University Technology MARA

An Indoor Based Push Notification for Location-Based Marketing Using Bluetooth Smart Ready Technology

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

July 2017

ACKNOLEDGEMENT

Alhamdullilah, praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish this project within the time duration given. Firstly, my special thanks goes to my supervisor, Mrs. Rosanita Adnan for her guidance, advice and moral supports throughout the completion of this project. I would also like to thank Mr. Kamularifin Abd Jalil as the lecturer for CS251 for his guidance and encouragement during the preparation of this project.

Secondly, I would like to dedicate my deeply appreciation to Mr. Mohd Faisal Ibrahim for his encouragement and kindness in providing me the information needed in order for me to complete this project. Also thanks to my beloved parents for their faith, continuous encouragement and support. Last but not least, a very sincere thanks for my friend who had involved in contributing their help and support either directly or indirectly in making this project successful.

ABSTRACT

Nowadays, location-based marketing is used by companies to advertise their product to their customers through mobile devices. Advertisement can be sent in different ways, such as cellular wireless internet, Global Positioning System (GPS) through push technology. Even though push notification that can be send by using Bluetooth low energy technology which allow user to receive advertisement in their smartphone already exist, but it lack in several aspect such as it does not consider about user preferences such as user difficult to keep their own privacy because the app keeps send notification without consider user's privacy. Next, location awareness such as user always get irrelevant information in irrelevant place, they also find that it is difficult to get information or content only by manually search for advertising or information. Therefore, this project has proposed a method called token based alert notification. There are three algorithm developed for token based alert notification which is tokenization algorithm, token matching algorithm and item identification algorithm. This algorithm developed to allow user to receive push notification effectively based on the location of user's smartphone that can be detected by Bluetooth Smart Ready Technology (BLE). Moreover, two experiment have been conducted in order to evaluate the performance of the project and the result have conclude that token based alert notification has performed well in terms of the ability to send push notification alert accurately. Android smartphone is used in order to test this algorithm.

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CHAPTER 1

INTRODUCTION

This chapter explains about project background, problem statement, project objective, project scope and significant of the project.

1.1 Project Background

Nowadays, location-based marketing has been increasingly developed around the world. Location-based marketing is used by companies to advertise their product to their customers through mobile devices. Advertisement can be sent in different ways, such as cellular wireless internet, Global Positioning System (GPS) through push technology. However, the current push technology solutions do not protect users privacy(Ahmad, Noor, Ahmad & Seyed, 2015) and this will lead to information overload because the user always receive many unwanted information without their consent.

The aim of this project is to develop an indoor based push notification for location-based marketing using Bluetooth smart ready technology. The advertisement will be send through push technology and will consider user preferences, in order to protect user's privacy. Moreover, this project also consider location awareness which user can make better decision based on adaptive smart content such as user's can get different type of information or advertising based on the location without having to manually search for the information.