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MEC299

GRIP CUP HOLDER PROJECT

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ABSTRACT

This study is to design and fabricate any daily life problem using Mechanical Engineering Design Process. It will inspire people to design a grip cup holder. This research is about a product that can be used to hold any drinking vessels on it. The main factor to create this product is to prevent a few problems faced by any person. Some of the problems are there is not enough space or room during working at their workplace, with this statement alone people tend to make mistakes by spilling their drinks. Based on the issues, an upgraded cup holder should be designed and modified to tackle the difficulty that people have been experiencing. So, the result of this project is to fabricate the grip cup holder to solve the problems involved. The product will be tested until it meets all of the goals.

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CHAPTER 1

INTRODUCTIO N

1.0 Introduction

The idea of this project is to develop and redesign a grip cup holder. This project is to create a simple yet effective cup holder that can be used without taking up too much room.

All of the project's financing will come from UiTM's student final year project funds, and part of the materials will be supplied to the students. The UiTM laboratory has access to the equipment and machines that will be employed in this project. This experiment will be completed entirely in the UiTM facility. To avoid any problems, the procedure will be carried out under the supervision of lab assistants.

1.1 Background of Study

People nowadays had so much problem especially when organizing their workplace since they have a lot of things to be organize but with so little space. Most people tend to buy drinks such as coffee, sodas or even plain water to desire their throat from thirst. But little did they know incidents may occur due to clumsiness. Spilled drinks can cause a really moody situations most of the time. The use of a cup holder can be a very smart move to solve this problem. The cup holder sometimes referred to as a device for holding any type of cup or drinking containers. This only consists of a very handy grip design that combines with a holder function that is lightweight and portative for one's use. With the help of the clipper function-like, this cup holder will work with ease.

1.2 Problem statement

People face numerous challenges, particularly when using workspace that consist of different sizes, which can be a little too small or big depending on how people manage their belongings. Unfortunate incidents involving drinks often happened especially when things are messed up on the table. Furthermore, cleaning up a spilt beverage can be a hassle because the liquid will spread everywhere and take up a lot of our valuable time that could be spent on something more necessary.

1.3 Objective

There are two objectives for this project:

- i) To design CAD model of grip cup holder using SOLIDWORK software.
- ii) To fabricate grip cup holder for daily uses.

1.4 Scope of work

The scope of the project as limited to the below equipment, parameter and materials:

- i) Fabrication process will use a few necessary manufacturing methods including 3D Printer.
- ii) Material that will be used to fabricate this grip cup holder is Polylactic Acid (PLA) filament.
- iii) Software that has been used to design the grip cup holder is SOLIDWORK software.