend classes consistently. As such, a mobile app, namely Smart-Hadir, is designed to overcome problems as mentioned above. Smart-Hadir is a smartphone application developed by UMS aimed to record student attendance digitally during a class session. The technology used is slightly different from the existing applications, where Smart-Hadir is not using RFID technology but rather covers NFC, QR code, and beacon technologies. Attendance could be taken either using NFC or QR code displayed on the wall using a projector or scan the available beacon. Lecturers can create class session using the Smart-Hadir anywhere and anytime. Students are then required to take their attendance either scan the QR code, search the beacon, or swiped their student card on the lecturer's phone. The students' attendance will be immediately captured and saved into the database. Lecturers will be able to view the statistic report, identify and e-mail absentees, as well as monitor students' attendance behaviour. A statistical report can be generated. It shows the percentages of students' attendance rate, absent rate, and status. The Smart-Hadir is advantageous as it can be used to capture meeting or event attendance record as well.