

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND DEVELOPMENT OF A MULTI-
FUNCTIONAL PORTABLE CUTTER**

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ABSTRACT

As the world is advancing in technology, humankind is also following its path to make our daily activities more efficient. Introducing the new “Multi-Functional Portable Cutter” that will revolutionize your cutting experience. The objective of this product is to easily cut through any thin layer with a single push without exerting excess energy. We have taken scissors as their ancestor and further developed them to improve their usage. Although using scissors as its ancestor and further developed it to improve its usage. Although using scissors may seem enough to cut any thin layer in our house, it actually takes more energy to cut an object deeper and thicker. This is where the portable cutter comes in. There is no need to exert excessive energy to cut anything anymore, whether the object is thick or long enough for scissors to cut it. By using a rotational blade powered by a motor, this upgraded version of scissors can cut through anything effortlessly, making our cutting activity more convenient.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Scissors are a cutting instrument consisting of two joined together by a pivot or screw mechanism. They are commonly used in a wide range of application, including crafting, sewing, cooking and personal grooming. The history of scissors can be traced back to ancient Egypt, where they were used for cutting hair and trimming beards. Scissors were also used in ancient Rome and China, where they were primarily used for cutting cloth.

The modern design of scissors with two blades joined by a pivot is believed to have evolved to suit specific applications. For example, sewing scissors have longer blades and sharper points to cut through multiple layers of fabric, while grooming scissors have shorter blades and rounded tips to prevent accidental injury. In recent years, advancements in materials and manufacturing processes have led to the idea of development of specialized scissors. Overall, scissors have played an important role in human history and continue to be an essential tool or product in many aspects of daily life.

However, the everyday scissors we have been using always have some common issues or challenges that people may encounter when using scissors. Firstly, dull blades. Over time, the blades of scissors can become dull, making it difficult to cut through materials. Second, difficulty cutting certain materials. Depending on the application, some scissors may struggle to cut through certain materials, such as thick fabrics or tough materials like leather or cardboard. Third, ergonomics. Some people may experience hand fatigue or discomfort when using scissors for extended periods of time, particularly if the scissors are not ergonomically designed. Lastly, safety concerns. Scissors can be dangerous if not used properly, particularly around children or when cutting certain materials.