

BORANG PENGESAHAN STATUS TESIS*

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CATATAN: * Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM).
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ECAR UTEM

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


**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2013**

DECLARATION

I hereby declare that this project report entitled
ECAR UTEM

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

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DEDICATION

To my beloved parents, family, lecturers and friends.

ACKNOWLEDGEMENTS

First and foremost, I thank to Allah the Almighty for blessing me to complete my final Year Project. I would like to enlarge my appreciation to Pn.Rosmiza Wahida bte Abdullah because of the kindness heart to accept me as one of her student and for giving support and assistant to complete this project successfully.

Very special thanks to my family and parent which their support and understanding during my project development phases. Last but not least to all Faculty of Information and Communication Technology lecturers for their advices and thanks very much to my entire Bachelor of Computer Science (Software Development) colleague.

ABSTRACT

Nowadays, with the advancement of information technology, all the work can be done easier. eCar UTeM is an android apps for making reservation of university vehicle. The main objective of this application is to increase information management where the admin or staff can easily get the information about the vehicle reservation. Currently, the existing system using emails to notify the staff about the vehicle reservation. Through the eCar UTeM apps, the staff will be notified through SMS. The staff automatically will receive the SMS after the vehicle reservation get endorsement from the Vehicle Department. Therefore, the process of vehicle reservation becomes faster and easier. There are many things to consider in developing a system or application. One of the things is the methodology that to be applied during the system development process. The methodology used for developing the eCar UTeM apps is the V-Model. This methodology is simple and easy to apply in development. And it works well for small projects where requirements are easily understood like eCar UTeM apps. The eCar UTeM used ASP language, HTML5 and Java as the programming languages. For operating system, eCar UTeM used Microsoft Windows 7 as a platform and SQL Server for the database.

ABSTRAK

Kini, dengan kemajuan teknologi maklumat, semua kerja-kerja boleh dilakukan dengan lebih mudah. eCar UTeM adalah aplikasi android yang dibangunkan untuk membuat tempahan kenderaan universiti. Objektif utama permohonan ini adalah untuk meningkatkan kualiti pengurusan maklumat di mana admin atau kakitangan dengan mudah boleh mendapatkan maklumat mengenai tempahan kenderaan tersebut. Kebiasaanya, sistem yang sedia ada menggunakan e-mel sebagai perantara untuk memberitahu kakitangan mengenai tempahan kenderaan. Melalui aplikasi eCar UTeM, kakitangan akan dimaklumkan melalui SMS. Kakitangan secara automatik akan menerima SMS selepas tempahan kenderaan mendapatkan pengesahan daripada Unit Kenderaan. Oleh itu, proses tempahan kenderaan menjadi lebih cepat dan mudah. Banyak perkara yang perlu diambil kira dalam membangunkan sistem atau aplikasi. Salah satu perkara adalah metodologi yang akan digunakan semasa proses pembangunan sistem. Kaedah yang digunakan untuk membangunkan aplikasi eCar UTeM adalah metodologi V-Model. Kaedah ini adalah lebih mudah diaplikasikan dalam pembangunan sistem. Dan ia juga dapat diaplikasikan dengan baik untuk projek-projek kecil di mana keperluan pengguna mudah difahami seperti aplikasi eCar UTeM. eCar UTeM menggunakan ASP, HTML5 dan Java sebagai bahasa pengaturcaraan. Bagi sistem operasi pula, eCar UTeM digunakan Microsoft Windows 7 sebagai platform dan SQL Server untuk pangkalan data.

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LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
SMS	-	Short Message Service

CHAPTER 1

INTRODUCTION

The mobile apps development is rising like mushrooms after inception of few modern hand held devices in the mobile industry. Android mobile operating system has shown its strong presence with the reason that different mobile manufacturers are allowed to utilize it for producing amazing hand held devices.

Modern masses of Android based hand held devices are growing parallel like other popular mobile devices prevailing in the mobile industry. People are using a wide variety of phones based on Android. With the rise in sale of Android based devices in the market the Android Applications are also spreading magic with great mobile enhancing features for meeting the specific requirement of Android users.

1.1 Project Background

eCar UTeM will be develop for Technical University of Malaysia Malacca to make an official vehicle reservation thru Android apps. As what that informs, at UTeM there are many type of transports such as car, van, four wheel and bus. This transport can be used for outside activities. The user who wants to use the transport must make an application to book the transport. The users are staffs of UTeM. Therefore, this system has very important security aspect controlled by administrator.

In the application function, user can make the application of booking transport. Another function is for Head of Department to make an endorsement for that application from their staff. For the administrator function, the function is to approve the transport booking and to store the transport and driver record details.

Another function in eCar UTeM apps is the users can check their detail application. The notification about the status of the application will be send to user thru SMS and email.

Besides, this application is easier compares by using website to make an application and helps to faster the application process.

1.2 Problem Statements

Before using the eCar UTeM apps, the staffs make an application using web application via Web Browser. It's difficult to access the system because they need laptop or personal computer to make an application. The worst case scenario is when Head of Department and the officer of Vehicle Department missed or late to make an endorsement of that application because of this problem. It will make them in trouble because the staff those make an application maybe do not have any transport to settle their job.

The staffs have a problem to check their status of application whether the application approved or rejected. They need to check the application thru email or at the website using laptop or personal computer.

1.3 Objectives

These are the objectives to be achieved from development of eCar UTeM apps :-

- To increase information management where the admin or staff easily to get the information about the reservation.
- The system automatically will send the notification thru SMS to Head of Department when the staffs make an application. The notification also will be sent to the Officer Vehicle Department, UTeM when the Head of Department approved that application. If that application rejected by Head of Department, the notification status will be sent to the staff. After the Officer Vehicle Department makes an endorsement, the status of application will be sent to staff. The staff will get information about the application reservation directly.
- To provide a medium for receiving application from the UTeM community through android application.
- Mobile app is a new generation of application that wants to grow. It was a great experience to explore and learn about the mobile app.
- To introduce a new way to enter system which is using mobiles apps.
- Using the mobile app, the application will be able to use easily. The application also will be able to use every time and everywhere using android hand phone.

1.4 Scopes

- Staff UTeM

The targets of user for eCar UTeM is all UTeM staff from each department or faculty. They can make the application and check their application status via these apps. This system not covers vehicles booking for student use.

- Dean or Head of Department

Besides, application endorsement at each department or faculty such as Dean or Head of Department must endorse their staff application vehicles whether to support the application or not.

- Admin (Vehicle Department)

These apps are used by Administrator at Vehicle Unit to manage the application of vehicle from staffs. The Assistant Registrar need to endorse the application and search the available vehicles and drivers for each approved application.

1.5 Project Significance

eCar UTeM is believed to bring lots of benefit to its users and admin at UTeM. The benefit is the users can make a transport booking more easily. It is because users just enter the information to make an application about transport booking by android apps. The users also don't have to go management department to make a transport booking. Beside that, users also don't have to use a paper to fill in the form but just enter the information about transport booking in computer by the android apps.

This way also can save the user's time. While for admin can help management of the information. The admin do not have to check the availability of the transport because it is checked automatically by the system. The admin can get the information about the transport booking such as who wants to book the transport, what type of

transport, what location and how long time duration of booking. After that, admin can make a report and show the statistic about transport that is booked by month via the system. So, data integrity in database will be increased with safety because only admin can use and see the information in database.

1.6 Expected Output

UTeM staffs can easily using the apps to make an application for UTeM official vehicles service application and check the status of the application. The Head of Department also can use these apps to make an endorsement for the application. And the Vehicle Department can process the application using these apps also.

1.7 Conclusion

From this apps, eCar UTeM to enable the UTeM staffs to make an official vehicles service application thru Android apps. After the staffs make an application, the application automatically will be send to the Head of Department to get their endorsement and the notification about the application will be send thru SMS and thru email also. After the application gets the endorsement by Head of Department, the application automatically will be send to get endorsement from Vehicle Department and officer that in charge can get notification thru SMS and email. All the application will be received directly to the Vehicle Department, Development Office UTeM. This application can be used by all staff UTeM. And the status of application will be displayed on the '*Status Permohonan*' menu and the staff will get the information about the application thru SMS. Using e-Car UTeM can increase the information management where the admin or staff easily can get the information about the reservation. It also developed to provide a medium for receiving application from the UTeM community through android application. With the e-Car UTeM, users can make application everywhere and more quickly and easily.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1. Introduction

A literature review is a body of text that aims to review the critical points of current knowledge on a particular topic. Most often associated with science-oriented literature such as a thesis, the literature review usually precedes a research proposal, methodology and result selection. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as the justification for future research in the area.

A good literature review is characterized by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; proper use of the terminology on the topic.

According to Cooper (1988), “a literature review uses as its database reports of primary or original scholarship, and does not report new primary scholarship itself. The primary reports used in the literature may be verbal, but in the vast majority of cases, reports or written documents. The types of scholarship may be empirical, theoretical, critical/analytic or methodological in nature. Second a literature review seeks to describe, summarize, evaluate, clarify and/or integrate the content of primary report”.

2.2. Facts and Findings

eCar UTeM apps is a process where the user has to make an application to use the transport that is available at the UTeM. It is because to ensure each of transport journeys recorded all information about the user who is using the transport, what type of transport that they will be used, how long time they used the transport and where the place they will go.

Normally, transport booking can make if the user want to use the transport that is available at the UTeM follow the type of transport, location, date and time. The user must book before use the transport do three day before date of departure. It is to ensure the transport that they want to use is available or not on the date and duration. The administrator also can see the information about transport booking.

2.2.1. Existing System

In this part, the topic being discussed is about comparing an existing system that is being used with the system that will develop, which is the Online Transport Booking System. The system that is similar with Airport Car Rental, MyTeksi and K-Kenderaan UTeM.

- Airport Car Rental

The Airport Car Rental app creates your reservation in real time so your booking is instantly confirmed, and records of the details are sent straight to your email address. We value your privacy and our secure booking system ensures that your personal details remain safe.

The Airport Car Rental App is a product of Car Rental Republic, a global rental car distributor that arranges reservations for hundreds of thousands of travelers each year. The app is free, so download now and make your next vehicle rental as streamlined and stress-free as possible.

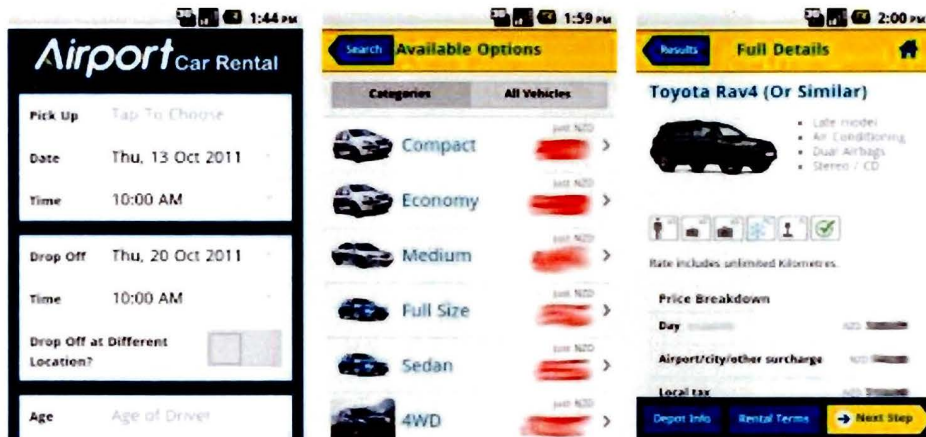


Figure 2.1 : Airport Car Rental

- MyTeksi

This app is good for frequent users of taxi cabs in Malaysia. Now you can book taxis on the go using MyTeksi, a platform that allows taxi bookings on the go via an iPhone app, an Android app, or plain and simple SMS for those without supported smartphone OS.

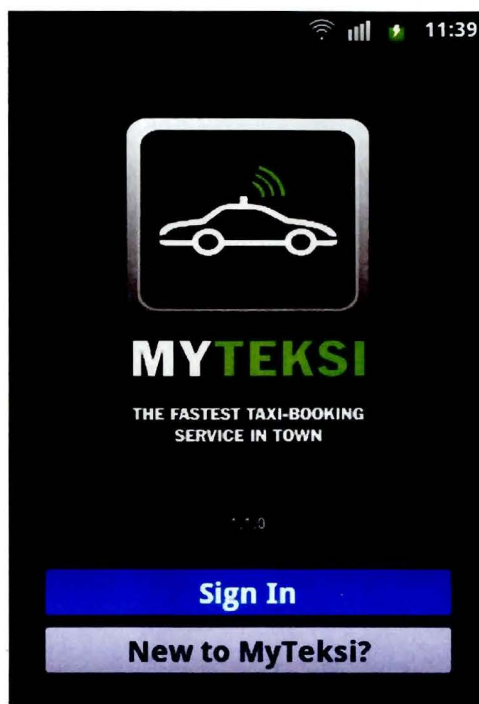


Figure 2.2 : MyTeksi

- E-Kenderaan UTeM

E-Kenderaan system can be used by staffs at UTeM. The design of this system is simple. The staff must enter id and password to login into the system. After succeeded, the staff need to select SMSM icon to enter the E-Kenderaan system.



[Home]

User ID

Password

Member Registration

Company Registration

Forgot Password

MODUL SISTEM MAKLUMAT SUMBER MANUSIA

NO	MODUL
1	Peribadi
2	Perjawatan
3	Penilaian
4	Pergerakan Staf
5	Cuti Belajar
6	Perakam Waktu
7	Cuti
8	E-Tiket

Figure 2.3 : E-Kenderaan UTeM

2.3. Project Methodology

This proposed project will be conducted using Object-Oriented Analysis and Design (OOAD) approach. There are many types of methodologies available as it provides more advantages compared with other methodologies. In developing e-Car UTeM, object oriented approach for software development process used is the V-model. The V-model is a graphical representation of the system development lifecycle.

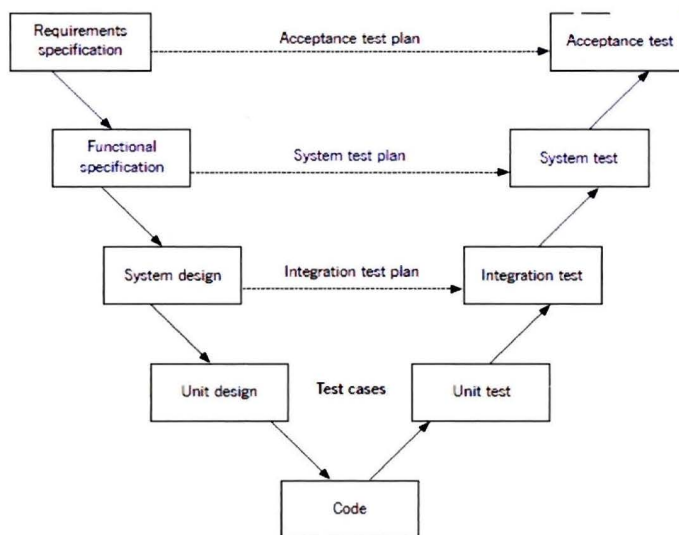


Figure 2.4 : Project Methodology

- Phase: Planning

The planning stage establishes a view of the intended system, and uses this to establish the basic project structure, evaluate feasibility and risks associated with the system and describe appropriate management and technical approaches. In order to get a more detailed and clear understanding of how the current official vehicle services application works, must conduct a field study. Must do the interview the officer at management department and

ask for their permission to show system that is uses official vehicle services application via web browser.

- Phase: Requirement Analysis

During this stage, research is done to determine the system requirements. The current official vehicle services application is studied in order to analyze the advantage and disadvantage of the current system. Therefore, a new feature and functions are added to the e-Car UTeM to improve the system performance.

- Phase: Analysis

Basically two analyses are carried out. First is analysis on the current system and second is analysis on the system that will be developed. The analysis on the system to be developed is important to ensure that developers understand what to be done in the next stage. Functional requirements are identified and are presented using Unified Modeling Language (UML). These includes the use cases and sequence diagrams.

- Phase: Detail Design

Design elements describe the desired system features in detail and generally include functional hierarchy diagrams, screen layout diagrams, business rules, business process diagrams and class diagram. These design elements are intended to describe the software in sufficient detail that programmers may develop the system with minimal additional input.

- Phase: Coding and Debugging

After requirements and detailed design is specified, the coding for the system is developed. After every 200 lines of codes are coded, debugging process is carried out to detect error and fix it immediately. The purpose of debugging is to reduce error and to ensure the system will be executed successfully.

- Phase: Unit Test

Programmers perform unit tests to assess the functionality of small modules of code. Unit tests will be done to ensure e-Car UTeM works on the intended platform and with the expected results when specific action is taken.

- Phase: Integration and System Test

eCar UTeM is tested to ensure that interfaces available works when specific action is taken and the simulation between modules works when user take an action.

- Phase: Acceptance Test

After the system has completed, it will be presented to supervisor, assessor and public to ensure the eCar UTeM meets user requirements and is feasible.

2.4. Project Requirements

Project requirements which describe software development tools and platform for development of eCar UTeM are as below. Software and hardware requirement are important to make sure all the development phase work smoothly.

2.4.1. Software Requirements

Software requirement is software need when want to develop a eCar UTeM apps. This is a list of software requirement:-