

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF 2 IN
1 FLIP GRILL**

**MUHAMMAD HAIKAL SYAHMI BIN HAZANI
SHHRIN**

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ABSTRACT

Grills have long been essential to outdoor recreation, stimulating the numerous innovative ideas over time. Among these ideas is the flip grill, which introduces the ability to flip all food items simultaneously without the need for electrical components. While the flip grill improves convenience and efficiency, further development could enhance its portability and functionality. Despite the opportunity granting itself to inventors, not many have dived into the development of flip grills. This project aims to explore the potential design modifications that could be done to existing designs while comparing them to each other to conjure up a combination of functions that work in unison to improve the quality of the flip grill. The fabrication process utilizes tools that were provided by UiTM in the workshop such as vertical bandsaw, angle grinders and welding stations. These tools shape the chosen materials to become the 2 in 1 flip grill. The material used were mainly compromised of mild steel due to affordable pricing and workability. This project does achieve the objectives, however many improvements could be made to ensure better efficiency. These setbacks serve as a learning experience and increase the knowledge needed to improve in future projects.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Based on a research and survey done to find the trend of people participating in outdoor activities, the third highest participants based on the population of the United States of America that were the ages above 16 was social gatherings, which was 67.8% of the population that were above 16 [1]. This shows how significant these activities are in the community. Most of these gatherings will usually consist of people cooking and grilling using the typical grill you would see on the market.

With the improvements of technology, the introduction products such as the flip grill and rotisserie grill are able to revolutionize the experiences of many people by creating an environment that focuses on socializing more than the cooking. For example, the flip grill requires less time and effort to cook food which gives more opportunity to socialize with the people in your surroundings. It is clear that the flip grill aims to increase the efficiency of grilling activities. The reputation of the flip grill has inspired this project's title by allowing for more research into the designs of the flip grills.

The countless articles found on the web regarding flip grills always praises its design and functionality. However, viewing the design of a flip grill in a more objective viewpoint, much more can be done to the design to increase the desirability of the flip grill. In this project, the goal is to overcome the flaws found in the existing designs of flip grills which include the implementation of features such as compacting mechanism, multipurpose functionality of the grill, and also allowing for control over the design of the product.

1.2 Problem Statement

Every product on the market will always come with drawbacks no matter how well received that product is. The flip grill is no exception to this. The following are a few of the many issues that come with the design of the flip grill.