UNIVERSITI TEKNOLOGI MARA

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

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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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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.
# TABLE OF CONTENT

SUPERVISOR’S APPROVAL .............................................. I
STUDENT DECLARATION ............................................. III
ACKNOWLEDGEMENT ................................................ IV
ABSTRACT ................................................................ V
TABLE OF CONTENT ................................................... VI
LIST OF FIGURES ........................................................ IX
LIST OF TABLES .......................................................... XI

## CHAPTER ONE INTRODUCTION

1.1 Background of Study .............................................. 1
1.2 Problem Statement ............................................... 2
1.3 Project Objective .................................................. 3
1.4 Project Scope and Limitation ................................. 4
1.5 Project Significant ............................................... 4
1.6 Summary ............................................................. 5

## CHAPTER TWO LITERATURE REVIEW

2.1 Mobile Application ............................................... 6
   2.1.1 Type of Mobile Application .............................. 7
2.2 Web Based Application ......................................... 8
   2.2.1 Structured Query Language (SQL) ..................... 9
2.3 Geofencing .......................................................... 10
   2.3.1 Element in Geofencing System .......................... 12
   2.3.2 Advantage and Disadvantage of Geofences ............ 14
2.4 Cloud Computing .................................................. 14
   2.4.1 Cloud Computing Services Models ...................... 15
2.5 Prayer Time Application ........................................ 16
2.6 Related Work
   2.6.1 Using Geofencing for a Disaster Information System 18
   2.6.2 Geofencing for Advertisement 19
   2.6.3 Use of Geofencing in tracking system and setting alteration. 20

2.7 Discussion of Related Work 21

2.8 Summary 22

CHAPTER THREE METHODOLOGY 23

3.1 System Development Life Cycle 23
   3.1.1 System Planning 24
   3.1.2 System Analysis 26
   3.1.3 Research Design 29
   3.1.4 System Implementation 30
   3.1.5 System Testing 31
   3.1.6 System Maintenance and Documentation 32

3.2 Research Design 33

3.3 Summary 34

CHAPTER FOUR DEVELOPMENT 35

4.1 Story Board 35
   4.1.1 Application Story Board 36

4.2 Implementation 41
   4.2.1 Splash Screen 42
   4.2.2 Home Screen 43
   4.2.3 Notification and Auto Silent 44
   4.2.4 Prayer Time 46
   4.2.5 Notifications Screen 47
   4.2.6 Organization Screen 50
   4.2.7 About Screen 51

4.3 Cloud Computing Integration 52
   4.3.1 Firebase 52
   4.3.2 Digital Ocean VPS 58

4.4 Smart Masjid Application Architecture 64