

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 89

Design and Fabrication of Automatic Sweeper

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PROJECT DESCRIPTION

This project focuses on fabricating a product that combines a broom and a shovel for house cleaning. The objective of the project is to reduce the amount of effort required to clean houses by housewives or any member of the family. Floor cleaning manually using a broom is a job that requires repetitive arm movements that creates fatigue for the cleaner and is also time-consuming. This is the main reason for the fabrication of a broom and shovel combination for this project. A brush that rotates by the forward movement of the product is located in front of the shovel to clean up the floor and the trash is pushed into the trash compartment. The main mechanism used includes gear, wheels, and roller. This allows the user to clean the floor by pushing the product forward with ease. In conclusion, this product helps people to clean their floors with less effort. Therefore, the user will enjoy cleaning up their house. This product is targeted at housewives and cleaners.

Keywords: *Home cleaning, Sweeper, Broom, Shovel*

PROTOTYPE



DESIGN PARAMETER

