

**SAFEHOUSE VISITOR MANAGEMENT SYSTEM**



**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

## BORANG PENGESAHAN STATUS TESIS

JUDUL: SafeHouse VISITOR MANAGEMENT SYSTEM

SESI PENGAJIAN: 2016/2017

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# SAFEHOUSE VISITOR MANAGEMENT SYSTEM

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


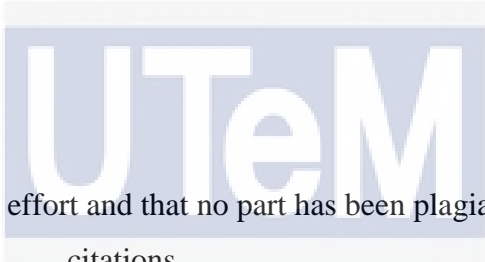
FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2017

## DECLARATION

I hereby declare that this project report entitled  
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is written by me and is my own effort and that no part has been plagiarized without  
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## DEDICATION

First of all, I would like to dedicate this project to my family. They always support me throughout whole project development. I also appreciate the encouragement from supervisor and every friend which motivated me to complete this project.



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First and foremost, I would like to thank to my supervisor of this project, Dr. Massila for the guidance and advices during the journey of this project. Dr. Massila has inspired me greatly to work in this project and her willingness to motivate me contributed tremendously to this project. I would also like thank my evaluator for this project which Dr. Khanapi for willing to take the time to evaluate my project. The comments from the evaluation have teach me a lesson where there is still a few improvements need to make to enhance system.

Besides, I would like to thank the authority of Technical Malaysia University (UTeM) for providing an environment and facilities to complete the project. Finally, not forget to my family and friends that willing to support me on completing the project. With the help of all that has I mentioned above, I am now finally successfully on complete our project with the duration of time given.

اونيورسيتي تيكنيكل مليسيا ملاك

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## ABSTRACT

SafeHouse Visitor Management System is a software that aims to provide a safety housing area environment where citizen feel safe is of the utmost importance. We will feel more comfortable knowing that purpose and identity of incoming guest. Visitor Management refers to the practice of welcoming, processing and monitoring guests. In today's security-conscious environment, it is important for management to ensure that visitors' personal data are clear enough to make host or house owner to drop his guard. A visitor or guest with ambiguous identity does not seem like will be welcomed by others. Therefore, this application provide a module which allow visitors to pre-inform hosts before they want to have a visit by sending the hosts a friendly text or message along with his picture, personal details and purpose. This can enhance the communication between visitors and host effectively to significantly reduce the risk of miscommunication happens. Moreover, a security code and a QR code will be generated for those whose visit request has been approved to eliminate crimes of identity fraud. In this project, agile model will be our preferred guild line which require to develop software quickly in an environment of rapidly changing requirements. The use of iterative development is common to all agile methods and usually there are frequent releases to customers to collect feedback. The collected result will be used to improve product by repeat the step in lifecycle. The vision is to improve security of housing area environment by implement SafeHouse Visitor Management App in few department in Meleka area. This app can solve the security issues encounter by the citizen and visitor such as ambiguous information of visitor and at the same time assists guard to have better monitor activities.

## ABSTARK

Sistem Pengurusan Pelawat SafeHouse adalah perisian yang bertujuan menyediakan persekitaran kawasan perumahan keselamatan di mana penduduk merasa selamat adalah sangat penting. Kami akan berasa lebih selesa dengan mengetahui tujuan dan identiti tetamu yang akan datang. Pengurusan Pelawat merujuk kepada amalan mengalu-alukan, memproses dan memantau tetamu. Dalam persekitaran keselamatan yang sedia ada, tuan rumah perlu memastikan tetamu yang datang adalah dengan data peribadi yang cukup jelas. Seorang pelawat atau tetamu yang mempunyai identiti samar-samar tidak sepatutnya akan dialu-alukan oleh orang lain. Oleh itu, aplikasi ini menyediakan satu modul yang membolehkan para pelawat untuk memaklumkan tuan rumah sebelum mereka ingin melawat dengan menghantar tuan rumah teks atau mesej mesra bersama dengan gambar, butiran peribadi dan tujuannya. Ini dapat meningkatkan komunikasi antara pengunjung dan tuan rumah dengan berkesan untuk mengurangkan risiko salah faham berlaku. Selain itu, kod keselamatan dan kod QR akan dijana bagi mereka yang permintaan kunjungannya telah diluluskan untuk menghapuskan jenayah penipuan identiti. Dalam projek ini, model tangkas akan menjadi garis kesatuan pilihan kami yang memerlukan untuk membangunkan perisian dengan cepat dalam persekitaran keperluan yang berubah dengan pantas. Penggunaan pembangunan berulang adalah perkara biasa bagi semua kaedah tangkas dan biasanya terdapat keluaran yang kerap kepada pelanggan untuk mengumpulkan maklum balas. Keputusan yang diperolehi akan digunakan untuk meningkatkan produk dengan mengulangi langkah dalam kitaran hayat. Visi ini adalah untuk meningkatkan keselamatan persekitaran kawasan perumahan dengan melaksanakan App Pengurusan Pelawat SafeHouse di beberapa kawasan perumahan Meleka. Aplikasi ini boleh menyelesaikan isu-isu keselamatan yang dihadapi oleh penduduk dan pelawat seperti maklumat yang jelas tentang pelawat dan pada masa yang sama membantu pengawal untuk memantau aktiviti dengan lebih baik.



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## CHAPTER I

### INTRODUCTION



#### 1.1 Introduction

SafeHouse Visitor Management App is a system that designed with the purpose to provide a safety housing area environment where citizen feel safe is of the utmost importance. Visitor Management refers to the practice of welcoming, processing and monitoring guests. In today's security-conscious environment, it is important for management to ensure that visitors' personal data are clear enough to make host or house owner to drop his guard. A visitor or guest with ambiguous identity does not seem like will be welcomed by others. Hence, it is essential to provide your personal details with a picture of you and state your purpose before you decide to go visit someone. With truthful information provided, at least it will make you become trustable. Pre-communication with host before visiting them will be the key to make the visit success. An effective communication can minimize the risk of visit them at an inappropriate time. This system not only beneficial to mobile user only but also a web platform is ready to serve guard. Guard is the man who responsible to make the

housing area safe and this system will be used as a tool to help them execute their tasks more effectively.

## 1.2 Problem Statement(s)

- i. Visitor might not be the person who was recognized by house owner and usually it will lead to distrustful from house owners. House owners will feel uncomfortable towards incoming guests with unknown identity or unexpected visit. As a result, they just shut the door on these strangers.
- ii. Guard cannot make sure the visitors came are with the approval from house owner because there is no way to prove it. This scenario raise the security issues as some people with bad intention can grab the chance and lead to the crimes happen. For example, the theft problem occurs frequently can threaten the safety of residents in housing area.
- iii. Using logbook to record the information of visitor is time consuming and not reliable. Information written in the logbook can be illegible because do not have the record of the visitor. When peak hour is come, some visitors may not put their information in log book.

## 1.3 Objective

This project embarks on the following objectives:

- Allow visitors to pre-inform hosts before they want to have a visit by sending the hosts a friendly text or message (with date, time, purpose, number of people).
- To provide a security measure to avoid non-identified theft by generate random number code as passkey for approved guests only. The code generated is unique and not reusable until the visitor left. This can prevent unauthorized visitors can use the security code to infiltrate and gain access to housing area.
- To encourage pre-registration in order to make management process of guard become more readily. All the record of visit request along with the information of both visitor and house owner are stored electronically. It can help guard to handle multiple visitors simultaneously. Moreover, the module enable the guard to track and monitor the time of visitor arrive and leave.

#### 1.4 Scope

The scope of SafeHouse Visitor Management system is to build a safe housing environment by filter the incoming visitor and at the same time as a tool to enhance the productivity of guard.

##### 1.4.1. User Group

There are 5 types of end users will be served in our system which are residents in housing area, visitor, security guard and admin and SuperAdmin.

**i. Residents in housing area & Visitor**

A mobile application will be designed as a communication channel between residents and visitors.

**ii. Guard**

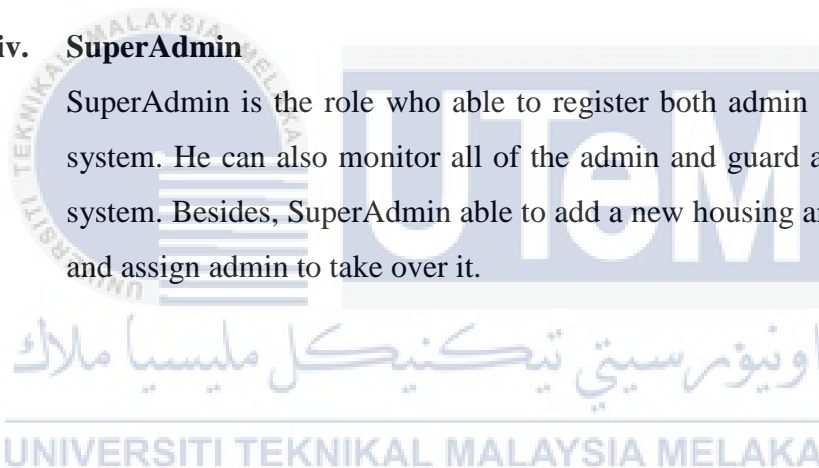
Guard are responsible to manage all the logged request and track the time when visitor arrive and leave. Guard also need to validate security code provided and scan the QR code to verify the identity of incoming visitor.

**iii. Admin**

Admin part is to register new guard into system. Admin can monitor all the guard under his management area.

**iv. SuperAdmin**

SuperAdmin is the role who able to register both admin and guard into system. He can also monitor all of the admin and guard available in the system. Besides, SuperAdmin able to add a new housing area into system and assign admin to take over it.



**1.4.2. Mobile Application (SafeHouse)**

SafeHouse acts as a platform to allow users send visit request to each other. Security code and QR code will be generated to those approved request and can be seen by that visitor and owner only.

**1.4.3. Mobile Application (QR Code Scanner)**

This application used by guard to scan the QR code provided by visitor. It can interpret the QR code and read the text inside. It is not only to verify the identity of visitor but also used to monitor the activities of visitors.

#### 1.4.4. Web Application

Web application consists of three users which are guard, admin and SuperAdmin and each of them has different tasks to ensure the safety of housing area.

#### 1.4.5. Module

This system will across different platforms which are a mobile app and a website. Each of them consists of different modules.

##### i. Mobile app

- Registration and login

Mobile user need to register an account before access into system.

- Manage user profile

User need to set up their own personal profile first after registration is done for the purpose to allow other users know your identity.

- Search and add user into contact list

Mobile user can be either residents or visitor. They can add each other in their contact list for further purpose by searching his/her contact number.

- Send visit request

Visitor is allowed to send a visit request with details provided to house owner to make an appointment.

- Approve/Decline visit request

Request sent will be received by house owner. They can choose either approve or decline the visit request.

- Generate security code

This is the security measure to make sure approved visitor only can gain access from guard with the unique code generated after request being approved.

- Generate QR code

This is the alternative way to verify the identity of visitor with approved request.

## ii. Web Application

- Login

Website in this system can be only accessed by either security guard, admin and SuperAdmin.

- Monitor all approved visit request

All approved request will be stored in database electronically and can be view by guard and SuperAdmin in this web application. It including the information of both house owner and visitor and security code generated for each request to verify the identity of visitor.

- Log time when visitor arrive or leave

It is important to log the time when visitor step-in and step-out from housing area to ensure the code cannot be reuse again.

- Register new area, new guard and new admin

SuperAdmin has the ability to add a new housing area into system and assign new admin and guard to that specific area.

- Monitor guard and admin

SuperAdmin can view the information of all guard and admin in system.

## 1.5 Project Significance

In this modern era, a visitor management system is essential in every housing area to provide a safe housing environment for residents. SafeHouse Visitor Management System show its ability by deny non-identity visitors to pass through the gate. With customized visit request provided, user can send the information easily and the content can be delivered to receiver accurately to avoid miscommunication. While guard who ensure the safety of housing area, they indeed need a tool to improve their performance.

## 1.6 Expected Output

This project expected to be used widely in some department in Melaka to improve the security measures. The implementation of SafeHouse Visitor Management System should be filter all of the incoming guests and visitors and only provides the security code to them who are approved by host. The security code is used to verify identity of visitor. This features can help citizen to relief from worry by decline all the anonymous visitor. Furthermore, this application provides a platform to encourage communication between host and visitor in order to eliminate miscommunication between them. Some miscommunication such as inappropriate time of visit, purpose and identity can cause the host to turn down incoming visit request.

## 1.7 Conclusion

In this very beginning part, objective and how the module in the system work to overcome existing problem has been mentioned. This system is really beneficial to all of the end users and highly expected to be implement in all the housing area in Malaysia in the future.

## CHAPTER II

### LITERATURE REVIEW AND PROJECT METHODOLOGY



#### 2.1 Introduction

In this chapter, the preparation of the project will be briefly discussed. The included subchapter are literature review, project methodology, project requirement and project milestone. A literature review discusses published material such as journal, article, newspaper, and so on in a particular subject area. It is used to emphasize the credibility and provide a solid background for the documentation of a writer. Moreover, the methodology will describes all the stage in project development to clarify important tasks in each stage. Project milestones will be also attached in this chapter.

#### 2.2 Facts and findings