

#### **GROUP MEMBERS**

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The objective of the project is to create an automatic elevator with a conveyor belt bridge. Two elevators on each side of the bridge are attached to it where people/objects are transported via the first elevator, then to the other side through the bridge and then finally back down on the other side. This project, if implemented realistically, can benefit the society especially for those who are unable to walk long distances between one side and the other.

- Printer Wood Fibre glass Piece of cloth Led lights from old devices(ex: internet router) Strong cardboard

- Batteries Switches Stick glue
- **Other Materials:**
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# SUSTAINABLE CAPSTONE PROJECTS (SCAP) FALL 2024-2025

## **Automatic elevator and Bridge Construction**

### INTRODUCTION

MATERIALS USED IN CONSTRUCTION

**Re-Used/Recycled Materials:** 

The elevator's cabinet was made of two materials: light wood and fibre glass. Many of the materials used were disassembeled from a printer which provided the motors, the railway of the motor to move in two directions, as well as some shafts needed for the conveyor belt. Wood and fibre glass were cut according to the design made. These pieces were especially designed in a way were they can be fit and assembled together without the need of glueing and sticking. The electrical circuit of the system was also designed in such a way to allow movement of the belt right after the arrival of the elevator cart which was made up of a cardboard-like material.





#### **FINAL PRODUCT**

The project has been completed successfully in the way it has been designed. The project could have been improved by enhancing the material of the belt itself since difficulties were faced when placing it. Furthurmore, the energy source of the project can be improved in order to save energy and make it more effiecient.

**Elevator cart with motor** 

Structure after assembling



Project with belt on



Structure after assembling 2

In conclusion, all the results were satisfied according to the design. However, insignificant faults resulted in one of the elevators were a small current was running through the battery which resulted in a small movement in the elevator at the time it should have came to a stop.



### **RESULTS AND DISCUSSION**

### CONCLUSIONS

### REFERENCES

1. Japanese wood joint method

2. https://architizer.com/blog/inspiration/industry/japanese-art-ofwood-joinery/