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MEC299

CASING OF MAGNETIC FLASHLIGHT

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Abstract

Final year project is about the design of Smart Magnetic Flashlight. The motivation for this project is seeing plumber that must look at pipes in the dark even if it is in the day and occasionally needs a torchlight or in this case a flashlight. When they have a flashlight, they tend to put in on the ground and they be inclined to adjust it from time to time to get the right position. The challenges that may occur is the fabrication of the product because there are many things to learn. The process also can be very hard to do because it may not be compatible for the measurements. To counter this learning the basic of fabricating the product will help and researching the best measurements of the flashlight. It can also be very useful in the future. The product will may need to have many more improvements in the near future.

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Chapter 1

Introduction

1.0 Introduction

This project is basically about an improvement and design of a magnetic flashlight, the project will keep the main parts of flashlight and improves the manoeuvrability of it.

All the funding of this project will be getting from student final year project funding from UiTM and some of the material will be provided to the students. In terms of equipment and machines that will be used in this project, it can be accessed at UiTM laboratory. All the process on this project will be done at UiTM laboratory. The process will be done under the supervisor of the lab assistants to avoid any unwanted issues.

1.1 Background Study

Rather than only sticking it to any metallic surface, my design is to make it more efficient in this case is you can stick it to your shoulder or head. The market design of similar products is the flashlight can stick onto a surface then you can change the angle of twist of its head. This design can be troublesome because growing up, my father would often tell me to hold a flashlight for him and that is where the idea came from which is the magnetic flashlight. This design can help many people such as mechanics or plumber that involve working with a dark and shadowy place, or mountain climbers and hikers that needs to travel at nights or cover themselves in a dark cave.

1.2 Problem statement

People will have to use their senses such as vision or touch to see and feel stuff. If the main source of light which is sunlight are not there, they must rely on other light source which in this

case is a flashlight. Over the year's technologies has come far to make a few types of flashlight such as LED flashlight or Diving lamp. One of the reasons that this project happened because plumbers or mechanics have been seen most of the time, will work with low light environments. They occasionally put the flashlight on the floor facing the dark area and usually it would be far way off from the desire spot. To point it at the preferred position they either use their mouth or use one of their hands, so this project will help them on making their work more efficient and less time consuming.

1.3 Objectives

1. To design CAD model of Magnetic Flashlight using Solidwork software.
2. To fabricate Magnetic Flashlight using 3D printer

1.4 Scope of work

1. Software that has been used to design the magnetic flashlight is Solidwork
2. Material that will be used to produce the magnetic Flashlight is Polylactic Acid Filaments.
3. The fabrication of this project will need a few methods that is 3D printing, etc.

1.5 Expected Result

1. A fully produced Magnetic Flashlight using 3D printer
2. The Flashlight will produce enough light to illuminate dark area.