

UNIVERSITI TEKNOLOGI MARA

**Smart Masjid: Implementation of Geofencing
Based Auto-Silent Mode in Prayer Time
Application**

Muhammad Syauqi Bin Sabri

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STUDENT DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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MUHAMMAD SYAUQI BIN SABRI
2016586579

NOVEMBER 3, 2018

ABSTRACT

Smart Masjid application is a mobile prayer time application that integrated with geofencing function and cloud computing service, which was developed specifically to overcome the smartphone ringing in the mosque or Pusat Islam while performing prayer. This mobile application used geofencing function where the radius of 70m has been set around Pusat Islam area, which will trigger the auto silent function which will switch the ringer mode from normal to silent whenever the user enters and stays around the Pusat Islam area. Other than the auto silent function, the Smart Masjid application also consists of Prayer Time, Notifications, Organization and About which all this section provided information to the user. Notifications section is one of the important components which responsible to display any activities updated by Pusat Islam or Ikatan Mahasiswa Madani (IMAM) that will replace traditional led board display at mosque or Pusat Islam as a source of information. The admin does not need to open a web browser to perform data update because all can be done on the Notifications section which contains a login section for admin before can perform any data update, delete or add. This application has been developed based on the android platform, which has been completed using Android Studio including the usage of Firebase and Digital Ocean as cloud computing services. The development of Smart Masjid application used the System Development Life Cycle (SDLC) by implementing the waterfall model as the methodology. A user acceptance and functionality testing were conducted with 30 respondents which are UiTM Arau students by evaluating the questionnaires that were divided into two categories respectively. Results of the system evaluation showed that most of the participant were satisfied with all categories provided. Therefore, based on the features and functionality offered by the Smart Masjid application, it will benefit to all users, especially UiTM citizens.

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