



HOZHONI AUTOMATED ART EASEL



Team 27

Abdulrahman Almarri (Project Manager)

Aly Alharbi (Web Master)

Jarrah Al Bathali (Contact Client)

Yongzhen Li (Documentary)

Rakan Alhajraf (Budget Liaison)

● Overview :

- Project Description.
- Design Requirement.
- Customer Requirement.
- Engineering Requirement.
- Designs Considered.
- Design Selected.
- Changes made to the project.
- Bill of Materials.
- Manufacturing.
- What we added functionality.
- Testing.
- Project Outcome.

● Project Description:

- **Main Idea :**
 - Make a device that help adults with disability to draw and paint.
 - Give them wide options to do their hobby.
 - Support them to be more professional.
- **Sponsor :**
 - Hozhoni Foundation.
- **Client:**
 - Terri Engel.



● Project Description:

- Project supports people with disabilities in artwork.
- Project can be useable by many people with saving electric.
- Project will help them in a creative way.
- Project will let them determine the height that the user want.
- Project is easy to charge and can be in a daily use.
- Project is one of a kind that has never been done in this foundation before.



● Design Requirements:

- Design supports people with disabilities while creating art.
- Solution must be comfortable to users.
- Give people with disabilities more options in drawing and painting.
- Provide more opportunities for people with disabilities to explore other art forms.

● Customer Requirements:

Customer Requirements

Safety

Easy to store

Light weight

adjustable

Easy To use

Comfortable

Easy to clean

Size

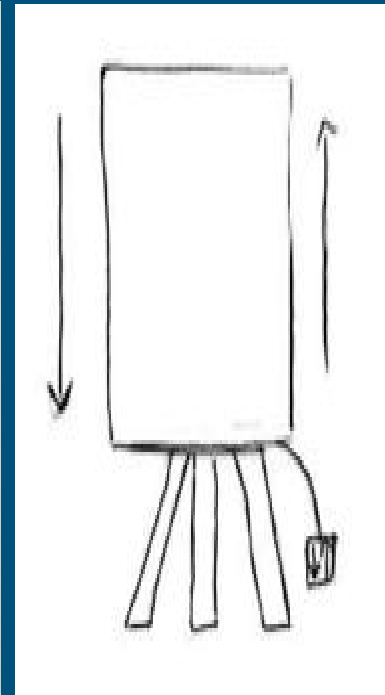
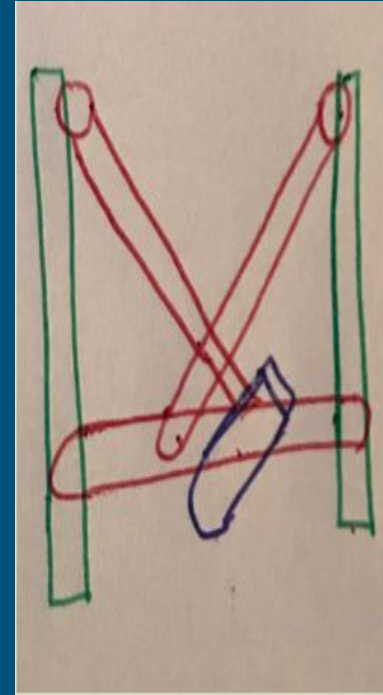
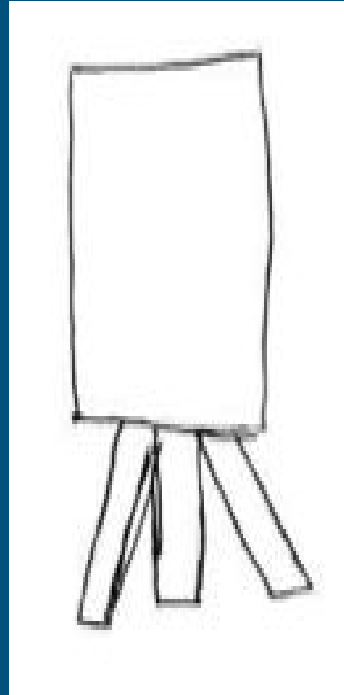
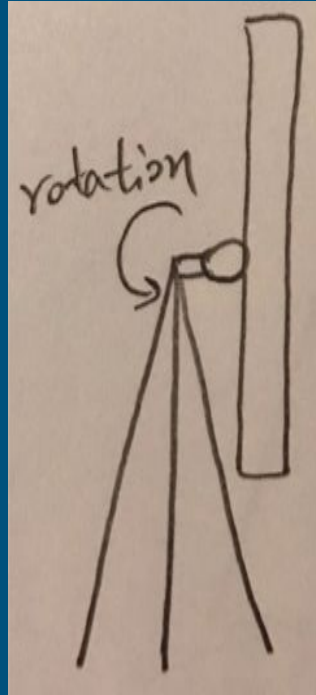
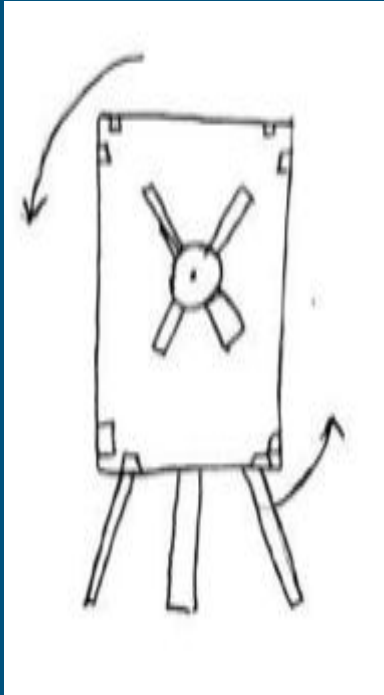
Saving time

Low cost

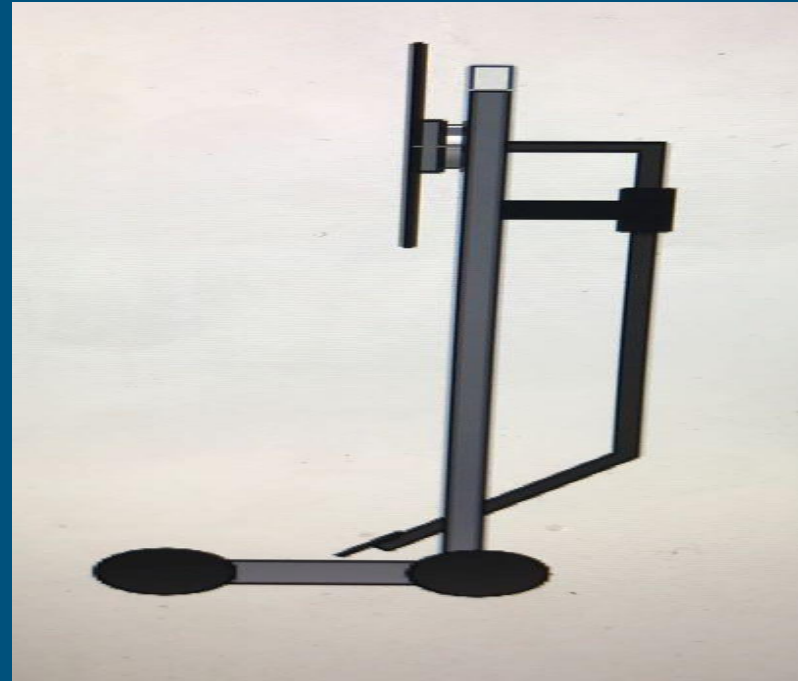
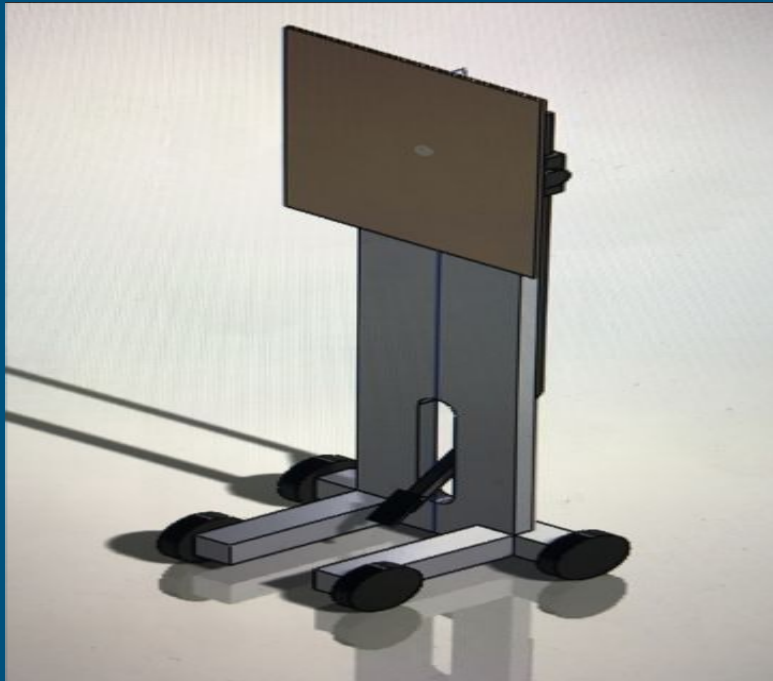
- **Engineering Requirements :**

Engineering Requirements
No Sharp Parts
Movable
Light Material < (20lb)
Flexible
Simple Design
Muscle Less
Cleanable
Easy to handle
Time
Low Cost < \$600

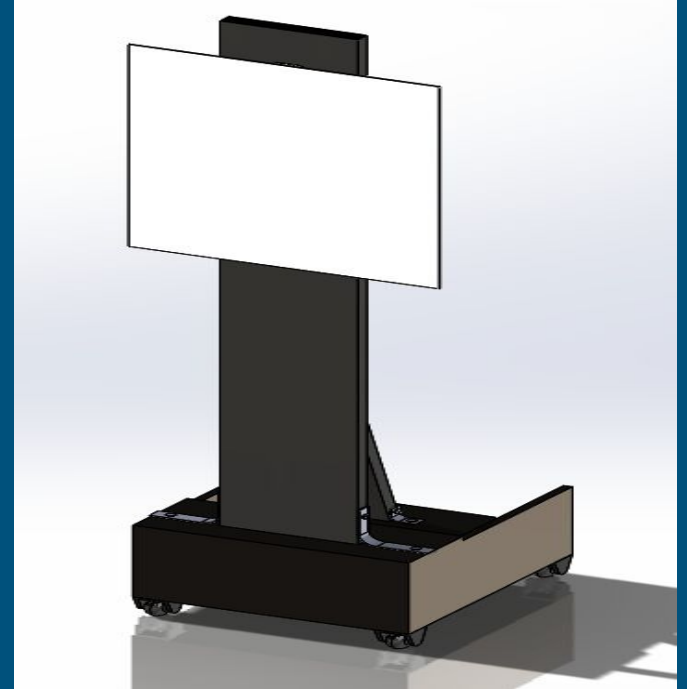
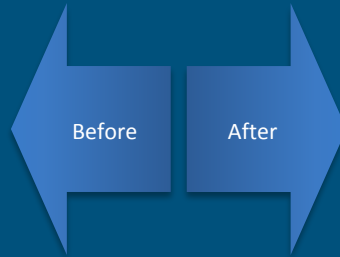
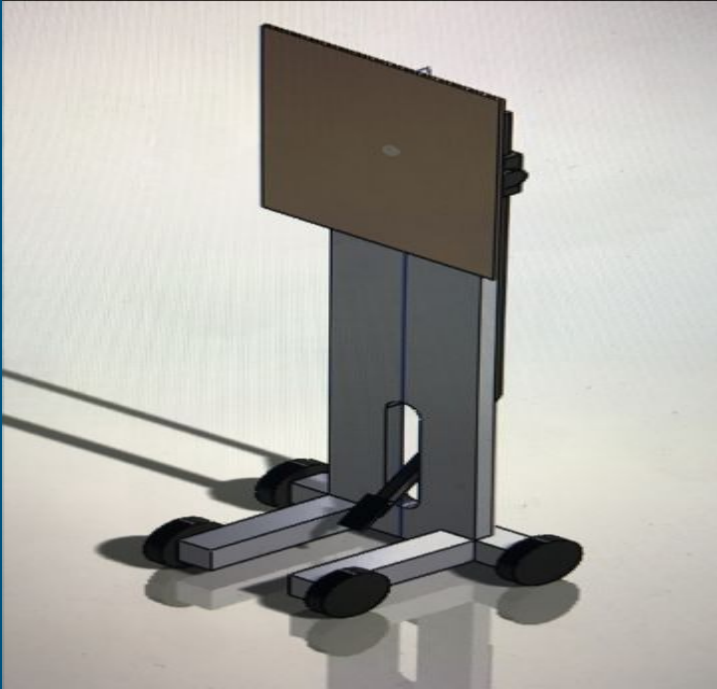
• Designs Considered:



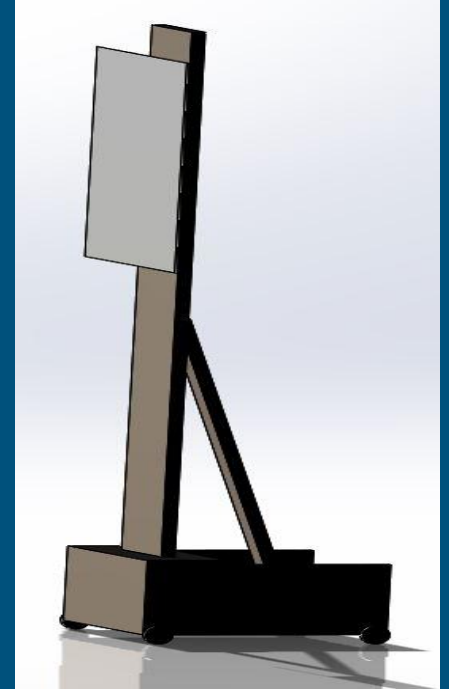
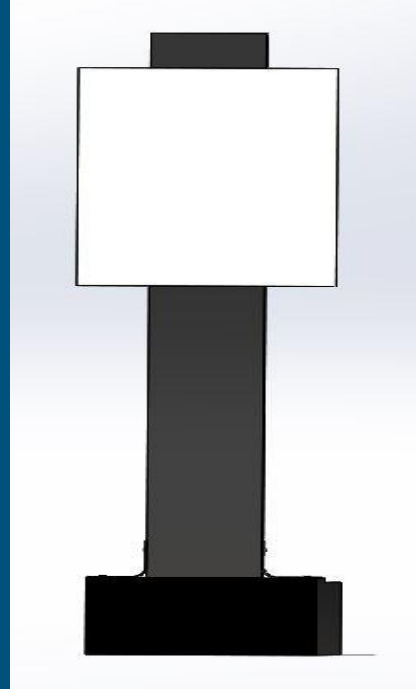
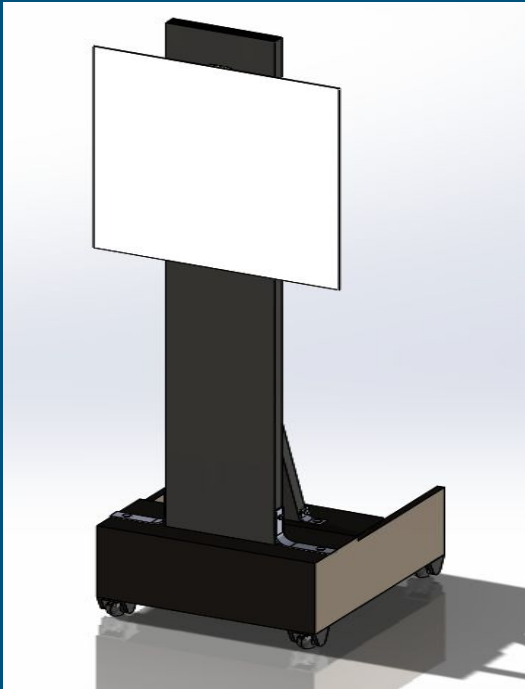
- **Design Selected :**



● Design Selected :



● Design Selected:



● Changes Made to the project:

- We have changed the whole idea from Rotational Easel to a Window Regulator Easel.
- We have met some problems with the brake of the rotational easel so we decided to change it by the approve of our client and our instructor.



- **Bill of Materials:**

Material	Cost
Battery w\ charger	\$ 76.24
Tires	\$ 15.92
Electrical stuff	\$ 106.05
Wall sticker	\$ 10.95
Electrical tester	\$ 15.82
Window Regulator	\$ 195.72
Screws	\$ 20.38
Easel	\$ 13.47
Wood	\$ 49.3
Corner Brace	\$ 40.3
Total of expenses	\$ 544.15

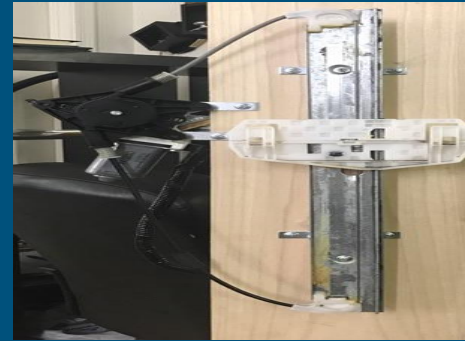
● Manufacturing:

- We started collecting the parts in the beginning of this semester.
- We started building the base with the stand together.
- Then we started to build the electrical circuit of the regulator.



● Manufacturing:

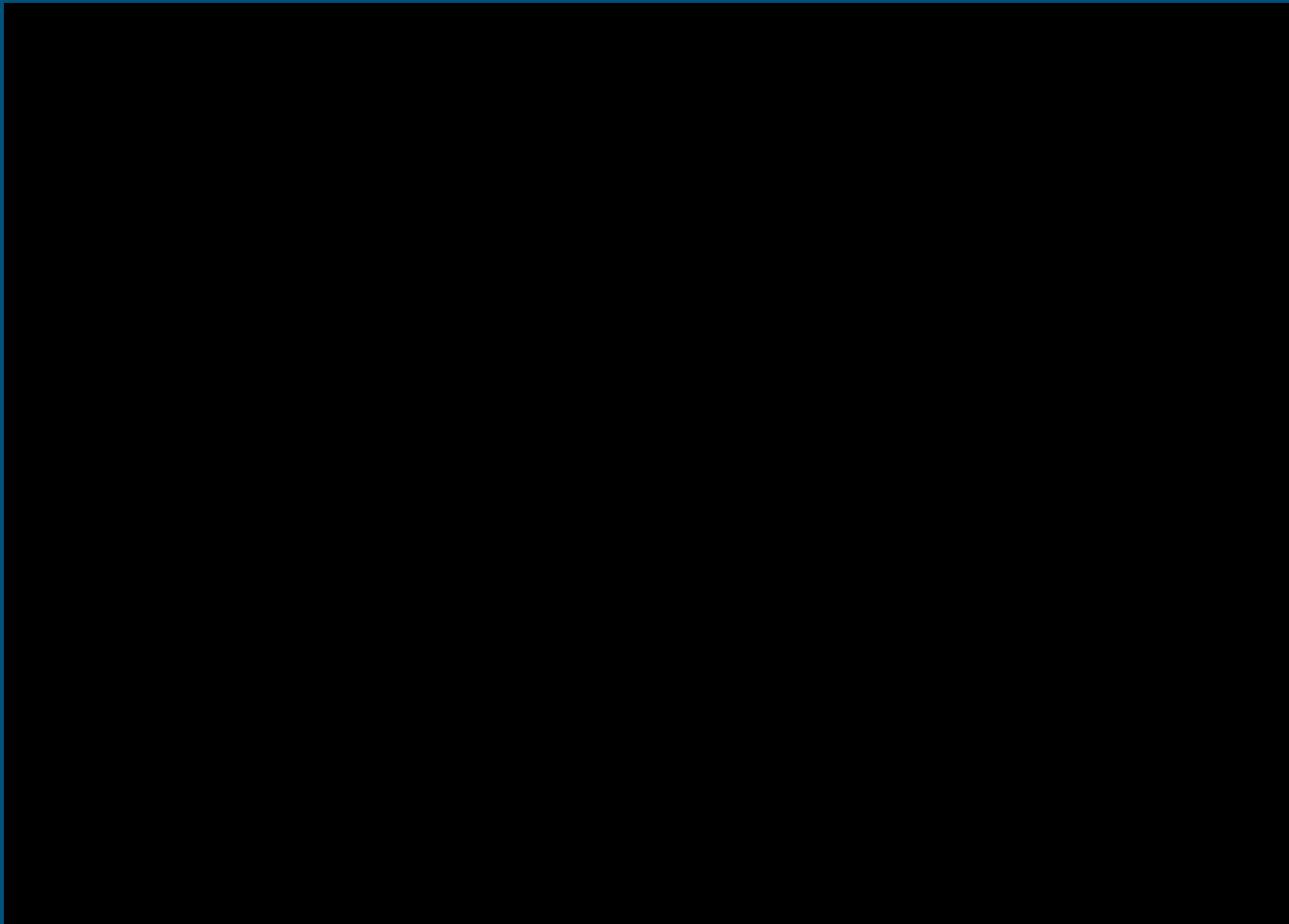
- Then we did connect the regulator to the stand
- Then we did connect all the wires from the battery to the regulator.
- Then we hid all the wires with the inductors.
- Then we had the wallpaper on the project to give it another look.



● What has been added functionality:

- Built a full project, then added the following:
- The battery level tester
- The wallpaper sticker to it.
- The cover of the wires to make it safe for users.
- The University, the Foundation, and the team name to it.
- There were no changes have been done to the project after finishing it.

- **Testing:**



● Project Outcomes:

- All the goals of the project were met as demanded.
- The project was working perfect for all the conditions in the foundation.
- Project was built on time.
- Budget was under budget by \$600.
- Team met the challenge of advanced mechanical system solution.

Questions?

