

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS AND
FABRICATION OF GRILL & FRY
BOX**

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Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

March 2022

ABSTRACT

All people like to perform barbeque especially for party and gathering with family or friends. The problem of the project is to find the suitable material for the project, to find how to make a portable charcoal grill and how to make a product that can grill and fry food at the same time. The main objectives of this project are to enable users to grill and fry food simultaneously, to make a lightweight and portable grill and fry machine, so users can bring it like a briefcase. I will use a steel electrical panel box, stainless steel plate, net and mild steel plate. This machine include motor that will be use with charcoal feeder as the mechanical part to ease users to put in and take out the charcoal from the box. I will go through all of the design, make an analysis and make fabrication of the project within FYP 1 and FYP 2. Designing was started with some drawings and then I will use Solidwork to make it more realistic. Also, will involve some basic machining such as welding to make this project.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor, Mr. Muhamad Faris Syafiq bin Khalid.

Next, this dissertation is dedicated to my father and mother for the vision and determination to educate me. In addition, for gave me spirit and help me directly and also indirectly to do this project. This piece of victory is dedicated to both of you. Alhamdulillah.

Finally, I would like to thanks my friends who helped me in finishing this project within the time limit and support me to do this project until its done.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

A barbeque grill is a device that can cook food by applying heat from below. Perform barbeque using charcoal grills is well known around the world. Every country has their own way of barbequing and type of the barbeque device. There are many sizes and shapes of barbeque grill that can be chosen. Charcoal grill require approximately 30 minutes or more to heat the charcoal to the suitable temperature.

According to history, grilling has existed in the Americas since pre-Colonial times. The South American Arawak grilled meat on a wooden structure known as “barbacoa” in Spanish. The term “barbacoa” used for centuries until it was changed to “barbecue” that refer to the act of grilling. It was also used to describe the pit-style cooking technique that used in the Southeast. Barbecue was invented to slow-cook hogs but as time passed by other foods such as hamburgers and hot dogs have been cooked in a similar way [1].

Now there are many types of barbeque grill that been invented. Among the new and modern grills, they still cannot beat the charcoal grill because of the cooked food that has better tenderness, juiciness and smoky flavour.

1.2 Problem Statement

Based on the charcoal grills nowadays, there are some problems that need to solve and improve to get the better usage and satisfaction. Firstly, the current charcoal grills are big and heavy. The users may find difficulties to move it from one place to another especially for woman and need to use other devices or need help from other person.

Furthermore, a large amount of space is needed to use the charcoal grills. The more the size of the grills the harder to manage it. In addition, it can be troublesome to put in and take out the charcoal from the usual grills.

Lastly, not all food suitable for grill, some food need to fry. So, it needs other machines to perform the frying cooking method and it not easy to handle two machines