

Stair Chair: BME 200/300

Dates: 9/13/24-9/19/24

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 completed the Product Design Specifications (PDS) this week following our meeting with our client Mr. Daniel Kutschera. The team will now turn its focus to research and will look to create possible designs to be graded against the team's design matrix criteria. The team also plans to visit the hospital, where Mr. Kutschera works, next week to look at some of his stair workaround designs.

Weekly Goals and Accomplishments

- Team
 - Met with Mr. Kutschera and discussed project specifications
- Matt Sheridan
 - Completed ergonomics, size, weight, materials, and aesthetics portions of PDS
 - Began individual biomechanical research
- Dan Altschuler
 - Completed the function, client requirements, and other parts of the PDS
 - Finished the references and got the PDS ready to submit
- Cody Kryzer
 - Met the client and got answers to important questions
 - Completed designated portion of the PDS
- Luke Rosner
 - Updated PDS with standards and specifications for project

- Began individual research
- Abi Conners
 - Researched other types of DME
 - Filled out portion of PDS

Upcoming Goals

- Team
 - Visit the hospital in Fitchburg
 - Decide upon design matrix criteria
- Matt Sheridan
 - Draft individual designs to bring to a group brainstorming session
 - Research competing designs, other related information
- Dan Altschuler
 - Continue research for the product
 - Start to draft designs for the design matrix
- Cody Kryzer
 - Brainstorm possible designs for the design matrix
- Luke Rosner
 - Continue research for the project
- Abi Conners
 - Complete research for project
 - Maybe start looking into materials

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	0%
Design Ideas	9/27	ALL	0%
Preliminary Presentation	10/4	ALL	0%
Individual Research	10/4	ALL	0%
Preliminary Deliverables	10/9	ALL	0%
Decide upon Final Design	10/9	ALL	0%

Finished Model of Final Design	10/25	ALL	0%
Show and Tell	11/1	ALL	0%
Final Prototype Prepared (by Thanksgiving break)	11/26	ALL	0%
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
Category 1										
									\$0.00	
									\$0.00	
Category 2										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	