

# 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 109

### Design and Fabrication of Ecofriendly Sweeper

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#### PROJECT DESCRIPTION

COVID19 pandemic is a global threat to human lives in the clean environment. Sweeping has been a very essential part of human clean their surroundings. Every home or place has some sort of broom or other sweeping product that are used to clean up their house, the canteen, the classes, and any place. People only can clean the rubbish or dust with the traditional method by using separated broom and dustpan, which is taking a lot of work and time regularly. In addition, most machines with power supply in the market price are not suitable in size and not reasonable priced. Therefore, an ecofriendly sweeper was designed and fabricated. This product went through a design selection process and created an isometric view by using SolidWorks 2019 software. The ecofriendly sweeper will work by manual hand. Analytical of the critical part will be carry out. This machine shall help to keep the house, the collage, the canteen or the hall areas be clean. Other than that, this machine also designed to have adjustable height to make user feel comfortable to clean the surface. As a expected result, the production of this product will run successfully to achieve the objectives and a few suggestions was accepted to improve this machine. Generally, this manual machine innovation may have the potential to be notice by the users such as cleaners or housewives.

**Keywords:** *Clean environment, Ecofriendly sweeper, Solidwork, Manually operated, Cleaners*

#### PROTOTYPE



### DESIGN PARAMETER

