CHAPTER 1

INTRODUCTION

1.1 Project Synopsis

This final year project is part of the required subjects to be taken during the Diploma of Mechanical Engineering course. This is done during the final semester before advancing into the industrial training program. Therefore, it is vital to complete this project in order to receive a final grade depending on the effort put in.

The final year project is also to give students the individual ability and confidence to complete a task with under less supervision of lecturers. With this, students can learn problem solving skills in areas of designing; analysis, fabrication, and testing as well learn to do a complete formatted report which is important for future thesis writing.

A durian fruit is very hard and spiky on the outside yet so soft and delicious on the inside. To actually open a durian, old people usually open it using a parang (some sort of a long knife) by cutting it on the bottom durian fruits and the twisting it so that it will resolve and crack open. Nowadays, it still is hard for people to open up a durian fruit. By introducing a new method of opening a durian fruit, one can easily eats it and taste the sweetness of a durian fruits.
1.2 Project Problem Statement

The problem of excess durian in the market during durian season because its price is drop and this will cause farmers to lose their income. Farmers can get a better price by charging the marketing approach by selling the frozen durian. Farmers can take advantage of using the cold room dedicated for durian provided by Federal Agriculture Marketing Agency (FAMA) and reduce the problem of excess durian in the market. Consumer can have the privilege of eating durian for the whole period of the year.

However, only individuals who are expert in opening durian are willing to open durian by using sharp knife. The potentially high risks of hand injury due to sharp thorns and hazards from usage of sharp knife are always present.

The durian peeler was designed based on method and mechanism that is suit to anybody without the ability of manually open the durian using sharp knife. Due to minimum usage of physical energy, the risk of hand injury is minimized. The design and fabrication of durian peeler is based on ‘Do It Yourself’ concept where its components can be assemble/disassemble and easily transported to any places such as durian orchard and durian stall.

1.3 Project Objective

- To development of the mechanical part of durian opener.
- To modification of lift machine structure.
1.4 Project Scope

From the title that has been given, the development of this project must include how to design the mechanical part of the machine and how to fabricate the system of this mechanical part. It also needs some knowledge and skill to finish the project. There is some other guide must followed to finish this project.

1.4.1 Literature Review – including all the information from internet that is related with this project. Such as

- The history of durian opener
- The type of durian opener
- Machinery process used

1.4.2 Design Concept

- Sketch the new design of durian opener (consists of 4 designs). It base on customer needs
- Evaluated the designs and come out with the new design (final concept)
- Using the solid work software, make the isometric, orthographic and 3D drawing