

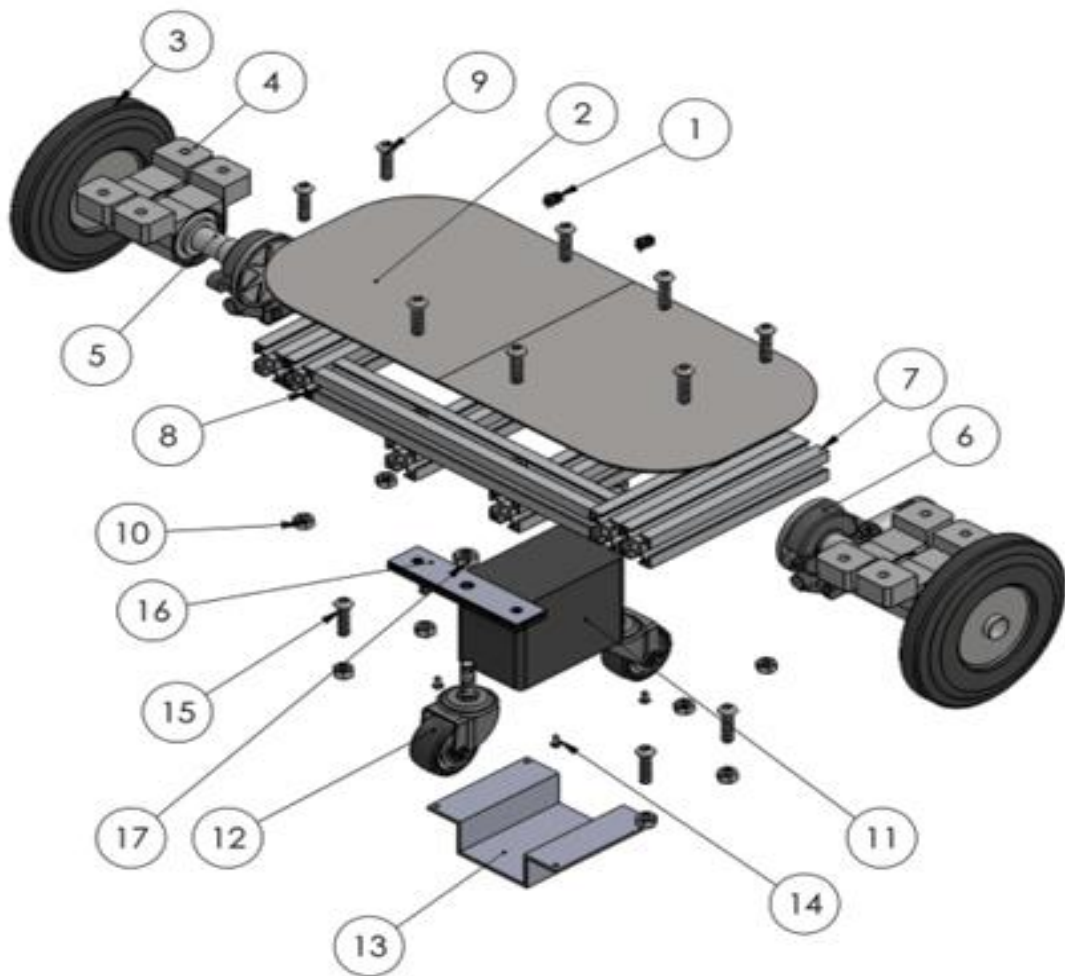
# PROTOTYPE DESIGN COLLECTION

## 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 119

### Mini Conveyor Belt Using Geneva Mechanism

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#### PROJECT DESCRIPTION

A conveyor belt serves as the carrying medium in a belt conveyor system, which is one of several types of conveyor systems. The system consists of two or more pulleys, with a continuous loop of the conveyor belt rotating around them. At least one of the pulleys is powered, propelling the belt and the materials it carries forward. The powered pulley is referred to as the drive pulley, while the unpowered pulley is known as the idler pulley. This project aims to introduce a conveyor belt system in supermarkets to address the main issue with the current design. Many individuals, such as women, children, and the elderly, face difficulties in handling heavy items, particularly in supermarkets. Thus, the conveyor belt project has been initiated to alleviate the burden of lifting heavy objects for these individuals. The primary objective of the project is to efficiently transport objects from one location to another, while also promoting control, saving time, and conserving energy.

**Keywords:** *Conveyor belt, Geneva mechanism*

#### PROTOTYPE



**DESIGN PARAMETER**

