Universiti Teknologi MARA

Beacon Based Zoo Information And Activities Reminder Notification

Muhammad Zikrie Bin Hasim

Thesis submitted in fulfilment of the requirements for Bachelor of Computer Science (Hons.) Netcentric Computing Faculty of Computer and Mathematical Sciences

June 2018

ACKNOWLEDGMENT

Alhamdulillah, praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish this research within the time duration given. Firstly, my special thanks goes to my supervisor, Mohd Faisal Ibrahim, who is always willing to give me continuous guidance, advance and the necessary criticism, throughout the process of preparing this proposal.

Special appreciation also goes to my beloved family especially my mother and father in giving their love and full support in completing the proposal. My sincere appreciation also extends to all my fellow friends and other who have provided assistance at various occasions.

Finally, not to forget those who have directly or indirectly gave contribution towards completion of this proposal. Above all, I thank God for giving me strength to accomplish this project.

ABSTRACT

Zoo Negara is the most popular place to visit various animals especially during school holiday many parents bring their children to see animals. The main problem is as the visitor that comes from different countries they may have problem to gain information of the exhibited animals because of the language barrier. In Zoo Negara the information about exhibited animal will be display on the board only in language English and Malay only. This will be a barrier to visitors coming from other countries because they do not understand. The next issue is visitor will miss attending the animal's show time and miss their lunch time because they are not aware of times as they are busy looking and capturing photos of the animals. This will be a limited of time for them to join any event or activity inside the zoo. One of the objective of this project is to develop a mobile application with beacon triggered animal information functionality that provides multi-languages. Next, to integrate lunch time and animal show time alert notification modules in a proposed mobile application. Android Studio will be used as development tool for this project and MySQL as a database to keep all data or information. Other than that the application can only be used only inside the zoo and this application is develop based on Android platform and hardware being used is Estimote beacon sensor.

TABLE OF CONTENTS

CONTENT

PAGE

SUPERVISOR APPROVALii	
STUDENT DECLARATION iii	
ACKNOWLEDGMENTiv	
ABSTR	ACTv
TABLE OF CONTENTSvi	
INTRODUCTION1	
1.1	Project Background1
1.2	Problem Statement 2
1.3	Aim
1.4	Project Objective
1.5	Project Scope
1.6	Project Significance 4
1.7	Summary 4
LITER	ATURE REVIEW
2.1	Technology Consideration
2.1.	1 Mobile Platforms
2.1.	2 Programming Language in Application Development
2.1.	3 Mobile Development Tools
2.1.4	4 Database
2.1.	5 Type of Application Development 11
2.1.	6 Technology
2.1.	7 Zoo
2.1.	8 Notification System
2.2	Related Work
2.2.	A UBIQUITOUS ZOO GUIDE (Helmut Hlavacs and Bernhard Klein, 2014)27
2.2.	2 AN INTERACTIVE ZOO GUIDE (Hao Shi, 2015)

CHAPTER 1

INTRODUCTION

This chapter delivers a short overview of the project. It will explain on the project background, problem statement, the aim of the project, objectives derived from the problem, scopes, significance and the summarization of the whole chapter.

1.1 Project Background

At the present time, most of the people are busy with their works and studies. Moreover, if they have spare time, they will spend it wisely which is meeting up with family. One of the suitable places to visit with family is zoo because most of them enjoyed looking at the different kind of animal species exhibited at the zoo. Despite of only looking at the animals, the zoo also provides education for the visitor through the information boards attached in front of the animal cages.

In Malaysia, Zoo Negara is one of the contributor sources of income in our country. According to Ministry of Tourism and Culture Malaysia (2016), the uppermost ten generator incomes for Malaysia as in 2016 were Japan (198,693), Philippines (220,163), Singapore (6,596,452), China (992,463), Thailand (864,453), Indonesia (1,378,699), Brunei (637,369), South Korea (228,023), India (359,853) and United Kingdom (206,313). Nevertheless, the amount of Zoo Negara visitor has suddenly dropped because of continued heat wave weather and caused the families and tourist visiting the zoo (The Star, 2016).