

EASE PARKING APPS (MOBILE APPLICATION)

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EASE PARKING APPS
(MOBILE APPLICATION)

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This report is submitted in partial fulfilment of the requirements for the
Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2014

DECLARATION

I hereby declare that this project report entitled

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(MOBILE APPLICATION)**

is written by me and is my own effort that no part has been plagiarized
without citations

STUDENT : _____ Date: 26-08-2014
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DEDICATION

In this section are specially for dedication of this project towards my beloved family, my lecturers and friends here in the university, and to all people that are either directly or indirectly has involve in this project development. A very special gratitude to parents, Nooh bin Abu Bakar and Kamisah binti Abu Bakar for supporting my works since the beginning of the project until the end. I also want to dedicate this project to my beloved supervisor, Madam Nor Haslinda binti Ismail and special thanks to her for accepting me under her supervise, support, helps and guiding me throughout the development of this project. Not to forgot, I want to dedicate this project to all my friends that always been there to helps me, to support me during the development of this project so that I can succeed. It is really a big support to me to continue on developing this project.

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I would not have been successfully finish this project if I were all alone develop this application. All of them are really gave me a lot of courage since the beginning of this project till the end of it. There is so much hope from them for me to succeed in this project development. Hope I could repay all of their goodness and may Allah Bless them. Thank you very much you guys.

ABSTRACT

Ease Parking Application is an embedded system between hardware of parking sensor with a software of mobile application. This kind of idea is quite a whole new idea because from the research that has been made, there is nothing like this application. Therefore it is quite challenging to make sure this project succeed.

For the first prototype for this mobile application, real hardware of parking sensor are not really being use because this is just the early stage of this kind of mobile application development. So that, from the studies that have been made, the important is just the data of the parking availability that parking sensor gathered. Then, to replace the hardware, the website simulation for the data manipulate have been programmed. Furthermore, the design interface of this Ease Parking Application must be easy to inspect for example at the first glance the user can get the data from the application even using it while finding the available parking lot. It is also easy to use and understand for the first time user. There is 3 main function in this Ease Parking Application which is show info about parking availability, set the parking id on and also locate the parking, and last about user information. Before they can use the application, user need to login first and for the new user, they must register it first. For parking availability, it can show the whole map of the building and also show for each floor on parking availability information. For locate parking, before locate parking location, the user must set the parking id first by manually key-in or using QR code reader and then from anywhere in the building, the user can locate their vehicle. For the user information, user can update their personal information and also can change their password. This application really helps the user on saving their time while finding the parking that available or to locate their vehicle in which parking location.

ABSTRAK

Aplikasi Ease Parking ini merupakan sistem yang menggabungkan antara sistem alatan sensor tempat letak kenderaan dan juga sistem perisian aplikasi telefon pintar. Idea ini merupakan idea yang baru kerana daripada hasil penyelidikan yang telah dibuat, tiada lagi sistem aplikasi seperti ini. Justeru itu, untuk menghasilkan projek ini dengan berjaya amatlah mencabar. Untuk prototaip yang pertama untuk sistem aplikasi ini, sistem alatan sensor tempat letak kenderaan tidak digunakan lagi dalam peringkat awal pembangunan sistem. Daripada hasil kajian yang telah di buat, benda yang penting adalah data yang didapati daripada kekosongan tempat letak kereta tersebut. Kemudian sebagai gantian, laman sesawang digunakan sebagai simulasi untuk manipulasi data tersebut. Selanjutnya, senibina paparan skrin aplikasi ini mestilah senang untuk di lihat contohnya, pengguna akan dapat infomasi secara sekilas pandang bagi penggunaan semasa mencari tempat letak kenderaan yang kosong. Ianya amatlah mudah dan senang walaupun pengguna tersebut baru pertama kali menggunakan aplikasi ini. Terdapat 3 fungsi utama yang ada di dalam aplikasi Ease Parking ini iaitu mempamerkan infomasi mengenai kekosongan tempat letak kenderaan, tetapkan id tempat letak kenderaan dan juga mengesan dimana kenderaan diletakkan and akhir sekali mengenai infomasi pengguna. Sebelum mereka boleh mengguna aplikasi ini, pengguna perlu log masuk dan sekiranya pengguna baru, perlulah berdaftar terlebih dahulu. Untuk kekosongan tempat letak kenderaan, ianya boleh mempamerkan seluruh bangunan mahupun setiap tingkat punya kekosongan tempat letak kenderaan. Untuk mengesan dimana kenderaan diletakkan, sebelum mengesan perlulah ditetapkan terlebih dahulu id tempat letak kereta tersebut. Bagi infomasi pengguna, mereka boleh mengemaskini infomasi mereka mahupun boleh mengubah kata laluan mereka bila-bila masa. Aplikasi ini sangatlah membantu pengguna untuk menjimatkan masa mereka ketika mencari kekosongan tempat letak kenderaan ataupun mengesan dimana kenderaan diletakkan.

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CHAPTER I

INTRODUCTION

1.1 Project Background

As we all know, living in the big city such as Kuala Lumpur, Johor Bahru and others city which for sure having a big population of people. Anywhere we go, we have difficulty on finding a parking lot for our car. We take an example when people are trying to find a parking in the mega shopping mall such as MidValley Megamall in Kuala Lumpur. The mall have many entrance for us to get in and that shows how big that mall is. The current technology were being use are for your information before we enter the parking lot we can view the parking lot availabilities on that section by the electronic billboard but still we need to go through all the entrance to find which parking section have parking lot availability. This will get more worse when it comes on weekend. Since the parking lot have a lot of section, the user might have a difficulty in finding his/her car after finish the shopping. All of this involve our time and money consumed. In this research project, we going to develop a mobile application in order to overcome all current problems occurred.

The main function of the application is about finding the parking lot that available for the user by giving a information about parking availability for example how many left parking available in certain floor or level. User can indicate the parking lot by notify the green light are available and the opposite is the red light means not available. All of the function are being implement in the application.

Not only to find the parking lot, this application also able to locate the user vehicle parking space. This might become handy and useful for people that having problems such as short term memory or easily get forgotten on something. They can set the parking lot id by using this application.

1.2 Problem Statement

- i. User do not know which parking area are available.
 - We usually hardly to find the parking lot that are available in such a big mall with huge parking lot space. Sometimes we assume the first floor of the parking lot are already full and directly go to the deepest or the highest floor of parking space. Nobody knows there is actually a few parking lot available in the first floor.
- ii. Time and fuel consuming to find the free parking lot.
 - The most common situation are where we are searching the whole parking lot space to find the one that available. This is really time consuming which we actually go through line by line of the parking lot space. This lead to fuel consuming also because the further we go through the parking space a lot more fuel usage.

- iii. User sometimes forgotten where did they park their car.
- This situation not frequently to happen to people who are used to that mall parking space, but this is possible and happened to someone who is first time to come to the mall or someone who comes to the mall once in a while or someone who is really having a short memory lost. Sometimes it takes an hour to find back their car because of they completely forgotten where did they parked their car.

1.3 Objective

Objective One: To give the user information on parking lot via mobile application.

- The application will give an information about the parking lot availability which how many left free parking lot in certain section and floor of the mall parking lot space.

Objective Two: User can keep and save their parking lot on where they parked.

- Once the user find a free parking lot and parked their vehicles, they can save the parking lot number id by manually or using QR reader for more accurate data.

Objective Three: User can locate where they parked their vehicles.

- After the user finish doing their things in the mall, they can locate their vehicle by viewing in the map where their vehicles located are.

1.4 Scope

- i. Public User
 - Public user can login as for their profile.
 - User can update their personal information
 - Can use the information parking lot information that has been provided.
 - Can save the parking id on where they parked.
 - Can locate their vehicles in parking lot.

- ii. System
 - Get the data of parking lot form existing hardware system in the mall using simulator on web page.
 - Since it is the simulation hardware sensor parking, the data being manipulated manually so it will react as real situation happening in the parking area.

1.5 Project Significance

Ease parking application is an application that provide the parking lot space information in a megamall. Since the mall are huge and big, their parking lot space also big and have many section and floor. This application significantly help the user to prepare on where to park because the information will be given on how many left of parking lot space are available based on their section and floor. Without wasting their time and fuel consumption are the benefits from using this application.

1.6 Expected Output

The expected result of this project development that is we could prevent from the problems statement that we stated above happening. More or less we could reduce the amount of time and cost consume on the user while their in the vehicle searching for the parking lot and also finding where did they parked their vehicle by having this mobile application being developed.

1.7 Conclusion

For the conclusion in this chapter, it is include on several objectives, scope and problem statements that had been identified in order to develop this application. All of this are the basic information and requirement to have to start the developing the application.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter are going to discuss about the literature review and project methodology. The literature reviews is all about the comparison and explanation about the existing similar system compared to propose system. The explanation about the existing similar system and comparison to the proposed system is discussed in the fact finding part in more detail and with some attachment of existing system interfaces. Some facts about existing system were found based on the similarities in the term of functions, modules, features and also the main topic.

2.2 Fact and Findings

Data visualization is a quite new and promising field in computer science. Data visualization is all about understanding ratios and relationships among numbers. Not about understanding individual numbers, but about understanding the patterns, trends, and relationship that exist in groups of numbers.

From the point of user understanding, it may involve detection, measurement, and comparison, and is enhanced via interactive techniques and providing the information from the multiple of views and with multiple technique. As the conclusion, using data visualization is to give user understand the information faster than reading text in simple way. The information that wants to deliver to user delivered quickly and effectively.

2.2.1 Domain

Domain of this application is the existing hardware system that has been installed in the shopping mall. Not every shopping mall or other building that adapt this parking sensor because this hardware system is quite expensive to spend on. There is only few of building that having this parking sensor operated. So from the review, there is one shopping mall located in Kuala Lumpur that having this sensor and become an inspired to develop this mobile application. From that hardware system, the data collection can happened and used it to create the application for the information of the user who comes to the shopping mall.

2.2.2 Review of Existing System

The result from some of research and reviewing the existing system, there is no existing of the system that are going to be develop on which the embedded system of hardware system and mobile application.

2.2.2.1 Hardware system of parking lot availability

Source: <http://www.slideshare.net/ParkingConsultants/car-parking-guidance-systems-1868308>

2.2.2.2 Description

People do have create the system of the parking lot sensor. But they having the information about the parking lot in a static way which means the information about the parking lot was only display in the certain place. How about the data they collect from the hardware system and not only show at static electric board but we show them in phone application which are easier to retrieve the information.

2.2.2.3 Screen shot



Figure 2.1: Parking lot Sensor example 1



Figure 2.2: Parking lot Sensor example 2