

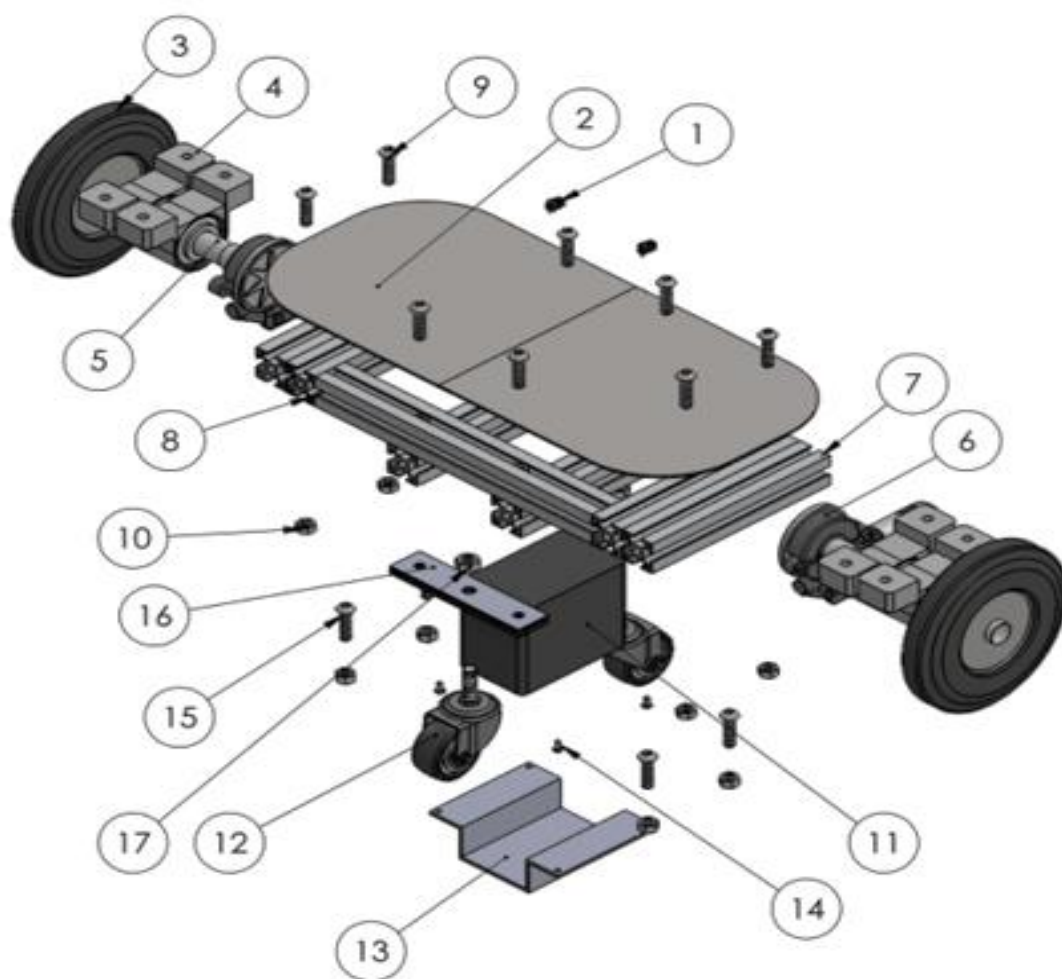
PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



AHMAD NAJMIE RUSLI

UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
KAMPUS PASIR GUDANG

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FOREWORD

This digital book on Prototype Design Collection Series 2 (PDC Series 2) is published as a reference design for mechanical engineering students. The designs presented experience a few phases of analysis before fabrication of prototype. Each project summarises the project description, prototype, figures, and design parameter. The design products vary in tools or equipment for household, workshop, entrepreneur, etc. Suggested material and detail of prototype dimension are also mentioned in this book.

It is hoped that this book will assist the students to have more ideas on innovation design products in the future.

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CHAPTER 141

Development of a Vegetable Slicing Machine

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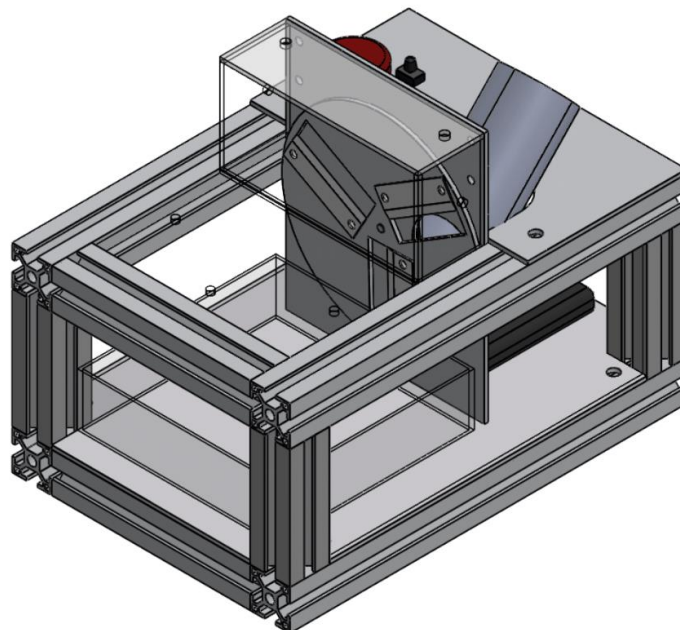
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PROJECT DESCRIPTION

Nowadays, there are many people who are still using manual cutting vegetable method which is chopping and slicing by using hand knives. The manual method of chopping and slicing vegetables using hand knives is time-consuming and dangerous, as it exposes the hands to sharp blades. This project aims to design and fabricate a low-cost and portable vegetable slicing machine to ease the workload of housewives. The machine had been designed using SolidWork and successfully fabricated. The machine utilized a direct current motor to move the cutting blade, ensuring portability and ease of use. The frame is made of lightweight aluminium profile, making it easy to handle and transport. In addition, the design of the machine also focused on safety features to avoid injuries. The machine was covered with acrylic to ensure the safety of users and for aesthetics purpose. The result showed that this project improved the quality of life for housewives by reducing the time and effort required to chop and slice vegetables manually.

Keywords: *Vegetable slicing machine, Housewives, Safety*

PROTOTYPE



DESIGN PARAMETER

NO.	PART NUMBER	QTY.
1	aluminium profile 3030 150 mm	4
2	aluminium profile 3030 30m	4
3	aluminium profile 3030 90 mm	4
4	aluminium plate 150 x 240 mm	1
5	Switch Panel	1
6	aluminium plate 150 x 190 mm	1
7	acrylic sheet 240 x 90	2
8	acrylic sheet 150 x 100 mm	1
9	food container 150 x 90 x 90	1
10	motor dc	1
11	cutter 3 blade	1
12	High speed steel 70x20 mm	3
13	acrylic sheet 150 x 70	1
14	acrylic sheet 150 x 50	1

**FAKULTI KEJURUTERAAN MEKANIKAL (FKM)
UNIVERSITI TEKNOLOGI MARA (UITM) JOHOR
KAMPUS PASIR GUDANG**

Course Name MEC299 - FINAL YEAR PROJECT 2

Group J4EM1105F

Approved _____ Checked _____ Drawn ADIL BIN ARIFF

Drawing Title DESIGN AND FABRICATION OF VEGETABLE SLICING MACHINE

Part Name EXPLODED DRAWING

Part No _____

Rev 0 Scale 1:6 Weight 4 - 5kg Sheet 1/2