SINGLE MOTOR DOUBLE DOOR OPENER MECHANISM

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INTRODUCTION

- **Many large entrances have two doors each.**

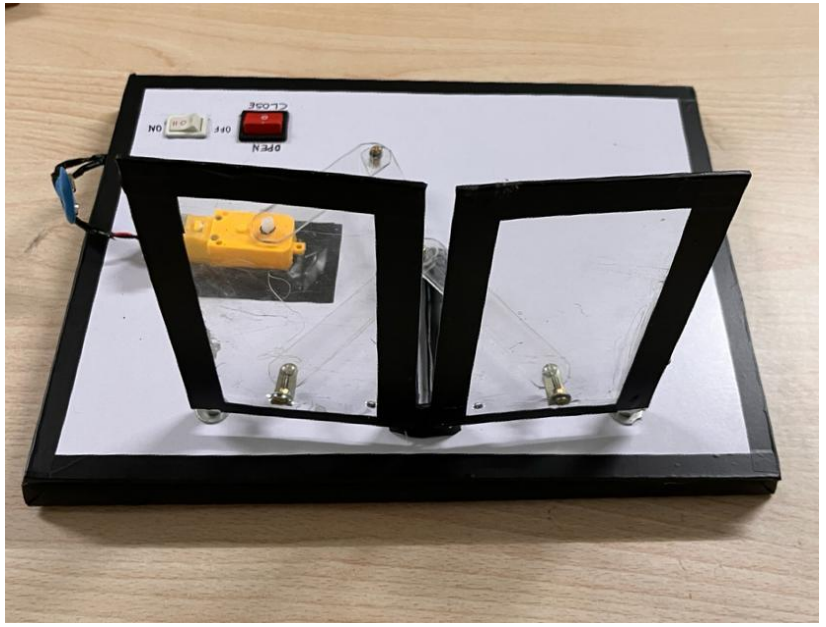
  It is harder to automate two open doors

  than it is to automate one. Two motors are

  required for each door to open, but results

  in two problems:

  1. **Coordinated opening of both doors.**
  2. **High cost of using two motors.**



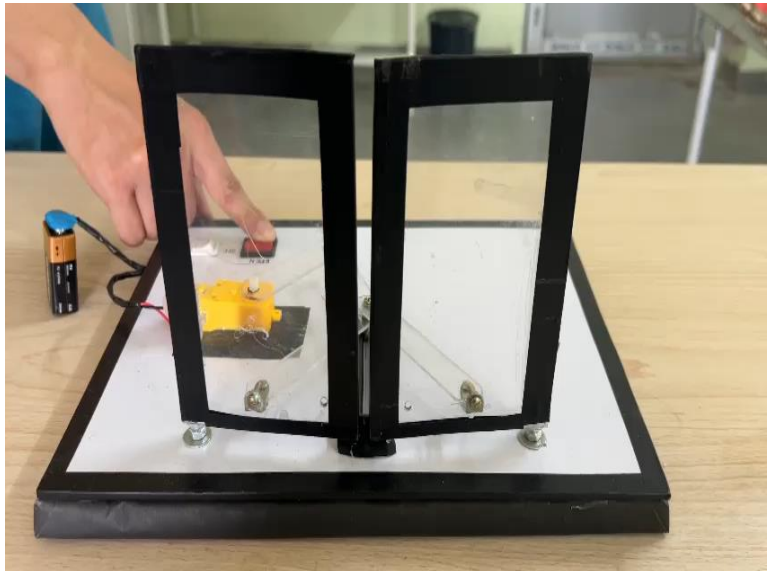
- **Using a single motorized mechanism, we resolve this issue.**
  Simultaneous opening solve both problems at the same time, while the syst em uses only one motor, it is also less
  expensive as both mechanisms open together.

COMPONENTS

NAME	QUANTITY	PRICE
BO motor	1 (3-6V)	Rs.70/-
Door Panel	2	Rs.70/-
Shaft rods	1	Rs.10/-
Connecting rods	4	Rs.20/-
Mounts and joints	4	Rs.10/-
L Angles	2	Rs.5/-
Supporting frame	1	Rs.80/-
Screws and bolts	8	Rs.20/-
Battery	1 (9V)	Rs.300/-
Hot glue stick	2	Rs.100/-
Wires	1	Rs.30/-
Switch	2	Rs.50/-

HOW IT WORKS

- Geared motor’s shaft rod is connected to the two linkage rods.
- The link rods are then connected to the double doors using L angles.
- When the motor rotates, it drives the two connected link rods which are connected to the door panels.
- Both the door panels open and close at the same speed.
- Reversing the rotation of the motor the door panels can be closed with the same level of coordination.



APPLICATIONS

- **Cost-Effective: Installing one motor for two doors can be more economical compared to installing individual motors for each door.**
- **Space Saving: With only one motor, there's less hardware taking up space in your garage or workspace.**
- **Simplified Installation: Installing one motor instead of two reduces installation time and complexity.**
- **Ease of Use: Operating two doors with one motor can simplify the process of opening and closing, requiring only one control system.**
- **Consistent Performance: Since both doors are controlled by the same motor, they are likely to operate at the same speed and with the same level of reliability.**
- **Unified Maintenance: Maintaining one motor is easier and more cost-effective than maintaining two separate motors.**

ADVANTAGES

- **Cost-Efficiency: The use of a single motor reduces overall costs.**
- **Perfect Coordination: Both doors open and close simultaneously, maintaining uniform speed and alignment.**
- **Same speed door opening.**

CONLUSION

Using a single motorized mechanism, we resolve this issue. This mechanism deals with both problems at the same time as both doors operate in coordination, but it costs less due to only using one motor power source. It has a shaft integrated with a linkage, so the mechanism moves as the motor rotates. And permit the doors to move in one direction while limiting their motion in the other, these two linkage rods have been joined at an L angle. Thus, the connected gears in the geared motor rotate the rod which, in turn, rotates another rod connected to the doors, which causes both to open simultaneously and at the same speed and for the same duration. Similarly, both doors operate in a self-similar manner when the motor rotates in the opposite direction.


Side 2 Stereo
LSP-4466 (ZPRS-9131)
Mancini Plays the Theme
from "Love Story"
4 Loss of Love (Love Theme from
"Sunflower") (Merrill-Mancini)
Henry Mancini and His Orchestra
1, 2, 4, 5- and Chorus
(4- Henry Mancini, Piano Solo/st)

THANK YOU