

# Stair Chair: BME 200/300

Dates: 10/3/2024-10/10/2024

Client: Mr. Daniel Kutschera, PT

Advisor: Dr. James Trevathan

Team:

Matt Sheridan (Leader)

Dan Altschuler (Communicator)

Cody Kryzer (BSAC)

Luke Rosner (BWIG)

Abi Conners (BPAG)

## Problem Statement

Create a mechanical device that temporarily handicapped patients can use to ascend and descend 3-5 stairs. The device should be inexpensive to fabricate, as compared to competing powered stair lifts, and be easy to set up and take down, both inside and outside the patient's home.

## Brief Status Update

The team met with our client at the Encompass Rehabilitation Hospital to look at the makeshift devices he uses for stair negotiation. We spoke about some of the design ideas that the team had besides the ratchet design he proposed on the initial project description. He really liked the winch idea and the team is considering choosing this as our final design for the preliminary deliverables.

## Weekly Goals and Accomplishments

- Team
  - Completed the preliminary report
  - Decided on a final design to move forward with
- Matt Sheridan
  - Organized meeting with client at hospital
  - Work on preliminary report
- Dan Altschuler
  - Did my part of the preliminary report
  - Completed references on the report
- Cody Kryzer
  - Worked on preliminary report
- Luke Rosner
  - Worked on preliminary report
  - Finished rough draft of final CAD drawing

- Abi Conners
  - Worked on preliminary presentation
  - Filled out testing portion of the preliminary report
  - Visited hospital to get better idea of client needs

## Upcoming Goals

- Team
  - Work on prototype
- Matt Sheridan
  - Organized team efforts on final design
- Dan Altschuler
  - Continue work on the final design
- Cody Kryzer
  - Determine where to source materials for final design
- Luke Rosner
  - Refine CAD drawing
  - Work on plan for prototype
- Abi Conners
  - Continue work for proof of concept

## Project Timeline

Deliverable	Deadline	People Assigned	Progress
Initial Client Meeting	9/13	ALL	100%
Product Design Specifications (PDS)	9/20	ALL	100%
Individual Research	9/20	ALL	100%
Design Matrix Criteria	9/27	ALL	100%
Design Ideas	9/27	ALL	100%
Preliminary Presentation	10/4	ALL	100%
Individual Research	10/4	ALL	100%
Preliminary Deliverables	10/9	ALL	100%
Decide upon Final Design	10/9	ALL	100%
Finished Model of Final Design	10/25	ALL	0%
Show and Tell	11/1	ALL	0%
Final Prototype Prepared (by Thanksgiving)	11/26	ALL	0%

break)			
Final Presentation	12/6	ALL	0%
Final Deliverables	12/11	ALL	0%

## Materials and Expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	QTY	Cost Each	Total	Link
<b>Category 1</b>										
									\$0.00	
									\$0.00	
<b>Category 2</b>										
									\$0.00	
									\$0.00	
								<b>TOTAL:</b>	<b>\$0.00</b>	