

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS, AND  
FABRICATION OF  
MINI SIZE SPRING ROLL MAKER**

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## **ABSTRACT**

The spring roll also known as “Popia” is a regarded as one of the most famous snack choice in Malaysia. It is easy to make and it’s ingredients are also cheap. Although it is easy to make, the spring roll production at a larger scale can be burdensome to other especially to stall traders that sells spring roll or families who wishes to make a large batch of spring rolls. The process of making spring rolls in larger batches can be time-consuming and uses loads of energy. This project aims to design, analysis, and fabricate a Spring Roll Maker that can make spring roll as many as possible to suit the needs of the user. Three designs will be drawn and analysed to determine the effectiveness of the product and to determine the best material to be used. Then, the final design sketch will be developed into parts and assembled into a complete product using SolidWorks software. The parts will also be analysed using the SolidWorks software. After the suitable materials has been picked, the product will be fabricated using various tools that is suitable for the fabrication process.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

A spring roll maker is a machine that is designed to make a spring roll. There are various types of the machine which some of them are manually powered or it uses power. The device is usually used by those who are in the food industry such as restaurants and café, and even food processing factories uses such machinery.

As mentioned earlier, there are various types of this machine. Some common example of the machine is a spring roll roller where the purpose of the machine is to roll the dough to make the spring roll wrapper and the wrapper is then folded manually. Then, there is a another type of the machine that automatically cut the wrapper and fold the wrapper. This is usually used in food processing factories to produce a massive amount of spring rolls.

As time goes on and technology continues to expand, people starts to depend on technology more and started to implement the use of technology into their daily lives such as using a machine to clean the floor, clean the plates, cut various vegetables, and even make spring rolls. Unfortunately, people using a machine to make spring rolls are rare because of the machine's cost are expensive.

In conclusion, the project aims to create a spring roll maker that is affordable and user-friendly.

### 1.2 Problem Statement

The process of making spring rolls which is putting the fillings on the wrapper and then folding the wrapper to be fried. For the stall traders that are planning to sell spring rolls in large batches, this process can be tiring and time-consuming. This process will also take hours to complete thus muscle-pain is possible for stall traders. There are also household who prefer to create their own spring roll wrapper from dough instead of using the ready-made wrappers. The problem is that rolling these dough can also be time-consuming and uses lots of energy.