UTM

UNIVERSITI TEKNOLOGI MALAYSIA

TITLE: RAIN ALARM

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ACKNOWLEDGMENT

As we know electrical engineering field is the art of combining the knowledge of science, engineering and physics to acquires the ability to design a system, component, or process to meet desired needs. So we would like to thank the department for giving this chance even if it is part of the course.

PROBLEM STATEMENT

People always hang out their clothes outside the house under the sun. However, sometimes when it is raining, we cannot notice and bring the clothes into the house timely.

ABSTRACT

The need of electronic rain alarm system on houses, even in the absence of human being, to ensure our clothes are not affected by rain is a serious demand. We therefore intend to provide a solution by constructing an electronic rain alarm system that has the capability of detecting rain as fast as possible. The project involves the use of transistor, indicator, circuit board, battery, battery holder, and buzzer. The circuit board detects the flow of water and will make the current flow through the circuit and trigger the indicator as well as the buzzer to alert the users. With this project, we can warm the people that it will start raining.

INTRODUCTION

Rain alarm project is a simple but very useful project that detects rain (rain water) and automatically triggers an alarm or buzzer. Water is a basic need in every one's life. Saving water and proper usage of water is very important. Here is an easy project which will give the alarm when there is rain, so that we can make some actions for rain water harvesting and also save the rain water for using it later. With the help of saving this rain water through rain water harvesting, we can increase the levels of underground water by using underwater recharge technique. Rain water detector will detect the rain and make an alert; rain water detector is used in the irrigation field, home automation, communication, automobiles etc. Here is the simple and reliable circuit of rain water detector which can be constructed at low cost. In this project, we have designed a simple rain alarm circuit, which, upon detecting rain, will activate a buzzer. Based on the buzzer, we can take necessary actions.

COMPONENTS

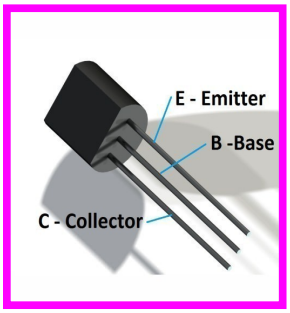
BUZZER

1kΩ RESISTOR

LED

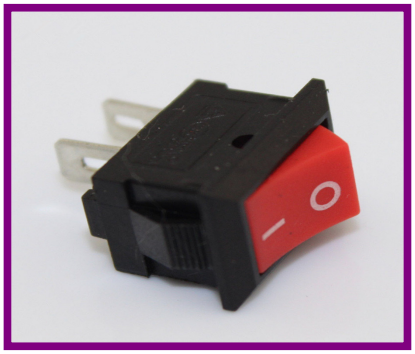
BATTERY HOLDER

9V BATTERY



TRANSISTOR BC 547

CIRCUIT BOARD



SWITCH

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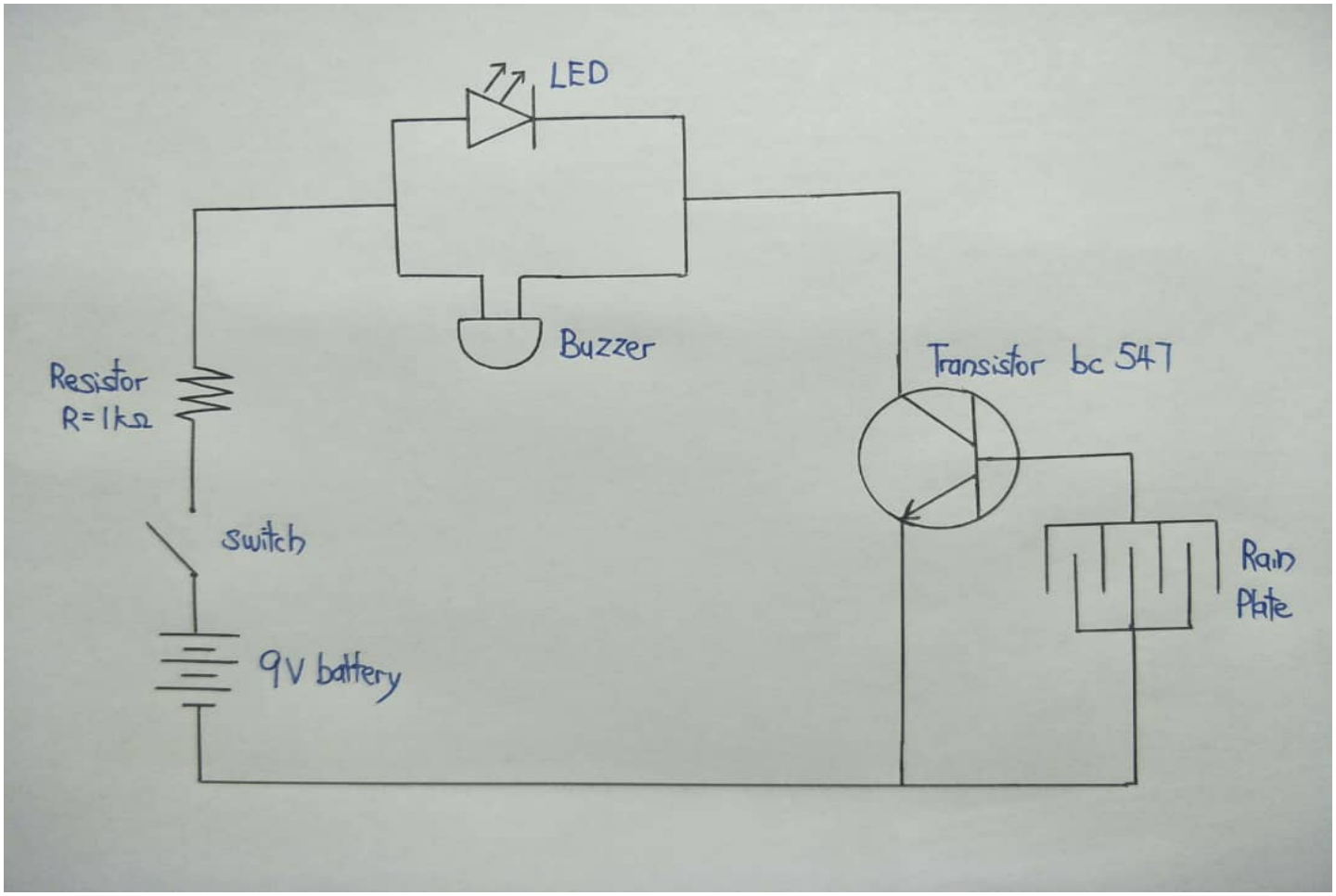
CIRCUIT OF RAIN ALARM



PROBLEM FACED AND SOLUTIONS

1. LED burnt :

   We replaced the LED and add a resistor to the circuit

2. When LED was burnt, the buzzer cannot function :

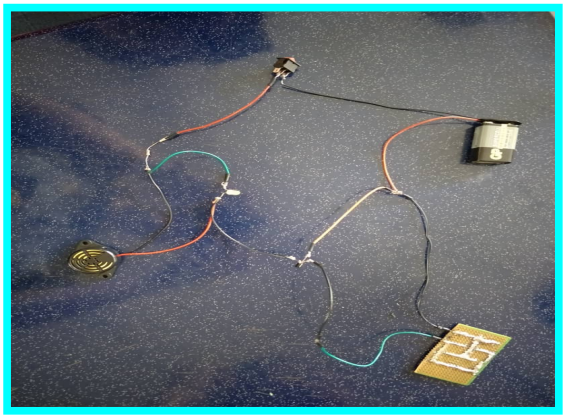
   We make the LED be parallel to buzzer, not series so the buzzer will still function when the LED is burnt next time.

3. The polarity of the switch was inversed :

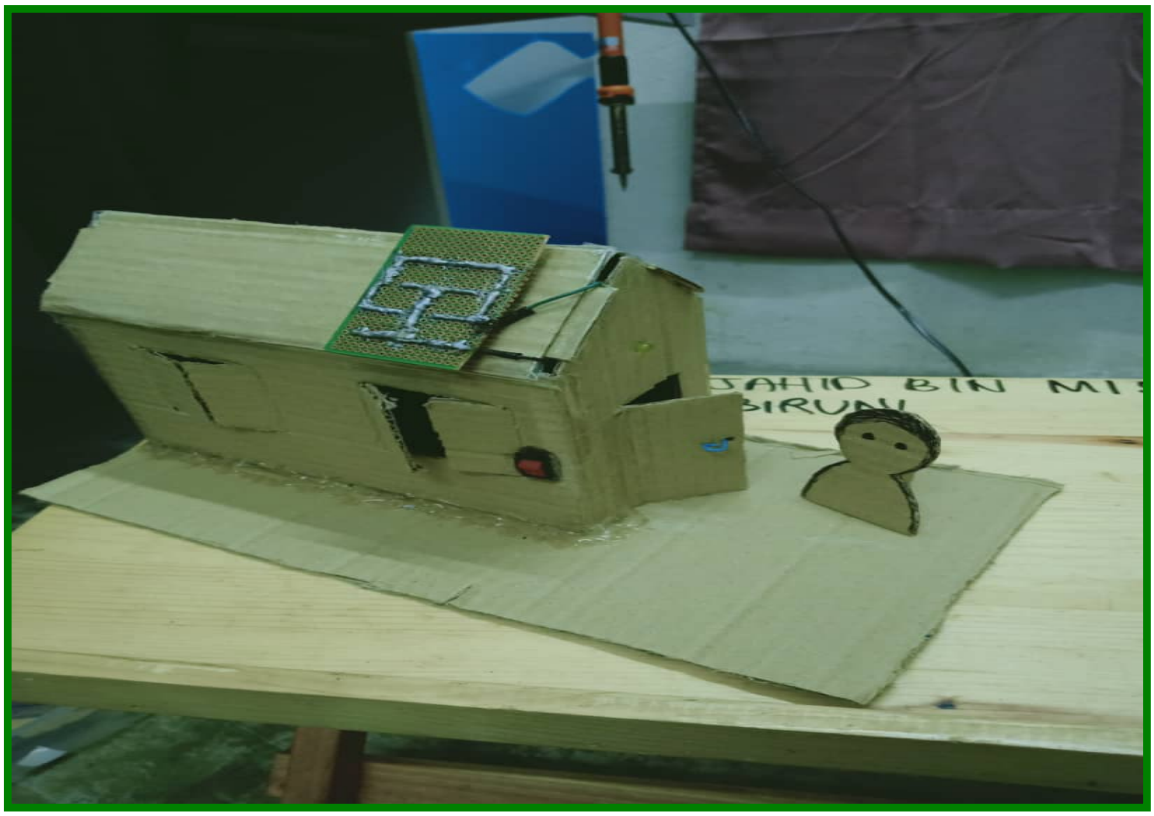
   We interchanged the polarity to make sure that the switch is on and off at the proper way.

ATTACHMENT

- Before:



- After



CONCLUSION

The results of our electronic rain alarm system was a success. When we put some water on the circuit board, the rain alarm worked and produced a sound, however, this is as long the electronic devices are not damaged by the water droplets. After testing our project multiple times, we believed that it could be use for a better future.

REFERENCES

1. https://youtu.be/2iW8NxuzSzk

2. https://youtu.be/5Q9iy152Dg0

3. https://youtu.be/g9OwoirFAaY

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