

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS AND
FABRICATION OF AUTOMATED
SHIRT FOLDER**

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ABSTRACT

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 shirt. Many problems usually faced by working women who is unable to manage time for house-hold chores. Undeniably, lots of college or university students are annoyed by spending time folding shirt based on the questionnaires 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 realize their unfolded shirt at home. In addition, most of shirt folding machine in market are either for industry use or too expensive. Due to the problems, researcher's 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 shirt 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 was built based on calculations and simulations in Solidworks. In this propose system, a DC motor are attached to the folding motion and rotates according to a program which uses 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 is put on the platform by the user. It really saves energy, time and money. As such, Automated Shirt Folder Machine was expected to be prepared with low prices which affordable to all generations and friendly product to customer.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

A new global generation of consumers product within a new dimension of high technological context is constantly emerging. The remit of product practice in the new era has been extended not only as a commodity signifying modernity and desirability but also began to represent product as a process of expert decision-making and implementation into the post-modernity and more industrialized society. In the current era, all the sophisticated electrical and electronic equipment has become part and parcel of human's daily use. In addition, with today's ever-increasing technology, it is possible to invent a product that is using existing technologies.

In the context of consumer's product, usually, a person uses conventional and tedious method to fold the shirt after drying process which by hand folding. This is tiring and it takes a longer time to do the task. Today, shirt folding process is an easy and useful process to be used and handled. This is vital for all users for the current used to replace a traditional or conventional method. The purpose of this project is to fold shirt by simply pressing a button or switch. This folding machine is fully automated where one must just place the shirt on the board and press to start and within fraction of seconds, the shirt will get folded. This system uses gear motors to control the motion of the folding part. It is an automatic folding platform that can easily fold lots of clothes in a short time. One of its strong merits is that it can stack those folded shirts neatly after. It significantly useful for people who are not willing to organize their clothes and indeed, it saves a lot of time and energy for all users. Thus, the idea of creation of this project is called a Designing Fabrication of Automated Shirt Folder.