

Dynamic Balance Device

Date: 02/22/2026 - 02/28/2026

Client: Mr. Daniel Kutschera

Advisor: Professor Monica Ohnsorg

Team:

Kat Sattel - Team Leader (sattel@wisc.edu)

Therese Kalt- Communicator (tkalt@wisc.edu)

Noor Awad - BSAC (nawad2@wisc.edu)

Freyja Heggeland - BWIG/BPAG (heggeland@wisc.edu)

Problem statement: Patients that have suffered strokes have a 25-30% rate of developing spatial neglect syndrome. Symptoms of spatial neglect syndrome include loss of awareness of the body in space. Our client, Dr. Kutschera, a physical therapist, helps patients to regain strength and balance following a stroke. The client seeks to develop a device that can be used to improve visual scanning and balance training that is an update from the previous yard-stick design. The device should be multi-functional so as to help patients with varying degrees of need and be effective in the rehabilitation treatment.

Brief status update: This week, the team completed the preliminary report. This included creating testing protocols, creating a final CAD sketch, and sourcing materials.

Difficulties / advice requests: None to report

Current design:

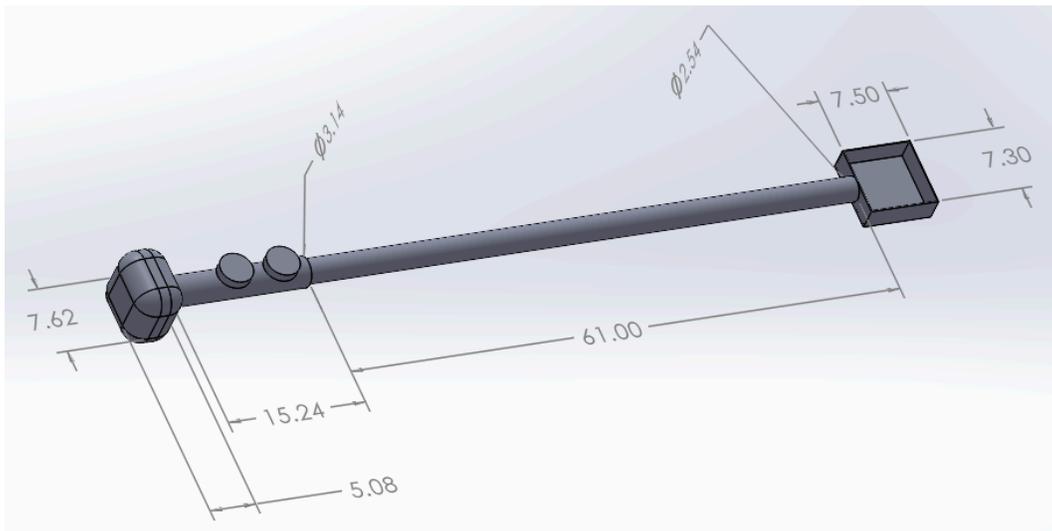


Figure 1: Dimensioned CAD drawing of current design

Materials and expenses

None to report, see table below:

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. Order materials
2. Create 3D models for the electronics and display housing

Next week's individual goals

- Kat Sattel
 - Order materials
 - Begin circuitry
- Therese Kalt
 - Continue updating CAD for both parts that need to be 3D printed
 - Order materials
- Noor Awad
 - Begin prototyping auditory feedback portion
 - Order any materials not found in ECB
- Freyja Heggeland
 - Order materials after coming to a consensus
 - Begin drafting physical prototypes with cheaper materials

Timeline

Task	Week				Week					Week				Week	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Project R&D															
Empathize	X														
Background...	X	X	X	X	X										
Prototyping															
Testings															
Deliverables															
Progress Reports	X	X	X	X	X										

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

Filled boxes = projected timeline

X = task was worked on or completed

Previous week’s goals and accomplishments

- Kat Sattel
 - Completed and formatted the preliminary report
 - Completed mid-semester team feedback
- Therese Kalt
 - Created CAD for proposed final design
 - Completed and formatted the preliminary report
 - Completed mid-semester feedback
- Noor Awad
 - Completed preliminary report
 - Completed group feedback form
- Freyja Heggeland
 - Complete the preliminary report
 - Communicate with team and begin ordering materials for draft

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Kat Sattel	2/22/2026	- Completed testing, discussion, and conclusion sections of prelim report	2	6	20
	2/25/2026	- Formatted and went through entire report prior to submission	4		
Therese Kalt	2/22/2026	- Created CAD model of proposed final design	2	6	19
	2/22/2026	- Completed introduction and background sections of the preliminary report	2		
	2/24/2026	- Completed introduction and background sections of the preliminary report			
	2/25/2026	- Formatted preliminary report	2		

Noor Awad		<ul style="list-style-type: none"> - Completed abstract and preliminary designs of preliminary report - Helped group edit report 	3 1	4	15
Freyja Heggeland	2/22/26 2/23/26 2/24/26	<ul style="list-style-type: none"> - Composed fabrication section of paper & caption edits - Weight analysis and preliminary design evaluation edits - Composed appendices B and C and material research 	2 2 2	6	24