

Title: Low-Interference Wheelchair Footrest

Date: 2/2/2024

Client: Dan Dorszynski

Advisor: Dr. John Puccinelli

Team:

Charles Maysack-Landry — Leader

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Haoming (Bobby) Fang — BPAG

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Sam Tan — BWIG

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Problem statement:

The project aims to innovate wheelchair footrest design to overcome the limitations of current models which are often cumbersome, heavy, and restrict leg movement or access to the ground. The goal is to create a footrest that is lightweight, easily detachable, and foldable, enhancing the wheelchair user's comfort, and allows interactions with surroundings through the footrest.

Brief status update

We have been researching general information about wheelchairs, muscular dystrophy, electronics, and difficulties with footrests. We had our first client meeting, and finished our PDS.

Difficulties / advice requests

N/A

Current design:

No current design is yet created for this semester. Last semester's BME 200/300 Design is the only current design available.

Materials and expenses

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

Major team goals for the next week

1. Begin brainstorming ideas that fit into our PDS and improve on last semesters design
2. Continue research on low interference wheelchair footrests.

Next week's individual goals

- Jayson
 - Continue research and come up with an initial design prototype within the next two weeks
 - Coordinate more client meetings for the rest of the month
 - Continue reviewing the previous BME teams work
- Sam
 - In person client meeting
 - Design sketches
- Bobby
 - Further research on demographic
- Charles
 - Brainstorm design ideas
 - Continue research into standards

Timeline

Task	Jan	Feb				March					April				May	
	26	2	9	16	23	1	8	15	22	29	5	12	19	26	3	10
Project R&D	X	X	X													
Empathize	X	X	X													
Background...	X	X	X													
Prototyping																
Testings																
Deliverables																
Progress Reports	X	X	X													

PDS			X													
Prelim presentation																
Final Poster																
Meetings																
Client			X													
Advisor	X	X	X													
Website	X	X	X													
Update	X	X	X													

Filled boxes = projected timeline
 X = task was worked on or completed

Previous week's goals and accomplishments

- Sam previous goal 1
 - Previous work review (Final report)
 - Virtual Client Meeting
 - PDS
- Bobby previous goal 1
 - Completed research on footrest position's influences on ulcers for patients
- Charles previous goal 1
 - Researched wheelchair finite element analysis
 - Found things to further research
- Jayson previous goal 1
 - Completed five initial research entries
 - Found some code standards related to wheelchairs
 - Completed the PDS
- Team previous goal 1
 - Brainstormed questions
 - Finalized the PDS
 - Updated the progress report

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Sam	2/2/2024	Research	2	2	3
Bobby	2/2/2024	Research	2	2	3
Jayson	2/02/2024	Research, Client and Advisor Meeting, PDS	4	4	8
Charles	2/02/2024	Research, PDS	2	2	5