AUTOMATED CLOTH FOLDING MACHINE

EFFORTLESS FOLDING AT EASE

Introduction to Automatic cloth folding machine:

An automatic cloth folding machine is a revolutionary device designed to streamline the process of folding laundry, saving time and effort for individuals and businesses alike. It uses advanced technology to neatly fold clothes, reducing the tedious chore of folding by hand.

Problem statement:

~ Current challenges in cloth folding

1. Inefficient process

•The task of folding clothes is often viewed as tedious and time consuming, contributing to overall burden of household chores.

2. Inconsistency

•Traditional methods of folding clothes require significant manual effort and time investment.

3. Skill dependency

•Additionally , achieving consistent and neatly folded results can be challenging.

Objective of the project:

~ Developing an efficient and user-friendly automatic cloth folding machine

1. To build a cloth folding machine using Arduino Uno microcontroller technology.

2. By using sensors and motors, the machine will be able to detect and handle the fabrics, making the process of folding clothes easier and faster.

Ease of Use

The automatic cloth folding machine will be designed for intuitive operation.

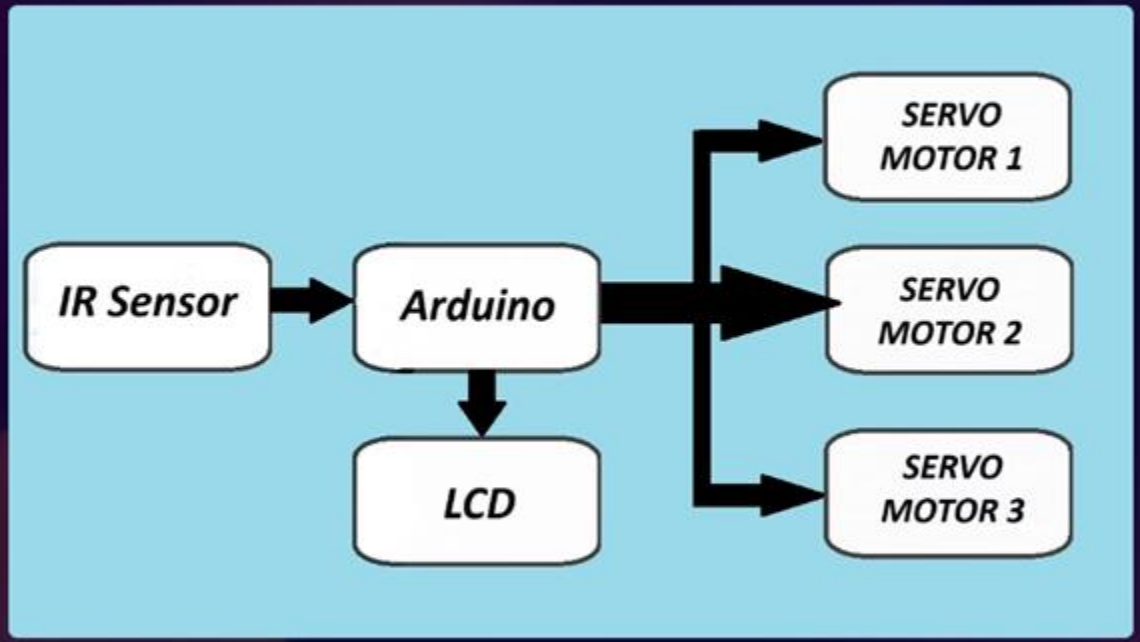
Space-Saving

Efforts will be made to ensure the machine is compact and can fit into modern living spaces.

High Efficiency

The machine will be capable of folding a variety of cloth types quickly and accurately.

Block diagram of the Automatic Cloth Folding Machine:



The block diagram illustrates the essential components and connections of the automatic cloth folding machine. It depicts the flow of operations and the integration of various mechanisms for efficient cloth folding.

Working principle and components:

An automatic cloth folding machine operates based on precise folding algorithms and motorized mechanisms.

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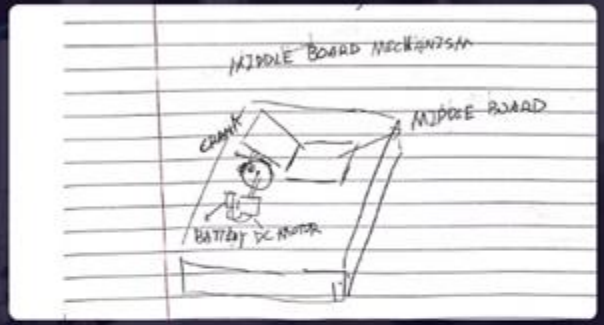
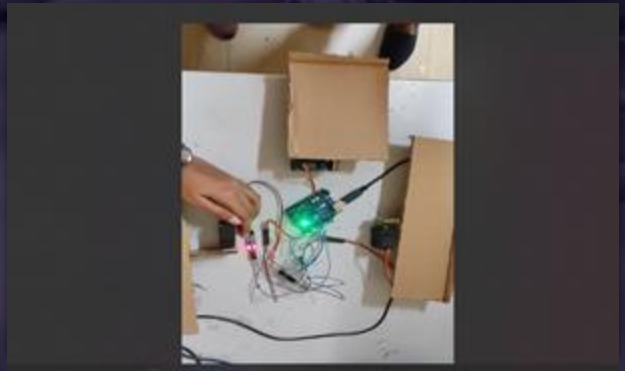
1) IR Sensor Activation
2) Arduino Uno Control
3) Servo Motor Control
4) Programming Logic

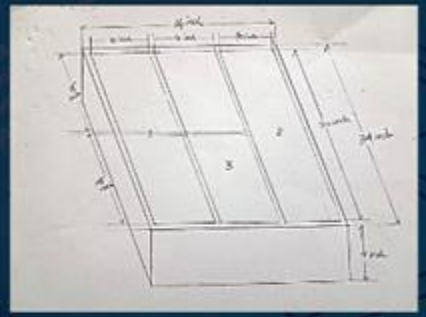


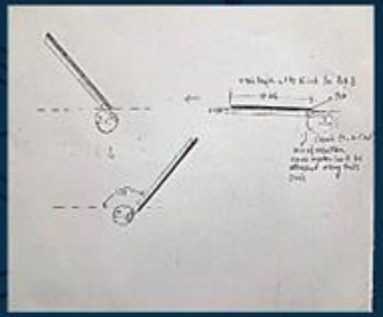


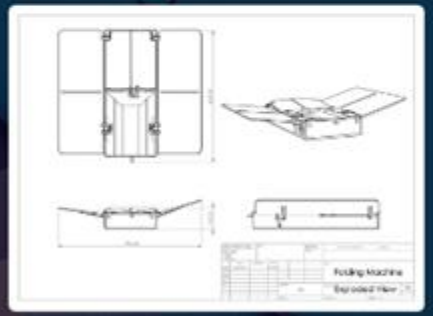
Bill Of Materials (BOM)

S.NO	Component	Quantity	Price	Specifications
1.	Arduino Uno	1 piece	Rs. 495	
2.	Breadboard Power Rail	1 piece	Rs. 59	
3.	Servo Motors (MG996R)	3 pieces	Rs. 588	12V
4.	Jumper Wires	25 - 30 pieces	Rs. 30	
5.	Acrylic Sheets	3 pieces	Rs. 774	4 cm x 4cm x 2mm
6.	IR Sensor	1 piece	Rs. 70	LM393
7.	LCD Display - Blue	1 piece	Rs. 400	16 × 2 Display
8.	Flexiquick glue	3 items	Rs. 150	
9.	Wood	8 pieces	Rs. 290	
10.	Spray paint	1 piece	Rs. 270	
	TOTAL		Rs. 3, 126	

Mechanical Design: 2D Manual Model



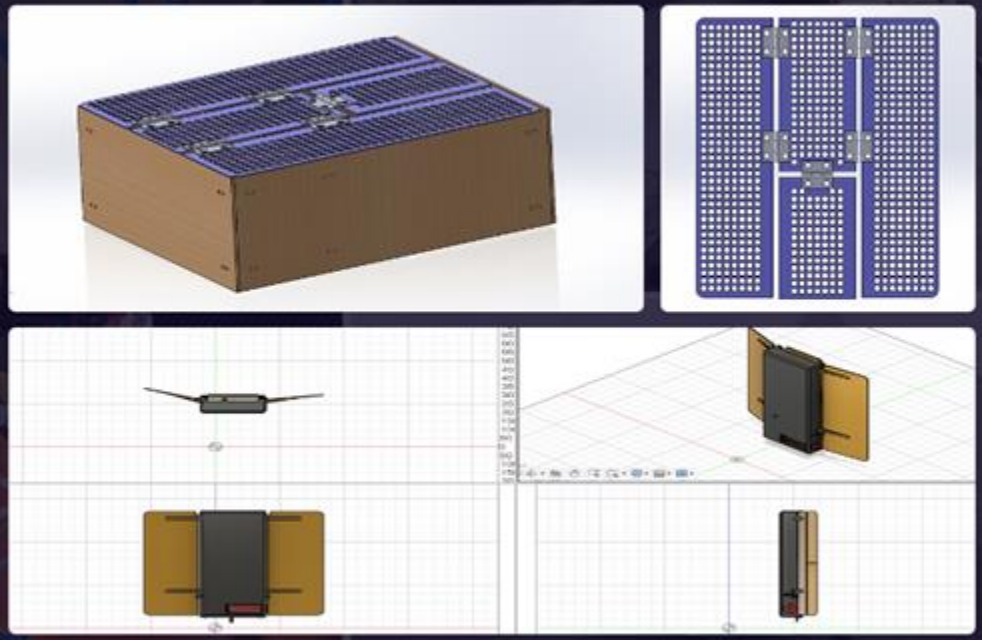




Mechanical Design Manual

The manual for mechanical design detailing ensures seamless operation and maintenance.

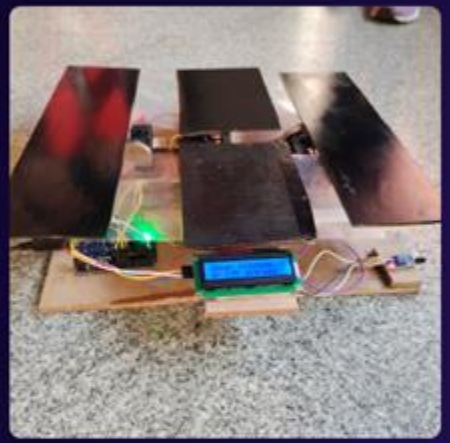
Mechanical Design: 3D Model (Fusion 360)



3D Model Design

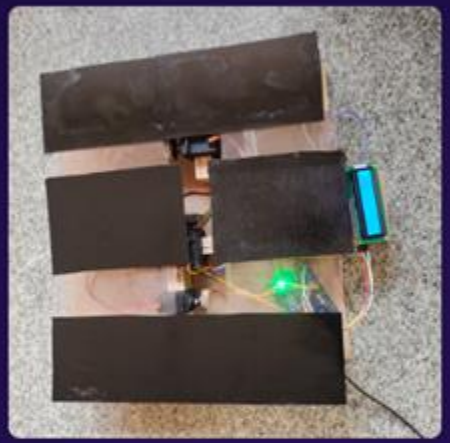
The 3D model design process in Fusion 360 ensures precision and optimal functionality.

Testing and Final Project Results:



Testing Phase

We conducted extensive testing to ensure the reliability and efficiency of the automatic cloth folding machine.



Performance Evaluation

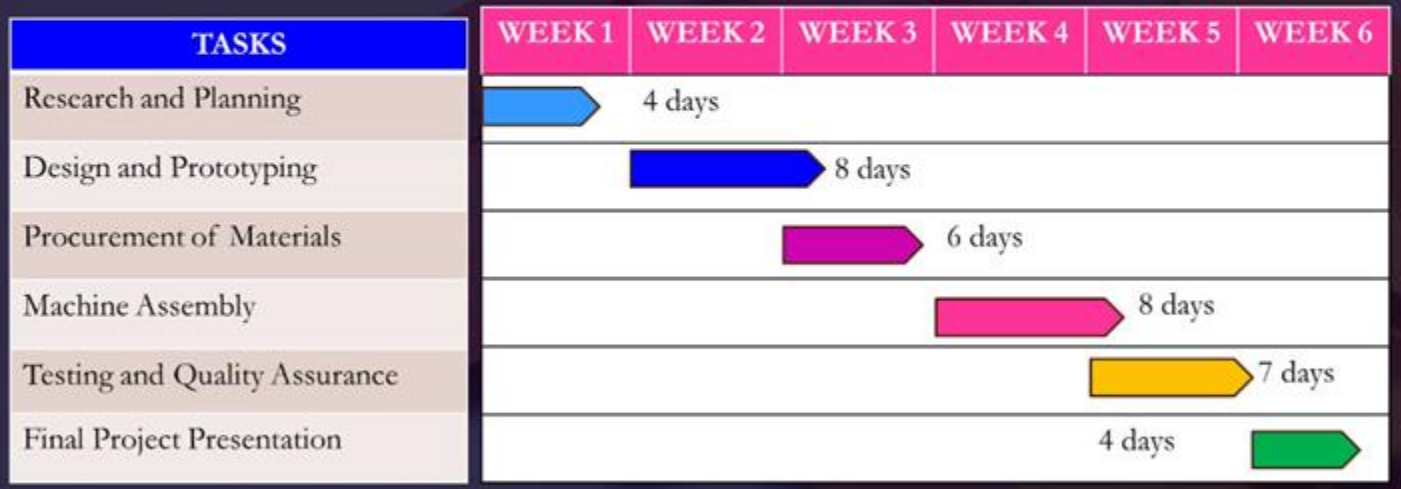
Results showed that the machine consistently folded various types of fabric with precision and speed.

User Feedback

Feedback from users indicated high satisfaction with the ease of operation and the neatly folded results.

Gantt chart

A Gantt chart is a project management tool used for scheduling and tracking tasks over time. It visually represents the start and end dates of project elements, along with dependencies and milestones.

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THANK YOU