# Universiti Teknologi MARA

# An Android Based Private Hajj Agency Locator Mobile Application

Aina Syafiqa Binti A.Lazim

Thesis submitted in fulfilment of the requirements for Bachelor of Information Technology (Hons.) Faculty of Computer and Mathematical Sciences

February 2022

### ACKNOWLEDGEMENT

Alhamdulillah, praise and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given. First and foremost, I want to express my gratitude to my supervisor, Sir Ahmad Zambri, for believing in me and providing me with direction and knowledge during the supervisory process. I was fortunate to be able to work with him since he is always willing to help me out when I need it. Next, I'd like to express my gratitude to Dr. Emma Nuraihan binti Mior Ibrahim, my final year project lecturer, for all of the encouraging and constructive comments that helped me develop and improve my research in many ways. She cannot be compensated for the time and effort she devotes to all of the students under her supervision. Furthermore, she is constantly sending out positive vibes to ensure that her student gave her all for the project. In addition, I'd like to express my gratitude to Dr Nor Hayati Abd Hamid, my examiner, for her insightful comments and ideas on this project. Also, her comments taught me how to make a good report. In addition, I want to thank all my fellow friends and classmates that keep giving support. I want to express my gratitude to my loving parents, who have provided me with unending emotional support and prayers during this final year project.

### ABSTRACT

Hajj is a fadhilat for all Muslims. So, it is important to be equipped and practised. The purpose of this mobile application is to assist the user in finding nearby private Hajj agencies, giving and keeping notes on Hajj and Umrah. The objectives of this project are to identify, design, develop, and demonstrate the Private Hajj Agency Locator mobile application. This mobile application was developed using Android Studio and Firebase as development software. An analysis of the literature review had been done before the system was developed. Other than that, to develop this mobile application, the Mobile Application Development Life Cycle (MADLC) method until the testing stage has been applied. Moreover, from the results and findings, it is clear that this mobile application functioned well, but there were some features that needed to be improved. For future work and recommendations, the developer can add recommendation features and provide the mobile application in a Malay language version.

Keywords: mobile application, Hajj information, private agencies, locator, MADLC

# **TABLE OF CONTENTS**

## CONTENT

# PAGE

SUPERVISOR APPROVAL	ii
STUDENT DECLARATION	iii
ACKNOWLEDGEMNT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	Х
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii

### **CHAPTER ONE : INTRODUCTION**

1
2
3
3
4
6
6

### **CHAPTER TWO: LITERATURE REVIEW**

2.1 Introduction of Hajj	7
2.1.1 Definition	7
2.1.2 About Hajj Course	8
2.2 History of Global Positioning System (GPS)	10
2.2.1 Component of GPS	10
2.2.2 Definition of Geolocation	10
2.2.3 The Difference between Geolocation and GPS	11
2.3 Mobile Application Technology	11
2.3.1 Mobile Application Platform	12
2.3.1.1 Android	12
2.3.2 Mobile Application Software & Tools	12
2.3.2.1 Android Studio	12
2.3.2.2 Firebase	12
2.3.2.3 Location Based Services	12
2.3.2.4 Mapping Tools API	14

### **CHAPTER 1**

#### INTRODUCTION

The background of the project as well as the issue statement for the creation of Private Hajj Agency Locator mobile application are covered in detail in this chapter. Aside from that, this chapter discussed the project's goals, objectives, scope and constraints for mobile app development.

#### **1.1 Project Background**

The Hajj (Muslim pilgrimage to Mecca) is one of Islam's five pillars and once-ina-lifetime obligation that Muslims must fulfil if they are physically and financially capable (Al-Ajarma, 2021). It must be completed at a specified time and date. To perform Hajj or Umrah, a Muslim needs to go to Mecca in Saudi Arabia. Moreover, there are a few procedures that need to be followed by Hajj pilgrims when they want to perform Hajj. So, it is preferred for all those that want to perform Hajj to find sectors that can teach and guide them.

There are many sectors that give guide services to the pilgrims such as government, private companies and also individual (K. Esam & S.Mohd, 2018). In Malaysia, for government sector we have Tabung Haji (TH). Tabung Haji is a well-known organization that provides outstanding, methodical, and organized Hajj services to Malaysians (Suhaini et al, 2016). However, in Malaysia, we also have private Hajj agencies. Based on an article Malaysia's Ministry of Tourism and Culture, now we have 328 Umrah and Hajj travel agencies registered (MOTAC) (Nabihah et al, 2019). In addition, Hajj Package Organizer operations director, Mat Admara Alang Azizdin, stated Malaysians are becoming more interested in private Hajj packages, with the number of pilgrims preferring to complete their Hajj through private travel firms more than doubling this year compared to last year's Hajj season (Bernama, 2017).