

**UMP VEHICLE BOOKING USING MOBILE
APPLICATION**

NURUL FAZREEN BINTI OTHMAN

**BACHELOR OF COMPUTER SCIENCE
(COMPUTER SYSTEMS & NETWORKING)**

UNIVERSITI MALAYSIA PAHANG



SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Computer Science (Computer Science & Networking).

(Supervisor's Signature)

Full Name : DR. NOR BAKIAH BINTI ABD WARIF

Position : SENIOR LECTURER

Date : 29 May 2019



STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

(Student's Signature)

Full Name : NURUL FAZREEN BT OTHMAN

ID Number : CA 16118

Date : 29 May 2019

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NURUL FAZREEN BINTI OTHMAN

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ABSTRAK

Dalam era globalisasi ini, kemajuan teknologi telah meningkat sejajar dengan pemodenan negara. Teknologi mudah alih yang dihasilkan telah mendapat banyak perhatian kerana ia telah membantu masyarakat dari segi komunikasi, pengurusan masa, memudahkan dan menyelesaikan semua urusan peribadi dan sebagainya. Di Universiti Malaysia Pahang (UMP), penggunaan aplikasi mudah alih sangat terhad kerana UMP masih menggunakan banyak aplikasi dalam bentuk manual dalam aktiviti pentadbiran dan pengurusan mereka. Salah satu aktiviti yang menggunakan borang manual adalah tempahan kenderaan. Walau bagaimanapun, disebabkan proses manual, kes pertindihan tempahan sering kali berlaku. Oleh itu, ia boleh meningkatkan tempoh dan masa untuk mendapat kelulusan bagi tempahan kenderaan tersebut. Oleh itu, projek ini akan membangunkan aplikasi mudah alih untuk Tempahan Kenderaan UMP menggunakan teknologi kod QR untuk memudahkan dan membantu pelajar UMP dalam mengurus tempahan kenderaan dengan meningkatkan penggunaan borang manual untuk aplikasi mudah alih. Dengan menggunakan aplikasi ini, pelajar dapat membuat tempahan untuk kenderaan seperti van atau bas. Sebaik sahaja permohonan tempahan diluluskan, satu kod QR akan dijana dan dihantar kepada pelajar. Hanya mereka yang mempunyai kod QR akan dapat melihat kenderaan butiran untuk tempahan.

ABSTRACT

In this era of globalization, advances in technology have escalated in line with the modernization of the country. The mobile technology created has gained a lot of attention because it has helped the community in terms of communication, time management, facilitating and solving all personal affairs and so forth. At Universiti Malaysia Pahang (UMP), the use of mobile applications is very limited because UMP still uses many manual forms in their administration and management activities. One of the activities that used the manual forms is vehicle booking. However, due to the manual process, overbooking cases usually happen, thus, may increase the approval times. Therefore, this project developed a mobile application for UMP Vehicle Booking using QR code technology to facilitate and help UMP students in managing vehicle booking by enhancing the use of manual forms to the mobile application. By using this application, students are able to make a booking for vehicle such as van or bus. Once the booking application is approved, one QR code will be generated and send to the students. Only those with the QR code will be able to see the vehicle details for the reservation.

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LIST OF ABBREVIATIONS

PDA	Personal Digital Assistants
UMP	Universiti Malaysia Pahang
JPPH	Jabatan Pembangunan & Pengurusan Harta
JHEPA	Jabatan Hal Ehwal Pelajar & Alumni
ISO	International Standards Organization's
QR	Quick Response
GPS	Global Positioning System
DBMS	Database Management System
SMS	Short Message Service
OS	Operating System
SDLC	System Development Life Cycle
SQL	Structured Query Language

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Nowadays, the usability of mobile phone has rapidly increased which individuals often owning more than one mobile phone. These developments have led to a large variety of mobile applications designed for smartphone operating systems provided by mobile operating system vendors such as Apple, Google, and Microsoft (Hartmut & Viswanath, 2015). There are many mobile applications in the world that are really useful and help us to become better from all perspective. The mobile app is an application used for small, easy-to-carry mobile devices like iPad, smartphone, Personal Digital Assistants (PDA) and so on. Mobile device usability commonly refers to it's user-friendly, ease of learning and use, usefulness, enjoyment and many more. Meanwhile, in Universiti Malaysia Pahang (UMP), the usage of mobile applications is limited because most of the system is using web-based and manual form. There are many online applications for the students and staffs, for example, E-Community, which is the portal for students and staffs to check recent announcement and UMP e-Learning.

In spite of that, Universiti Malaysia Pahang still using the manual form for certain applications such as vehicle application form, certification application form, JPPH space, and equipment reservation form, and many more. Thus, this project is developed for Universiti Malaysia Pahang as the main users. This project is called UMP Vehicle Booking using Mobile Application. This project focuses on developing an open-source mobile application using Quick Response (QR) Code as the cheapest technology that referred to as two-dimensional codes that can carry the information both vertically and horizontally. The purpose of this application is to help students to manage their vehicle booking in UMP and also to enhance the use of manual form to

the mobile application. Currently, UMP is using the manual form for vehicle booking and there are several conditions that need to follow. Once approved, the QR Code will be generated and send to the student. The purpose of using the QR Code in this application is to share the vehicle booking information to the committee member of the program. Only those who have the QR code will able to view the vehicle booking details after they scan the code via mobile phone. The committee member of the program can view the vehicle details such as driver name, number phone, program and vehicle details.

The advantages of this application are students can save their time because they no need to go to Jabatan Pembangunan & Pengurusan Harta (JPPH) and send the needed document. Other than that, the used of this application can eliminate the redundancy and problem of losing data that inserted by a student that will be saved in the database.

1.2 PROBLEM STATEMENT

First, the current vehicle booking form is by using manual form. Users have to print the vehicle booking form from Jabatan Hal Ehwal Pelajar & Alumni (JHEPA) page or just take it at JHEPA. Users also have to fill the information details in the form and then send it to JPPH. Users have to complete all the information details otherwise they can't continue for booking status. If the vehicle booking form and others document misplace or missing, the user has to fill the form again, print other document and send to JPPH again. This will cause the waste of paper.

Besides that, overbooking cases usually happen for the vehicle, especially bus case. Overbooking is a constant risk because when there are many users make a booking on the same date so the status will go for the first form. For others booking, they cannot get the vehicle and has to extend the date of booking. The big problem will occur as if they fail to get the vehicle at the exact date.

Next, waiting for the approval takes a lot of time. Usually, the user has to go to JPPH for update the booking status whether they get the booking or not. The user has to send the booking form 7 days before the date of using the vehicle for travel in Pahang

while 14 days for travel outside Pahang. Sometimes, the user has to go JPPH every day or three days a week for the booking status. If there are official events at UMP, all the vehicles are not available to book and use. The approval of the booking status is late and a waste of time.

1.3 AIM AND OBJECTIVE

The aim of this project is to develop a mobile application for UMP student to help and manage their vehicle booking using Android smartphones. The objectives to achieve the aim are as follows:

- i. To study the vehicle booking process and explore the possible mobile application technologies for the booking process.
- ii. To design and develop a proper mobile application for UMP Vehicle Booking.
- iii. To test and verify the function of the prototype system for UMP Vehicle Booking that helps student to manage their booking.

1.4 SCOPE

In order to achieve this project, the scope of the project was listed below:

- i. This mobile application will be developed for Android only.
- ii. This mobile application will be able to access by UMP students only.
- iii. This mobile application will only be used for vehicle booking such as bus and van in UMP.

1.5 REPORT ORGANIZATION

This paragraph summarizes the purpose and contents of this report. It specifies the requirement aspects related to the UMP Vehicle Booking using Mobile Application.

There are five chapters in this project. Chapter 1 deals with the introduction that consists of the background of the study and the real-world problem, next is the problem statement for the related issues that need to be addressed before attempting to solve them, then the three main objectives to be achieved, then the scope of the project that describes the boundaries of the projects and users, and finishes with the organization of the thesis for the summary of each project.

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