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FINAL REPORT

AUTOMATIC LIGHT SWITCH FOR HOUSE

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First and foremost, I offer my sincerest gratitude to my supervisor Muhammad Zairil Bin Muhammad Nor because of help us to completed this report, he had share his knowledge for me and try to solve problems about my project. Second, I want to thank to my parents, they had help me to provide an equipment and the component for my project. Next is for my friends that help me so much for completed this project. Lastly, I want to thank to all persons that have help, without them, I cannot fulfill my responsible to completed this project.

ABSTRACT

This automatic light switch for house is built to make an improvement to our classic light switch. this automatic light switch will detect the magnetic field by using the reed switch. The design will provide the user to use either in automatic light switch or in manually. This is because of we had created the indicator by using Arduino to controlling the LCD screen. Whenever this indicator turn on, the user can use the automatic light switch but when it turn off, the user only had to use as a manually to switch on the light.

The circuit had been developed in Proteus. When the power source is on and the reed switch will detect a magnetic wave it will supply the voltage through the IC741. IC4017 will be working as counter as for our project it will count twice before activating the LED circuit. In our project also use the Arduino for controlling the LCD that we use as indicator for user to know if our system is ON state or OFF.

This automatic light switch have been working well, it can detect the opening n closing of the door that have been attached with magnet twice before the light turns ON and OFF. The Arduino also activate the LCD when the user switch on the power source for indicate the automatic light system is working and word "ON" will appear on the LCD according to the program that we had write for the Arduino.

CHAPTER 1
INTRODUCTION

1.1 Background

We had been used the light switch for a long time, and basically it is used to operate the electric light, permanently connected equipment, or electric outlets. So, this project is to make an improvement to our classic light switch. We want to make it automatically turn on without using the switch. This automatic light switch will detect the opening and closing of the door by using reed switch. The door will have their own permanent magnet and this circuit will attach to the door frame, in such a way when the door is closed, it will come closer to the switch. We have our own reason for design this new circuit. The reason is about the current light switch and the power that had been used. For your information, there is disadvantage of using current light switch technology. The current light switch is only design for a simple application, and they also have lack of flexibility. Besides that, our automatic light switch will avoided from the power wastage and also the lifetime of the light. In our project also use the Arduino for controlling the LCD that we use as indicator for user to know if our system is ON state or OFF. We will use the Arduino that connected to LCD screen as the indicator. When we turn on the indicator, the LCD screen will show "ON", so we can use the automatic light switch, but when we turn the indicator off, we only use the switch as a manual. User have two option whether to use it in automatic or in manual. For your information, we did not connect the door circuit and the LCD Screen.

This automatic light switch will use a component like resistor, transistor, diode, reed switch, IC 741, IC 4017, relay, LED, arduino and the LCD screen.