

# 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 14

### Fish Scaling Machines

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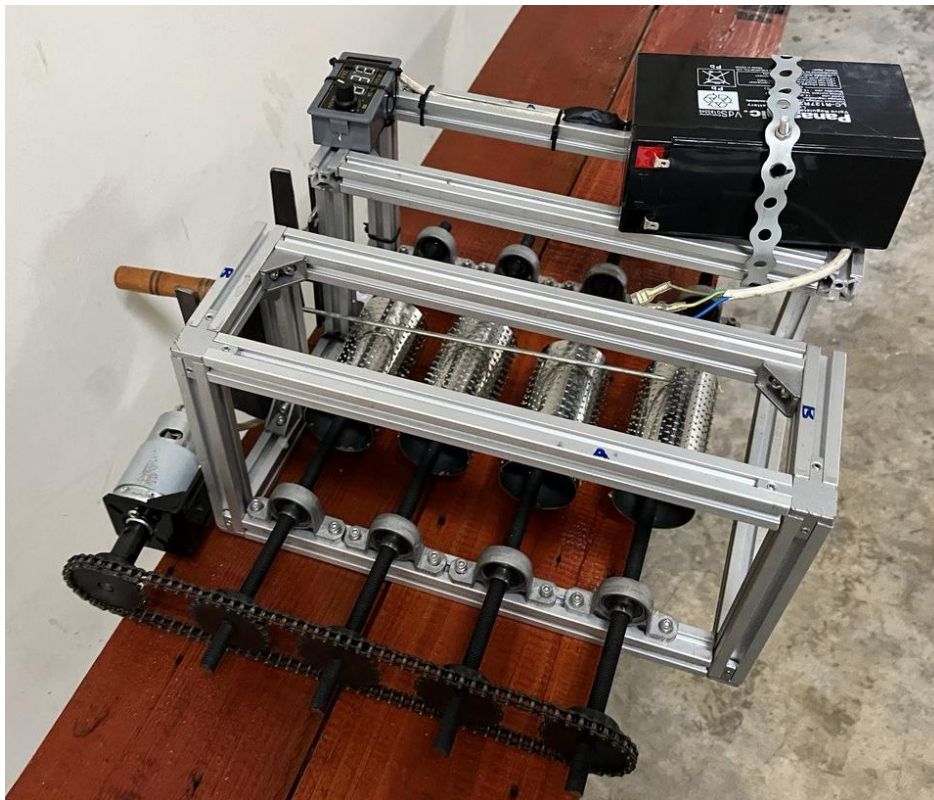
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#### PROJECT DESCRIPTION


Fish is an important food source for humans, but the scales must be removed before cooking. Currently, there is no cost-effective and efficient machine available for removing fish scales, so people must use their hands to clean the fish. This project aims to design and create an affordable machine that can effectively remove fish scales. The methodology for this project involves selecting the best design from three proposed sketches and conducting engineering calculations based on specific dimensions. The fish scaling machine will be fabricated and analyzed, with costs determined and fabrication steps specified. The goal is to develop a machine that can clean fish scales efficiently, replacing the need for manual labor.

**Keywords:** *Fish scaling, Design, Fabricate, Suitable Appliances*

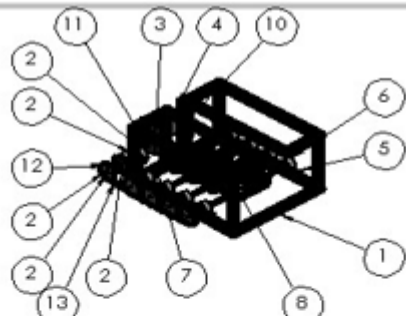
#### PROTOTYPE



### DESIGN PARAMETER



REVISION RECORD				
COURSE NAME: MEC 300:FINAL YEAR PROJECT 2				
GROUP : J4EM1105D				
APPROVED:	CHECKED:	DRAW: 23/1/2023		
DRAWING TITLE : FISH SCALING MACHINE				
PART NAME :				
PART NO :				
REV:	SCALE :	PROJECTION:	WEIGHT:	SHEET:
	1:5			



ITEM NO.	PART NUMBER	MATERIAL	QTY.
1	aluminium frame	ALUMINIUM	1
2	Assembly motor, bracket, spindle	MILD STEEL	1
3	right slider	MILD STEEL	1
4	left slider	MILD STEEL	1
5	M4 CUP HEAD SCREW	STAINLESS STEEL	20
6	bearing housing	CAST IRON	8
7	THREADED ROD M10	MILD STEEL	4
8	coconut grater	STAINLESS STEEL	4
9	04c 24 teeth sprocket	MILD STEEL	4
10	slider	MILD STEEL	1
11	M12 WING NUT	M10 WING NUT	2
12	04c INNER LINK	ALLOY STEEL	55
13	04c OUTER LINK	ALLOY STEEL	55

REVISION RECORD				
COURSE NAME: MEC 300:FINAL YEAR PROJECT 2				
GROUP : J4EM1105D				
APPROVED:	CHECKED:	DRAW: 23/1/2023		
DRAWING TITLE : FISH SCALING MACHINE				
PART NAME :				
PART NO :				
REV:	SCALE :	PROJECTION:	WEIGHT:	SHEET:
	1:10			