UNIVERSITI TEKNIKAL MALAYSIA MELAKA

DESIGN AND DEVELOPMENT OF ANDROID-BASED SASARAN PENTING VISITATION APPLICATION MANAGEMENT SYSTEM FOR TELEKOM MALAYSIA, MELAKA

This report is submitted in accordance with the requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor of Computer Engineering Technology (System Computer) with Honours.

by

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Date:

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APPROVAL

This report is submitted to the Faculty of Mechanical and Manufacturing Engineering Technology of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Computer Engineering Technology (System Computer) (BEEC) with Honours. The member of the supervisory is as follow:

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Signature: …….

Co-supervisor: AIMAN ZAKWAN BIN JIDIN

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ABSTRAK

Projek ini adalah untuk merekabentuk dan membangunkan sistem kelulusan permohonan pelan aplikasi android Sistem Pengurusan Pelawat "Sasaran Penting" (SPVM) untuk Telekom Malaysia, Melaka. Projek ini hanya akan digunakan oleh kakitangan Telekom Malaysia Melaka berkenaan dengan proses meluluskan permohonan pelawat untuk melawat Lokasi "Sasaran Penting" dan menjejaki status kelulusan permohonan. Idea untuk memulakan projek ini telah dikeluarkan dan diminta oleh pelanggan yang merupakan Jabatan Pengurusan Keselamatan Telekom Malaysia Melaka. Projek ini akan digunakan untuk mengatasi masalah yang berlaku dalam masalah sistem semasa untuk menguruskan pelawat untuk melawat Lokasi "Sasaran Penting". Dalam sistem semasa, proses untuk meluluskan satu permohonan pengunjung mengambil masa sehingga satu minggu sebelum ia dapat memberi maklum balas kepada pemohon. Selain itu, di kalangan kakitangan, proses mengesan proses kelulusan agak sukar dan setiap proses perlu dilakukan dengan menggunakan e-mel. Lebih-lebih lagi, data pelawat tidak diurus dengan cara yang tersusun menyebabkan proses membuat analisa data menjadi sukar. Berdasarkan masalah yang telah dikeluarkan oleh klien, projek ini akan membangun dan merekabentuk sistem dengan tiga subsistem berdasarkan keperluan klien untuk mengatasi masalah yang telah dinyatakan. Projek ini hanya memberi penekanan kepada dua lokasi Sasaran Penting Telekom Malaysia di rantau Melaka yang merupakan Stesen Satelit Bumi di Lendu dan Stesen Kabel Submarine di Pengkalan Balak seperti yang diminta oleh anggota keselamatan.

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ABSTRACT

This project is to Design and Develop of Android-Based “Sasaran Penting” Visitation Application Management System for Telekom Malaysia, Melaka This project will only be used by the staff of Telekom Malaysia Melaka regarding with the process of approving visitor application to visit the “Sasaran Penting” Location and keep track the approval status for the application. The idea to start this project has been issued and requested by the client which is the Security Management Department of Telekom Malaysia Melaka. This project will be used to overcome the problem that occurred in the current system problem for managing the visitor to visit the” Sasaran Penting” Location. In the current system, the process for approving one visitor application take time until one week before it can give response to the applicant. Besides that, among the staff, the process of tracking the approval process quite hard and every process need to be done by using email. Moreover, the visitor data was not being managed organize which result the process to make data analysis become hard. Based on the problem that has been issued by the client, this project will develop and design a system with three subsystems based on the client requirement to overcome the problem that has been stated. This project is only emphasis on two of Sasaran Penting locations of Telekom Malaysia in Melaka region which is Earth Satellite Station at Lendu and Submarine Cable Station at Pengkalan Balak as requested by security personnel

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DEDICATION

This project is wholeheartedly dedicated to my beloved parents, who have been our source of inspiration and gave us strength when thought of giving up, who continually provide their, moral, spiritual, emotional and financial support.

To my brothers, sisters, relatives, mentor, friends and classmates who shared their words of advice and encouragement to finish this study.

And lastly, this project dedicated to whom that involved either directly or indirectly during the process of completing this project.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, having visitor has become one important key for the successful of any organization. The main objective of having visitor is to create a platform to share their technology, knowledge and facilities that has been provided by their company or organization. Therefore, visitor can be categorized into students, company, organization and others. Besides that, having a visitor not only focus on sharing their knowledge, but it also can be as work matters which can help to make the improvement for the development of their company. Therefore, visitor also can be categorized as the suppliers, staffs, business partner and others. The increase number of visitor for a company will lead to the problem of managing the visitor. The normal way for managing the visitor in certain company is using Visitor Book or Guest Book which maybe not a practical way to store the information that may lead to data leakage. Therefore, this project will focus on how to create Visitor Management System that can be integrated between database and android application.

Visitor Management System is a system that being used to manage the visitor information to it become more organize, efficient, effective and user friendly. By having a Visitor Management System, the visitor information can be store in more secure way. Besides having a secure data protection, it also enhances the security of the company or organization. The idea to develop this Visitor Management System has been issued by the Security Department in Telekom Malaysia Melaka Bhd. This Visitor Management System will be implement to the TM "Sasaran Penting" location. Regarding with the problem that occurred in their current Visitor Management System,

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the Security Management Department of Telekom Malaysia Melaka which act as the client has asked to develop one Visitor Management System which called as "Sasaran Penting" Visitor Management System (SPVMS).

1.2 Background

The number of smartphone users has been increased rapidly through the year. Therefore, there were two popular platform that being used to be integrated with smartphone which are IOS and Android. This project focused on the development of android application has been mentioned earlier that the idea to develop "Sasaran Penting" Visitor Management System (SPVMS) has been issued by the Security Department in Telekom Malaysia Melaka Bhd.

"Sasaran Penting" location is a location that being categorized as the most important location in Malaysia that need to be implemented with high security protection. This is because, "Sasaran Penting" location possess to have a valuable assets and property that become a target of security threat. "Sasaran Penting" location can be categorized into two types of priority which are Priority One and Priority Two.

Priority One location is when there is no other option if its function is destroyed or severely damaged will result in adverse effects on the national economy or national security or government functions. Priority Two location is Assets or property that are to replace if their function is destroyed or severely damaged which would result in adverse effects on the national economy or national security or government functions.

In Melaka, there are three location that has been spotted as "Sasaran Penting" Priority Two which are TM station Bukit Beruang, Melaka Satellite Earth Station and Melaka Submarine Cable Station. Therefore, this project will be implemented to only two location which are Melaka Satellite Earth Station and Melaka Submarine Cable Station.

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1.3 Problem Statement

In this part, the problem statement for this project has been identified. The problem that occurred in the current Visitor Management System in managing the visitor to visit the Sasaran Penting Location has been used as reference for this project. Below are the lists of problem statement.

1. The time taken to process one complete application to visit "Sasaran Penting" location is too long, and the fastest time taken to complete one application can take up until one week.
2. The current Visitor Management that being used is quite difficult to track the progress of approval application make by the Admin Station and General Manager and Security Management Department.
3. The current Visitor Management System only used email for every process of handling the visitor's application.
4. The process of approving the visitor application can be difficult to be done if the Admin Station or General Manager currently not available or outstation to manage the document related to the visit.

1.4 Objectives

There are several objectives to develop and implement the Android based "Sasaran Penting" Visitor Appointment Management System for Telekom Malaysia, Melaka. The objectives are:

1. To study and understand the existing "Sasaran Penting" Visitation Application Management System implemented by Telekom Malaysia, Melaka.
2. To design and develop an Android application to facilitate the staffs in Telekom Malaysia Berhad to manage "Sasaran Penting" visitation application more efficiently.

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3. To analyse and confirm functionality testing and performance testing onto the developed android application to ensure all identified system requirement are meet.

1.5 Scopes

The scopes of this project can be listed as below.

1. Implement the SPVMS into two location which are Melaka Satellite Earth Station and Melaka Submarine Cable Station.

2. Development based on the android platform by using Android Studio IDE.

3. Development on the android application only for the Staffs of Telekom Malaysia Melaka.

4. Development based on Java Language and PHP Language.

5. Perform the Create, Read, Update and Delete (CRUD) from the android application with the database.

1.6 Expected Result

Android based system for Telekom Malaysia staffs to manage "Sasaran Penting" visitors appointment application with two level of approval processes. This application expected to improve work efficiency and keep updates with current appointment approval state especially for people involves in the "Sasaran Penting" Visitor Management System (SPVMS). Visitor or applicant also gain benefits of getting fast respond from Telekom Malaysia Melaka

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Literature review has played an important role as the early phase in developing this project which can help to identify the greatest method to achieve the objectives of the project. The reasons why literature review is important are to ensure that the topic that involved in this report has been understand thoroughly, can identify potentials areas for research and similar work done within the area, study the knowledge gaps that demand further investigation, compare previous finding and to critique existing findings with suggest further studies. This chapter will review about background of the company, analysis of the current system used for manging visitor to "Sasaran Penting" location and comparison between Integrated Development Environment (IDE) that can be used to develop an android application.

2.2 Company Background

2.2.1 Overview of Telekom Malaysia Berhad

Telekom Malaysia Berhad was established in 12 October 1984. This company offers an exhaustive suite of communication services and solution in fixed (communication and broadband), portability, content, Wi-Fi and smart services. Various product has been produced by Telekom Malaysia Berhad such as Unifi, Streamyx, Webe and others which conceptualizes with communication network. Even though Telekom Malaysia Berhad focused on delivering a comprehensive communication services, they also expand their services through education and infrastructure. This can be seen that Multimedia

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University (MMU) is one of their subsidiaries. Telekom Malaysia was offered by the Government of Malaysia to set up a college in MSC Malaysia and now Multimedia University(MMU) have three primary grounds which situated in Cyberjaya, Melaka and Johor. In term of infrastructure, Telekom Malaysia has created various brands and one of the most popular brand is Menara Kuala Lumpur. This shows that Telekom Malaysia is not only focused on communication services, but it also involved in education and development.

The vision of Telekom Malaysia Berhad is to make life and business simpler, for a superior Malaysia. The mission of Telekom Malaysia Berhad are:

1. To deliver life made easier to customer through converged lifestyle communication experiences.

2. To deliver life made easier to businesses by collaborating with and supporting them with integrated solutions.

3. To deliver life made easier to the nation by supporting socio-economic development through education, innovation and social initiatives.

The purpose of Telekom Malaysia Berhad is to keep people connected in more ways than one and their roads to achieved that are:

1. Total Commitment to customers.
2. Uncompromising integrity.
3. Respect and Care.

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2.2.2 Overview of Telekom Malaysia Berhad Branches

Telekom Malaysia Berhad has expands their branches to all states in Malaysia. Below are the lists of branches of Telekom Malaysia Berhad in Malaysia:

1. Telekom Malaysia-Perlis.
2. Telekom Malaysia-Kedah.
3. Telekom Malaysia-Perak.
4. Telekom Malaysia-Selangor.
5. Telekom Malaysia-Kuala Lumpur (Headquarters).
6. Telekom Malaysia-Negeri Sembilan.
7. Telekom Malaysia-Johor.
8. Telekom Malaysia-Terengganu.
9. Telekom Malaysia- Pahang.
10. Telekom Malaysia-Kelantan.
11. Telekom Malaysia-Sabah.
12. Telekom Malaysia-Sarawak.

Every branch of Telekom Malaysia in each state have at least two or more TM Point. This TM Point act as Sub-Branch for Main Branch in e very state and it is in certain area that has been spotted to have it.

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2.2.3 Overview of Telekom Malaysia- Melaka

Figure 2. 1 : The View of Telekom Malaysia Melaka

Figure 2.1 shows the image of "Menara Telekom Malaysia" that is in Melaka International Trade Centre (MITC), Melaka. The "Menara Telekom Malaysia Melaka" was officiated by Tuan Yang Terutama Tun Mohd Khalil Bin Yaakob, Yang Dipertua Negeri Melaka in 2008. This building was built with having 14 floors, equipped with 4 lifts, 4 main meeting room, cafeteria, prayer room and kindergarten. This building also was occupied with approximately 400 employees and have 17 departments. The work regarding with discussions, develop plans and management of related projects were done by TM's senior management. Next, directives and disbursements for the implementation of technical and related work are carried out.

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2.2.4 Overview Security Management Department of TM Melaka

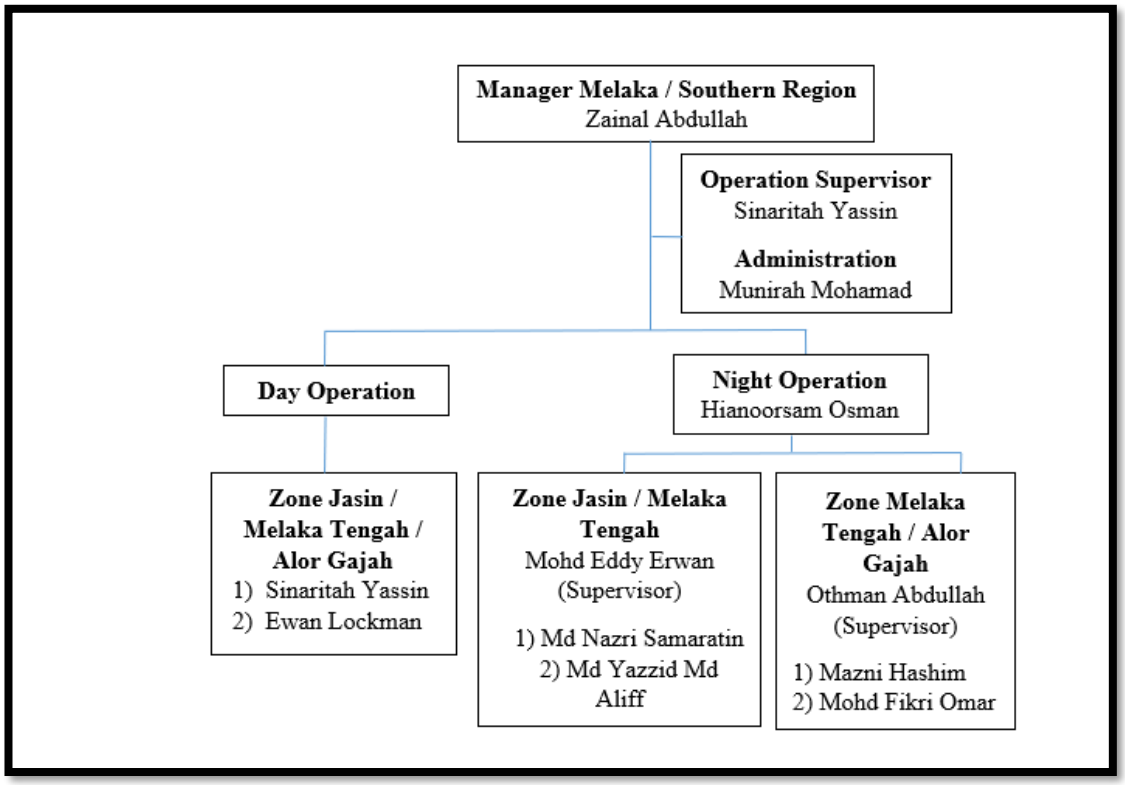

Figure 2. 2 : Organisation Chart for Security Management System of TM Melaka

Figure 2.2 shows the Organisation Chart for Security Management Department of Telekom Malaysia-Melaka. The TM Melaka security unit task can be categorized into three parts which are:

1. Security Division

Security Division means that Security Management Department is responsible to manage the security for the company's assets and property that being assisted by the security protection.

2. Security Protection

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