

# PROTOTYPE DESIGN COLLECTION

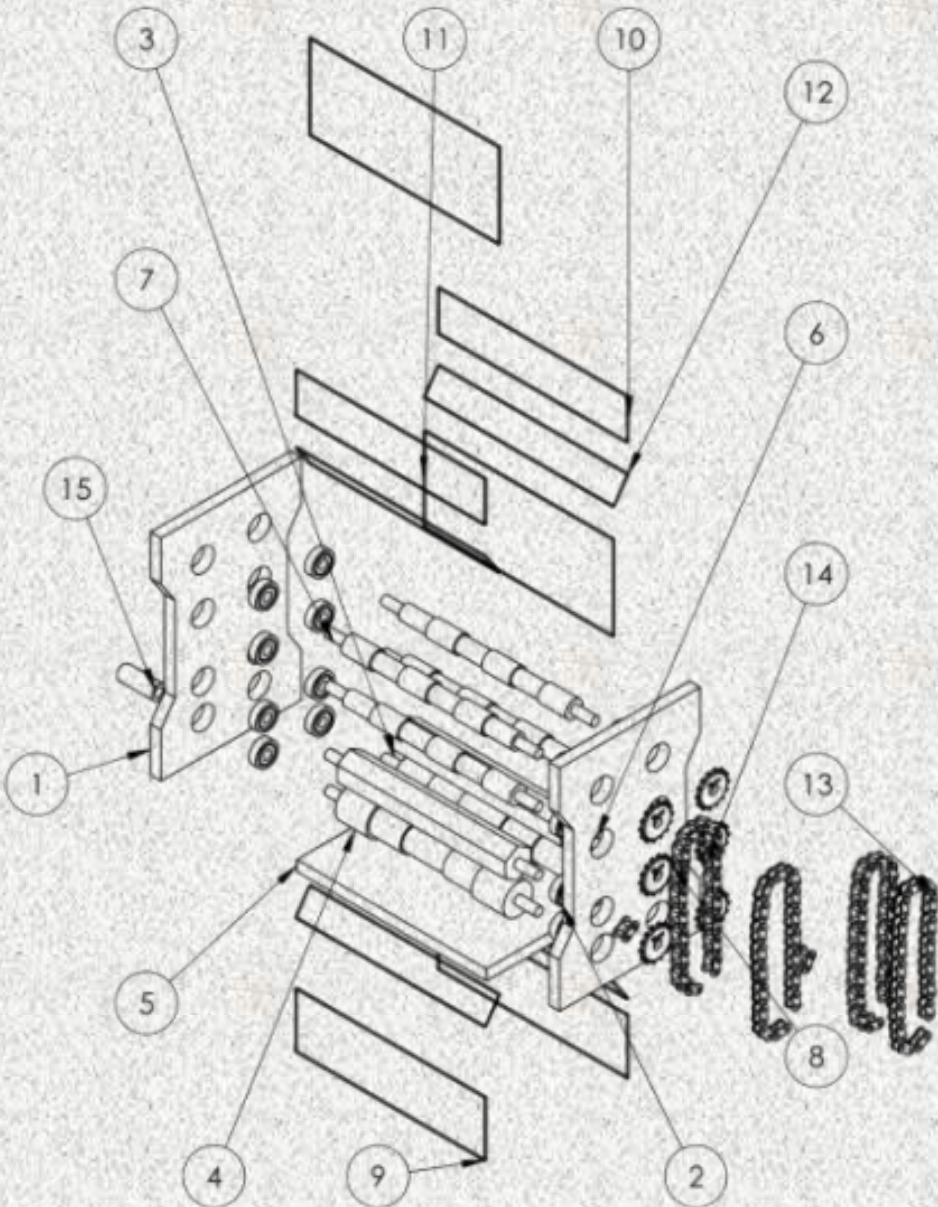
SERIES 4



Universiti Teknologi MARA  
Pasir Gudang Campus

# Prototype Design Collection

## Series 4



Ahmad Najmie Rusli

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# FOREWORD

This digital book on Prototype Design Collection Series 4 (PDC Series 4) 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 37

### Ezballretriever: The Fast & Simple Tennis Ball Collector

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#### PROJECT DESCRIPTION

The sport of tennis is becoming increasingly popular, played by millions of people worldwide. However, players face challenges during training sessions, particularly when collecting tennis balls, which is time-consuming, energy-draining, and can lead to spinal strain. The objective of this project is to improve the efficiency and speed of the ball collection process while ensuring player comfort during training. The EZBallRetriever was designed to address these issues by incorporating a simple yet effective mechanism for collecting tennis balls quickly and efficiently. The device uses rollers, brushes, and a collection basket to gather the balls with minimal effort from the player. A battery-powered system ensures portability and ease of use, while the user-friendly design allows for simple operation. The outcome of this project is a functional and efficient tennis ball collector that reduces the time and energy spent by players during training sessions. The EZBallRetriever also helps prevent physical strain, making training more comfortable and productive. Additionally, the device's low-maintenance design ensures long-term reliability, with easily replaceable components to prolong its lifespan.

**Keywords:** *Efficiency , Tennis ball retriever*

#### PROTOTYPE



**DESIGN PARAMETER**

