

UMP E-SAMAN BY USING QR CODE
SYSTEM

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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 in Computer Systems & Networking.

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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.

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Thesis submitted in fulfillment of the requirements
for the award of the degree of
Bachelor of Computer Science (Computer Systems & Networking)

Faculty of Computer Systems & Software Engineering

UNIVERSITI MALAYSIA PAHANG

MAY 2019

ACKNOWLEDGEMENT

Foremost, I would like to give my biggest appreciation to everyone who had lend me a help hand throughout the process of completing this project, especially to my supervisor, Dr. Syifak Izhar Hisham who had always support me in the process of accomplishing this project. Thank you to my family members who always give me support and courage to finish this project. Not to forget, thank you to all my colleagues who played such a big role in helping me specifically in realizing the technical part of my system. Your good deeds will always be remembered. Last but not least, all lecturers of FSKKP, thanks for the endless support and advice. All the knowledge and skills that I learnt throughout the process of making this project will be used later on and I hope that it will be a good assistance for my career in the future. Thanks again to everyone. I truly appreciate all who involve directly and indirectly in this documentation.

ABSTRAK

Kod *Quick Response* (kod QR) mula-mula dicipta pada tahun 1994. Sejak itu, ia telah digunakan sebagai identiti untuk semua jenis produk komersial, iklan, dan pengumuman awam yang lain. Kod QR digunakan untuk memberikan kandungan yang tertentu dengan kadar segera kepada pengguna. Sangat mudah untuk menghasilkan kod QR, cetak atau muat naik di laman web. Editor boleh menambah maklumat mudah ke laman web dengan menggunakan program penghasilan kod QR. Kod QR yang dihasilkan adalah sangat stabil; ia boleh digunakan untuk masa yang lama tanpa hilang kualitinya. Buat masa ini terdapat beberapa isu mengenai penggunaan pelekat kenderaan di UMP. Yang mana pengguna kenderaan menyalin pelekat dari yang lain. Kedua, mereka hanya membuat pelekat itu sendiri. Akhirnya, boleh terjadinya beberapa kesilapan oleh pegawai keselamatan dan kakitangan semasa menulis saman atau memasuki data. Oleh itu, saya mendapat idea untuk membangunkan UMP E-Saman dengan menggunakan sistem QR untuk melancarkan sistem lalu lintas dan keselamatan. Objektif membangunkan sistem ini adalah untuk menyiasat bagaimana kakitangan keselamatan UMP mengesahkan pelekat pendaftaran untuk kenderaan. Kemudian untuk merancang sistem pengesahan pelekat dan menghasilkan saman. Terakhir, untuk membangunkan UMP E-Saman dengan menggunakan sistem kod QR.

ABSTRACT

The Quick Response code (QR code) was first invented in 1994. Since then, it has been used as an identification mark for all kinds of commercial products, advertisements, and other public announcements. The QR code is used to provide immediate direction to the specific content. It is very simple to produce the QR code, print it or upload on the website. An editor can add simple information to a website by using a QR code-producing program. By then, the QR code is produced. QR code is very stable; it can be used for a long time without losing its quality. For now there are some issues regarding the use of sticker in UMP. Which is the user of vehicles copy the sticker from another. Second, they just edit and create the sticker by their own. Last, there probably some mistake by security officers and staff during writing the summons or entering the data. Thus, an idea to develop UMP E-Saman by using QR system to smoothen the traffic and security systems has been proposed. The objective of developing this system are, to investigate how UMP security staff authenticate registration sticker for vehicle. Then to design a system for authentication of the sticker and producing summon. Lastly, to develop UMP E-Saman by using QR code system.

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LIST OF ABBREVIATIONS

UMP	Universiti Malaysia Pahang
QR	Quick Response
URL	Uniform Resource Locator
SDLC	Software Development Life Cycle
EMT	Emergency Medical Technician
PHR	Personal Health Record

CHAPTER 1

INTRODUCTION

This chapter will briefly discuss about overview of UMP E-Saman by using QR code system. Overall, there are five sections in this chapter. The first section will briefly describe the introduction for this project. The second section will describe the problem statement for this project. The third section will describe the objective for this project. The next section will discuss about the scope of this project. In addition, the last section will briefly discuss about the thesis organization.

1.1 BACKGROUND

Manual summon system is a traditional method to record summons for traffic law, where the police officer writes down the summon record on the summon sheet. However, the process is not completely settled and done yet. The record is still on the summons sheet, not in the database. The data such as the offender ID and the committed offence need to be keyed in into the database of Police Department. In addition, the offender gets the memo.

QR code stand for Quick Response code. It is a machine-readable pattern, consists of black and white squares, typically used for storing URLs or other information to be read by cameras on the smartphone. Nowadays QR code is quite popular, it can be seen on magazines, flyers, posters, cards and any other physical information distributors. A smartphone acts as the scanner for the code. When the smartphone scans the code, this process is called 'mobile tagging' where the user points the phone's camera to the code while opening the code reader app, the user can immediately access the content that is stored in the code, because it can speed up the use of mobile web services. Then the smartphone can carry on with the

action. The QR code can trigger various actions, depending on where the content directs the user.

QR code can be applied to transfer money, open links to specific websites, exchange contact information, and even buy food and groceries and so on. All of these activities become more efficient and easy by using QR code system. This is because user just has to scan the code and continue the action need for that particular situation. Furthermore, the code can be scanned by using smartphone, which almost everybody has it nowadays. By using the QR code, it is beneficial for all fields, especially to market some businesses.

1.2 PROBLEM STATEMENT

In UMP, students and staff need to register their vehicles if they want to use their vehicle in UMP. For those who have registered, they will get a sticker for each registration. This sticker is only for one user. This sticker is used to know who have registered and who have not. There are few issues when using the sticker.

1. The students do not register their vehicles. However, they use their friend's sticker as their own. They copy the sticker from another. It is hard for UMP security officers to authenticate the sticker. Officers need to open the database to authenticate the sticker.
2. Another well-known offence by students is they just edit and create the sticker by their own. It is hard for UMP security officer to authenticate the sticker.
3. Security officers and staff can probably make mistake during writing the summons or entering the data. For example, security officer can make mistake by wrongly writing the summons. Maybe he/she writes the wrong ID of the offender, or maybe the ID is right but security staff wrongly keyed in the ID.

Based on the issues mentioned above, I have the idea of using QR code technology to facilitate UMP traffic and security systems.

1.3 GOALS & OBJECTIVES

The objectives of developing UMP E-Saman using QR code system are:

- To investigate how UMP security staff authenticate registration stickers for student's/staff's vehicles.
- To design a system for authentication of the stickers and producing summons for those that break the traffic law.
- To develop UMP E-Saman system by using QR code.

1.4 SCOPE

The scope of this project is to develop a more systematic and efficient system that can aid UMP Security Department in their task for summons. It can be described as follow:

i. Target organization

This system will mainly be developing in UMP. The purpose is to develop a system for authenticating the students'/staff's stickers by using QR code. The main objective is to help UMP Security Department to manage traffic summons by using QR code, which is more convenient.

ii. Target user

The target users are UMP security officers. They will use their smartphone to scan student's/staff's sticker to record their traffic summons.

iii. Function

This system needs the internet connection to store directly the summon records to the database. This connection will update the data into the server; this

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