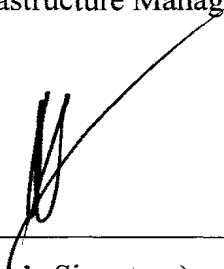




## SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Engineering Technology (Infrastructure Management) with Honours.

  
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Date : 2 JANUARY 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.

A handwritten signature in black ink, appearing to read 'Kevin Wong Choon Kit', is written above a horizontal line.

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PERFORMANCE MONITORING OF KUANTAN-GAMBANG (FR 2) AND  
GAMBANG TOLL PLAZA (FR 222)-MUADZAM (FR 12) CROSS JUNCTION  
USING MALAYSIAN INTELLIGENT TRAFFIC SYSTEM (MITS)

KEVIN WONG CHOON KIT

Thesis submitted in fulfillment of the requirements  
for the award of the degree of  
Bachelor of Engineering Technology (Infrastructure Management) with Honours

Faculty of Engineering Technology  
UNIVERSITI MALAYSIA PAHANG

JANUARY 2019

PERPUSTAKAAN <span style="float: right;">Gr</span> UNIVERSITI MALAYSIA PAHANG	
No. Perolehan <b>T000050</b>	No. Panggilan Fiek .K48 2019 R 80.
Tarikh <b>12 JUL 2019</b>	

## **ACKNOWLEDGEMENTS**

I wish to express my sincere thanks to Associate Professor Ir. Adnan bin Zulkiple, Deputy Deam of Faculty of Engineering Technology and my co-supervisor to conduct this thesis. I am grateful for his expert, sincere and valuable guidance and encouragement to me.

I would like to thanks to my academic advisor, Mr. Mohammad Affendy bin Omardin for his support and continuous guidance and advices for me.

I also like to grab this opportunity to record my sincere thanks to my groupmates. They helped me in collection information and sharing knowledge throughout this project.

Lastly, I also thank my parents for their prayers and motivational words through the process of conducting this project. I also would like to place gratitude to those who directly and indirectly helped me in completing this thesis.

## **ABSTRAK**

Pada masa kini, pemantauan trafik menggunakan Sistem Kawalan Penyeliaan Dan Pengambilalihan Data (SCADA) adalah lebih cekap dan tepat. Objektif projek ini adalah untuk menjadi pengguna manual untuk para jurutera dan pengguna. Terdapat banyak jurutera yang masih menggunakan pengiraan manual dan juga kurang mengetahui cara menggunakan sistem SCADA sebagai alat pengawasan lalu lintas dalam kehidupan nyata. Dalam projek ini akan menunjukkan langkah demi langkah pengumpulan data trafik menggunakan Sistem Trafik Pintar Malaysia (MITS), ia adalah salah satu sistem SCADA. Terdapat begitu banyak jenis data yang berbeza, seperti jumlah lalulintas, klasifikasi kenderaan, kesilapan pelaporan, masa penetapan, beratur lalu lintas, masa hijau, persimpangan waktu persimpangan dan juga paparan langsung persimpangan. MITS boleh menjadi sistem SCADA yang hebat untuk pemantauan lalu lintas di Malaysia dan juga membantu para jurutera untuk mengumpulkan maklumat dan data pada masa akan datang

## **ABSTRACT**

Nowadays, traffic monitoring using Supervisory Control And Data Acquisition (SCADA) system is more efficient and accurate. The objective of this project is to come up as a user manual for the engineers and also the users. There are so many engineers that are still using manual counting and also lack of know how to use SCADA system as a traffic monitoring tools in real life. In this project will show the step by step of collecting the traffic data using the Malaysian Intelligent Traffic System (MITS), it is one of the SCADA system. There are so many different types of data, such as traffic volume, vehicle classification, reporting errors, setting time, traffic queueing, green time, junction time setting and also live view of the junction. MITS could be a great SCADA system for traffic monitoring in Malaysia and also helps the engineers for collecting information and data in the future.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of Study

As the population in a town increases, the volume of traffic also increases proportionately. The amount of traffic volume is alerting: In 2030, 61 percent of the global population which is approximately five billion populations will be living in towns and cities. The influence of the upward trend towards urbanization has detrimental effect on urban traffic density (Hauke J & Thilo J, 2011). Kapileswar N & Gerhard P (2016) also suggested that, road traffic conditions have become complicated and chaotic particularly at intersection (Hashim et al., 2013) and (First A & Promila S, 2012). However, there is recently a solution to control intersection flow such as Supervisory Control and Data Acquisition SCADA system.

The implementation of such an Intelligent Traffic Control System is very useful to monitoring the traffic at busy intersections. However, the system is quite costly. For example, more than \$423 million was spent on Intelligent Transport System (ITS) on Hong Kong's road network representing one of the busiest road system globally (Kapileswar N & Gerhard P, 2016). All studies are competing to develop new approaches and innovative system to come up with more efficient solution.

This study intend to produce a performance monitoring database of Kuantan-Gambang (FR 2) and Gambang Toll Plaza (FR 222)-Muadzam (FR 12) cross junction using Malaysian Intelligent Traffic System (MITS) as shown in Figure 1-1 below:



Figure 1-1: Kuantan-Gambang (FR 2) and Gambang Toll Plaza (FR 222)-Muadzam (FR 12) cross junction taken from MITS.

A SCADA system will be applied in this study is Malaysian Intelligent Traffic System (MITS) to monitor the performance of the traffic at this junction. MITS gives the power and flexibility to manage, monitor and allow the system to advise the user on the best optimized setting applicable for ever intersection (PPK Technology, 2018).

## **1.2 Problem Statement**

Engineers and planners are so used with manual traffic counting. Therefore, they have little appreciation will regard to automated traffic counting devices such as MITS since they lack of know on how to use of advanced traffic counting system such as MITS.

## **1.3 Objective**

The main objective for conducting this project is to come up with a user manual of MITS.

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