

Title: Low-Interference Wheelchair Footrest

Date: 3/1/2024

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

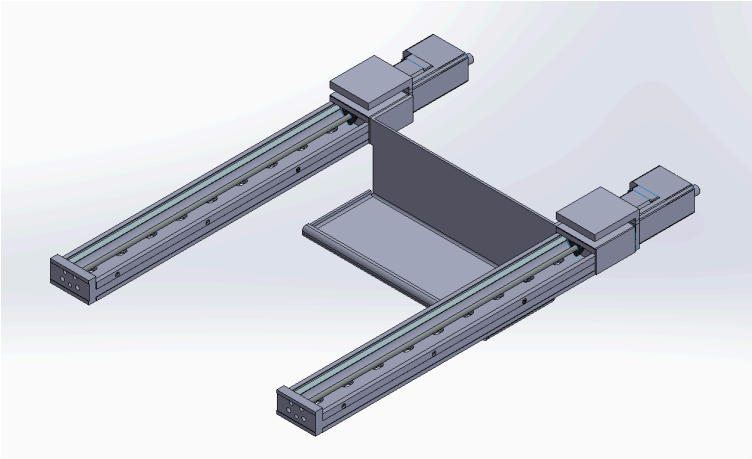
- Preliminary presentation completed
- Support structure mechanism sketched
- Design decision has been made

Difficulties / advice requests

- Need to meet with electronics professors

Current design:

Current design is a footrest on 2 linear actuators that will be controlled by a button on the wheelchair to move back and forth under the wheelchair.



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. Finish Preliminary Report
2. Look for linear actuators and materials

Next week's individual goals

- Jayson
 - Finish Preliminary report and begin ordering materials
- Sam
 - Start CAD
- Bobby
 - Work on Preliminary report
- Charles
 - Finish Preliminary report and begin ordering components

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	X	X	X										
Empathize	X	X	X	X	X	X										
Background...	X	X	X	X	X	X										
Prototyping																
Testings																
Deliverables																
Progress Reports	X	X	X	X	X	X										
PDS			X	X	X	X										
Prelim presentation						X										
Final Poster																
Meetings																
Client			X													
Advisor	X	X	X	X	X	X										
Website	X	X	X	X	X	X										
Update	X	X	X	X	X	X										

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

Previous week's goals and accomplishments

- Sam previous goal 4
 - Sketch supporting structure design, refined some design and dimensions
- Bobby previous goal 4
 - Footrest support modeling
 - Further demographic research
- Charles previous goal 4
 - Complete preliminary design and presentation
- Jayson previous goal 4
 - Finalize cad design prototype
 - Finish preliminary presentation
- Team previous goal 4
 - Finish preliminary presentation
 - Finish preliminary cad drawings

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Sam	3/1/2024	Design sketches	4	4	16

BME Design: 301

Bobby	3/1/2024	Modeling, Presentation, Research	4	4	14
Jayson	3/1/2024	Preliminary Presentation, Cad Design, Meetings	6	6	20
Charles	3/1/2024	Research, Presentation	6	6	13