SMART TRAFFIC LIGHT

MUHAMMAD IKHMAL HAZIQ BIN SAIFUL NIZAM

MOHAMAD AKHMAL BIN ROSLI

A project report submitted to the Faculty of Electrical Engineering,

Universiti Teknologi MARA in partial fulfillment of the requirements for the award of

Diploma of Electrical Engineering.

FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

MALAYSIA

SEPTEMBER 2015

ACKNOWLEDGEMENT

"In the Name of Allah, the Most Gracious and the Most Merciful"

First of all, we would like to thanks Allah for His firm hands in guiding us to complete the project and report writing, Alhamdulillah. We are deeply grateful to my final year project supervisor, Pn. Aznilinda Binti Zainuddin for her encouragement, guidance, comments and advices during of our undergraduate project. We have learnt a lot of things and all these would not be materilzed without her guidance.

Besides that, we would like to thank our parents for their moral support, help, guidance, comments and advices the throughout project development.

Last but not least, we would like to extend my sincere appreciation to all our friends and other who have provided assistant a various occasions. Their idea and tips encouraged our to complete this project.

ABSTRACT

In Malaysia, traffic light are typically controlled by a Programmable Logic Controller.

The typical traffic light does contribute to time wastage where some stays RED (stop) even though there are no users on the other junction. Therefore, our project will be focusing on the four junction traffic light for night application. During day time, the traffic light will be function as usual. Whereas, at night the traffic light will stays GREEN only on the main road but stays RED on the other junction. If there is a car from the other junction, it will trigger the LDR sensor to switch the light from RED to GREEN. The traffic light will stays GREEN for a while. Then, the traffic light on the junction will switch back to RED and the traffic light on the main road will switch to GREEN and stays. It will be the same for the other junction. Moreover, during night time the LDR sensor for the street light also will be triggered that will turn ON all of them. In addition, our project will use solar power as a backup if there is any possibility to a power failure.

CHAPTER	TITLE	PAGE

CHAPTER 1

INTRODUCTION

1.1   Introduction

Traffic light, known technically as traffic control signal. There are signaling devices positioned at road intersections, pedestrian crossings and other locations to control competing flows of traffic. Traffic light alternate the right of way accorded to road users by displaying lights of a standard colour (RED, YELLOW and GREEN). The traffic signal system is the most important kind of transportation facility in operation today, considering the perspectives of both safety and efficiency. The green light allows traffic to proceed in the direction denoted, if it is safe to do so. The yellow light provides warning that the signal will be changing from green to red. Actions required by drivers vary, with some jurisdictions requiring drivers to stop if it is safe to do so, and others allowing drivers to go through the intersection if safe to do so. A flashing yellow indication is a warning signal and red signal prohibits any traffic from proceeding. A flashing red indication is treated as a stop sign. In this project our priorities is we do not want users to stop at the intersection. If they do have to stop, we want to make this stop as short as possible. Next, users will be served based on a set of priorities that have been established for the control of traffic at the intersection. The priority is to avoid crime and thefts at late night at traffic light area and to reduce crime rate in Malaysia. Therefore, LDR is use to overcome this problem.