BORANG PENGESAHAN STATUS TESIS

JUDUL : E-STICKER

SESI PENGAJIAN : 2014/2015

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Tarikh: 28/8/2015

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E-STICKER

KANG YI SHIN

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2015

DECLARATION

I hereby declare that this project report entitled

E-STICKER

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

STUDENT: _____ Date: 28/8/2015
(KANG YI SHIN)

SUPERVISOR: _____ Date: 28/8/2015
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DEDICATION

I dedicate my final year project report to my beloved family and friends. To my parent, Kang Thai Liang and Tee Lee Peih, thank you for your unlimited support during the whole process of this project. Billions thanks for the encouragement whenever obstacles appear to bring me down. All the support and encouragement had brought me getting through all the obstacles and make success. To my lovely elder sister, Kang Yi Chien, thank you for always be my side as a guideline for me to walk through this path without fear. To my friends, my housemates, Goh Pei Ing, Chuah Yin Boon and Lim Zhew Sheng, thank you for the great time we working out the final year project together. Thank you for the words of encouragement and the generosity on sharing the knowledge.

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ABSTRACT

Nowadays, the use of smartphone is getting popular worldwide. Using the smartphone devices, users can get a lot of things done by using the mobile applications installed in the devices. Mobile application not only can save time, it also can help to save people's effort on work. In this e-Sticker project, two mobile applications and one web application will be produced.

In UTeM, all the personnel who bring in their vehicles frequently will be required to apply for stickers. The use of the stickers is to verify the identity of the personnel and to make sure UTeM compound is safe from unknown person. However, we need to attend to Pejabat Keselamatan in person for the applications. We will be given form to fill in the details and hand in photocopies of IC, Matric Card and license. After the application is approved, admin will key in all the details of applicants into the computer system. This take time and errors may occur.

With the use of e-Sticker, applicants can apply for e-Sticker using the mobile application. Then, admin can decide to approve or reject the applicant's application using the web application. E-Sticker is also implemented with QR Code. Security officers can give summon by scanning the QR Code on the stickers to get the information of the users. Then, e-Sticker mobile application user can check the summon details using the mobile application. E-Sticker can also prevent the data from losing.

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CHAPTER I

INTRODUCTION

1.1. Introduction

Currently, UTeM is applying the most basic system to handle the students or staff who carrying their vehicles into UTeM. At the guard house in UTeM, security officers on duty verify the sticker on the vehicles to make sure the people going in UTeM compound is secured. Hence, at the very start of semester, students or staff need to attend to Pejabat Keselamatan to apply for the stickers. After form is given to them, they need to fill in the form and provide the photocopies of ic, license and staff/matric card. Then, the security officer needs read and decide whether is application is approved. If the application is approved, applicant will be given the sticker and their information will be keyed into the system manually.

E-Sticker is an application designed for UTeM which will benefit all the security officers, staffs, and students. E-Sticker consists of three parts, which are two mobile applications for both security officers and users, and a web

application for admin. Using the mobile application, users are able to register themselves online and apply for stickers for their vehicles. They do not need to spend time at Pejabat Keselamatan waiting for the processes to be done. Once the user register themselve using e-Sticker, an unique QR code will be generated. Users can also use the mobile application to check and update their own profile, besides checking whether they have broken the security regulations.

The security officers are also able to use the mobile application to view and update their own profile. Other than that, they are able to check the details of the owner of the vehicles by just scanning the sticker using QR code. If the owner has broken the security regulation, they can give out summons on the spot and the owner will be notified. Lastly, security officers are able to give out reminders to those offencers.

After the users or security officers apply using the mobile applications, admin has to approve their application using the e-Sticker web application. After the application is approved, e-mail will be sent to the users then only users can log into the mobile application.

1.2. Problem Statements

i. Current manual system cause ineffectiveness

Currently, the application of sticker for vehicle is done by manual. This is meant by the applicants need to fill in the form prepared by Pejabat Keselamatan. Then, the security officer in the Pejabat Keselamatan need to key in the details of applicants into the computer system manually. This may consume extra time for typing. At the same time, different types of error may occur, such as typing error or mistakes on the information of applicants.

ii. Data is not available anytime

Data is saved in the system in Pejabat Keselamatan. Whenever the data is needed, the officers need to go to Pejabat Keselamatan in person in order to get the data. As compared to the data that is saved on online server, it has caused a lot of inconvenience. Other than that, searching of data is much difficult because data is searched from list of redundant data.

iii. Data may lost

System malfunctional may occur on the computer system. The data saved in the computer system may be losted if the data is not backed up externally.

iv. Less effective security enforcement

When there are users who break the security regulation, penalty is hard to be given as identity of students is hard to be detected. Security officers need to record the details of the those vehicles who have broken the security regulations manually. Furthermore, the summon paper may lost and the person may do not know that he or she is summoned.

v. Inconvenience made to applicants

Applicants need to arrange time to meet the security officers in Pejabat Keselamatan to issue the application. It causes the time available limited because applicants have simultaneous lunch time, which is 1pm to 2pm. Other than that, it causes extra time for applicants to queue and wait for the procedures to be taken.

1.3. Objective

i. To study the design requirements

The specification of design requirement is very important to produce a good system. In order to produce e-Sticker, generative research method is used in order to get a better picture of requirements and needs of our end users. The end users of the project consists of the security officers, staff, students and contractors of UTeM.

ii. To develop mobile application implemented with QR code

The development and the use of mobile applications are getting wider in Malaysia. It brings a lot of convenience and enchance the life of people in terms of time saving. On the other hand, QR code is also a usable way to store information. This project is to implement the mobile application with QR code generating and scanning function.

iii. To evaluate the effectiveness of using e-Sticker

This project is to evaluate the effectiveness of e-Sticker in terms of time saving, convenience to use, and usability to handle the redundant data system.

1.4. Scope

i. The target user will be the security officers, staff, students and contractors

E-Sticker is to be used by security officers who are authorised to give out summons, warning and fine. Staff and students who bring their own vehicles into UTeM compound will also use e-Sticker application for registration and view the information of summon. As well as the contractors who work in

UTeM for more than 3 months, they can also apply for the e-Sticker for convenience of entering the gate.

ii. E-Sticker consists of two mobile applications and one web application. The platform used by the mobile applications are Android. The web application is only used by admin to verify and approve the applications. The web application can be accessed by any browers, such as Google Chrome, Internet Explorer and Mozilla Firefox.

1.5. Project Significance

The significances of this project are as follow:

i. E-Sticker can help to increase the effectiveness of the security enforcement in UTeM which involve the cooperation of security officers and users.

ii. The QR code function in the mobile application can save a lot of time and prevent errors to occur. It also easier the security officers to access the information of users.

iii. All the data will be saved in MySQL database. It can assure the availability and integrity of data.

iv. Applicant does not need to fill in the printed form by handwriting and it saves plenty of papers.

v. Security officer does not need to key in the data of applicants manually into the computer system. It can save a lot of time and prevent error of typing.

vi. Applicants can save time because they do not need to attend to Pejabat Keselamatan in person and wait for the application to be approved.

1.6. Conclusion

As a conclusion, a complete and usable e-Sticker is expected to be produced. It is not only benefit the users in terms of work load, it can also improve the quality of work to be done. Other than that, security officers can fully use their time to complete work other than checking and typing the data using the current computer system. Coming next, literature review and project methodology will be done in Chapter 2.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1. Introduction

The Statistics Portal, Statista, has made statistics on the number of mobile applications available for download in leading app stores as of May 2015. As of that month, Android users were able to choose between 1.5 million apps. Apple's App Store remained the second-largest app store with 1.4 million available apps. The figure has shown a significant growth from month to month. This shows that mobile applications are now the leading trend to satisfy people's need because mobile applications cover a wide range of various purposes.

However, it is found that there is no mobile application has been used for security enforcement in other universities in Malaysia. Most of the universities are using the manual system like the one in UTeM. As smartphones are nearly replace the cell phones, having a mobile application to make all the work easier is feasible. To develop a more usable e-Sticker, generative research method is

used to study for the design requirements of end users. This method is used to achive more reliable information as needed to develop the e-Sticker.

2.2. Domain

- The research will be done on the development of e-Sticker which is focusing on mobile and web application development. The e-Sticker is to assist UTeM in the field of security enforcement. Security officers and users including staff, students and contractors in UTeM will be the end users of e-Sticker.

- Research will also be done on the usage of QR code to achieve the information of vehicles' owners in a short time.

2.3. Existing System

- According to Martin Kelvin (2013), smartphone applications have really changed our lives. With the smartphone came the opportunity of developing bespoke smartphone applications. And today, there is a huge scope for smartphone application development. And with the development of smartphone applications, the world has been redefined for the people in general with a wide range of various purposes.

- According to Anant Goel (2013), apps not only need to be focused and efficient in bringing out the best from the workforce... but also allow standardization across the entire user base for fluid communication from the bottom up. Apps that are developed for corporate use must be designed and

be natively intuitive for multiple types of devices and be able to efficiently communicate throughout a large collection of personal smart devices, to ensure that the mobile network is not only transparent but also works as it should.

- There is no similar security enforcement mobile application applied by local universities in Malaysia.

- However, there are applications like Parking Enforcement App launched in Google Play. Parking Enforcement App is an android application to be used by parking inspectors in their supervision area. The application features normal parking supervision functionalists such as checking valid permit, issuing parking fines, printing parking fines through an integrated Bluetooth Zebra printer.

- According to Lauren Serota, the professor of Austin Center for Design, generative research is applied to inspire new ideas and provide context for existing ones. Other than that, generative research is used when you need ideas and to drive innovation (revolution).

- From Ian Schulte April 22, 2011, in an article titled 'Generative Research: Encouraging Creativity to Yield Valuable Results', "Generative research," as a broad grouping of different methods, treats people as collaborators and idea-generators – more simply, as creators. The intention is to give collaborators enough room to express their innate creativity in some form or another, while grounding that activity within the context of a specific research question.