



UNIVERSITI  
TEKNOLOGI  
MARA

**MECHANICAL ENGINEERING DESIGN**

**MEC 322**

**TITLE: LESUNG PLUS**

**GROUP'S NAME: 기사 "GISA"**

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14

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pestle and Mortar are commonly used in Malaysian culture especially when making a chili paste or mashed onions and garlies for the cooking. However, pestle and mortar are used in traditional way which is need a lot of force to mash the ingredients, so that the new innovation called as Lesung Plus has been carried out in order to reduce the force usage. Lesung Plus is the combination of traditional product with modern technology to make it automatically operated. The main objective of this product is to provide an easier way to use a pestle and mortar without applying a lot of force that can cause exhausted and harm. Due to the main objective, this product will operate with an electrical motor to generate its automatic re-changeable pestle motion. User of this product can change the types of pestle and mortar according to their usage. Generally, this product was design to improve traditional cooking utensils without neglecting its traditional value and unique taste of ingredients. Its user will experience of using modern cooking utensils while keeping the unique taste of ingredients which only can be obtain from traditional pestle and mortar. Lesung plus also will be the first automatic traditional cooking utensils which can't be found in the market before. In the positive vision, Lesung plus will give a lot of positive impacts to the public especially the person who are involve in culinary and who are passionate with cooking.

**Keywords:** *Pestle and Mortar, Force, New Innovation, Traditional, Modern, Positive Impact*

## 1.1 Background of the project

The mortar and pestle are ancient tools used for cooking. Traditional pestle and mortar had been used since a long time ago. This equipment is widely used for grinding, crushing and pounding. Usually, this equipment is made of granite or wood. These kinds of materials give a unique taste to the ingredients put in the mortar. However, this utensils cause the user to become tired as it is manually operated.

As the peoples get busy, they will find hard to use the traditional pestle and mortar due to lack of time. But, if they use the modern blender, they will not find the unique taste as the pestle and mortar can do.

Therefore, Lesung Plus idea was generated to solve those problems. These utensils will become automatically operated because it is come with electrical motor. This Lesung Plus will have 3 main parts which is pestle and mortar, electrical motor and body frame. Its user can control the speed of the motor by using speed controller provided. Its body frame also covered with the transparent acrylic to increase its aesthetical value.

## 2.1.2 Description and estimation of market size

**Target users for our product are:-**

<b>No.</b>	<b>Targeted users</b>	<b>Purposes</b>
1.	For culinary	To help cooking process such as grinding, crushing and pounding
2.	For medication	To crush various ingredients for medication

### **Market size**

*Market size = Total customers, people x Product price, RM*

Based on the population in Johor Bahru which is 1.3 million people, we had put our target by 5% from them will know about the product. From the figure, we assume 3% from them will buy the product. If the product cost RM150, our market size will be as following.

$$0.05 \times 1300000 = 65000$$

$$0.03 \times 65000 = 1950$$

$$RM\ 292500\ per\ annum = 1950 \times 150$$