SMART PUBLIC WASHROOM

NURUL HIDAYAH BINTI FIRDAUS

NURUL AIN SHAFIENA BINTI MOHD NAZIB

A project report submitted to the Faculty of Electrical Engineering,
Universiti Teknologi MARA in partial fulfillment of the requirement for the award
of Diploma of Electrical Engineering.

FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
MALAYSIA

SEPTEMBER 2015

ACKNOWLEDGEMENT

In the name Allah, the Most Merciful and Most Gracious. We thanks to Allah the Almighty, for all His guidance, blessing and strength that He gives us while completing this project.

Firstly, we would like to give our deepest gratitude to our final year project supervisor, Miss Mastura Binti Omar for all the encouragement, guidance, enthusiasm, supports, knowledge, ideas and keep motivating us to do this final year project.

Furthermore, special thanks to our beloved family, which is mother, father, sisters and brothers that keep supporting, loving and praying for us in here to finish our final year project.

We also indebted to all those who made constructive criticisms, as well as those who shared their thoughts and concerns on the project

Last but not least, we wish to thanks to all our friends, laboratory staffs, and those who are directly or indirectly helping and guiding us in this project. The knowledge and moment that I had, only Allah can pay the service. May Allah reward His peace and blessings to all of you, and may this work brings benefit to the mankind.

ABSTRACT

This project is about the 'smart automatic washroom' which has automatic lamp using motion detection by PIR sensor and automatic flush. The core of the system is constructed based on the Microchip's PIC16F877A microcontroller as their controller circuit which automatically turns ON the lamp and the flush will automatically do it work when the lamp is switch OFF. The sensor will sense a human motion and then transmit the signal wirelessly. When the sensor senses a human motion in the sensor's detection area, sensor will be triggered and then the washroom's lamp will automatically switch ON. Lamp will automatically OFF when the user going out from the room. As long as PIR sensor does not detect motion in the detection area, the lamp will not function. This project also used automatic flush system. Since the flush are not able to apply in prototype, so using motor as the main component is the best choice. The flush will function right after a few seconds the lamp is switch OFF. However, if the user press the flush button, the flush will not working after the lamp OFF.

TABLE OF CONTENT

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

In today's life, electricity becomes a prior need to people as to enjoy their social activities thus they need enough electricity to carry out their activities. Lighting is very significant to people as it is important to us, day or night. Early in 2014, government had introduced new electricity tariff due to transpire Subsidy Rationalisation Programme made by the government as to stop the energy subsidies gradually. Due to this increase of electrical energy production price, it is becoming more significant in conserving and saving in electrical energy consumption.

Electronic system can be defined as a family of an electronic circuit and component which is designed for completing either simple function or complex function. There are various examples of electronic systems such as telecommunication system, computer system and automation system. The existence of the automation systems began from 1500 years ago where they had invented the first water pump for metal working