

# PROTOTYPE DESIGN COLLECTION

## SERIES 1



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## CHAPTER 46

### Design, Analysis and Fabrication of Automated Shirt Folder

Muhammad Hafiz Kamal Bin Mohamad Kamal and Syidatul Akma Sulaiman

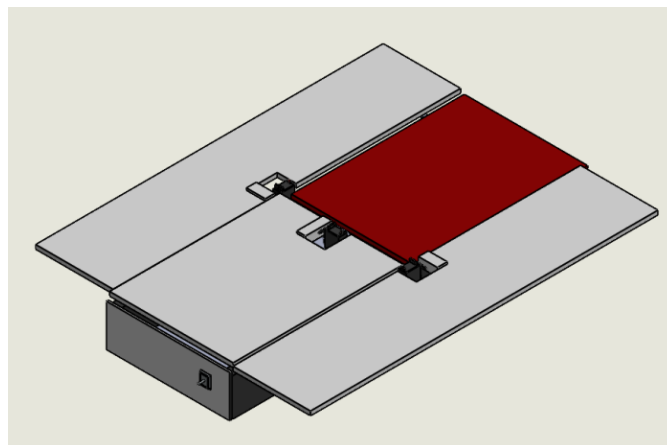
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#### PROJECT DESCRIPTION

The project is known as Design, Analysis and Fabrication of Automated Shirt Folder. It was designed to meet the needs of shirt folding for college students, housewives, or anyone who has trouble folding shirts. Many problems are usually faced by working women who are unable to manage time for household chores. Undeniably, lots of college or university students are annoyed by spending time folding shirts based on the questionnaire's feedback from the respondents. As a result, clothes that have been washed will fall apart in certain rooms, thereby reducing the aesthetic value of a home. This will cause major stress as they realise their unfolded shirt at home. In addition, most shirt folding machines in the market are either for industry use or too expensive. Due to the problems, the researcher is trying to build a portable automatic shirt folding machine at a reasonable cost and convenience to serve most people. Designing Fabrication of Automated Shirt Folder is the right solution to make folding shirts easier and more time efficient. The design process includes research in background information and relevant standards through google form survey, focus on specification, concept generation and selection, and engineering analysis. The design and its configuration were built based on calculations and simulations in Solidworks. In this proposed system, a DC motor is attached to the folding motion and rotates according to a program which uses a microcontroller that controls the overall motion of the folding. The design uses several combinations of gears and cranks to flip the boards and thus fold the shirts that are put on the platform by the user. It really saves energy, time, and money. As such, Automated Shirt Folder Machine is expected to be prepared with low prices which are affordable to all generations and friendly to customers.

**Keywords:** *shirt folder*

#### PROTOTYPE



**DESIGN PARAMETER**

