- **Title**: Smart Walker, BME 402

- **Date**: 2/28/25 - 3/6/25

Last Name	First Name	Role	Email
Nimunkar	Amit	Advisor	ajnimunkar@wisc.edu
Kutschera	Dan	Client	kutschera@att.net
BlomWillis	Nolan	Communicator	blomwillis@wisc.edu
Schiltz	Eva	BSAC	emschiltz@wisc.edu
Parsons	Jacob	BPAG	jcparsons@wisc.edu
Waldenberger	James	BWIG	jwaldenberge@wisc.edu
Kolnik	Owen	Leader	okolnik@wisc.edu

- **Problem statement**: In the rehabilitation process of acute strokes or similar conditions, it is necessary for the patient to be able to walk independently so they can safely return home. Our team must design a device that works in conjunction with a standard walker that will measure the speed and distance the patient walks and the pressure applied to the walker.

- **Brief status update**: The team has trouble worked issues in regards to the IR sensor. Drilling for load cell holders was successful as well as attaching nuts and bolts to stabilize holders.

- **Difficulties / advice requests**: No difficulties or advice requests for this coming week.

- **Major team goals for the next week**: Finalize new load cell holder design and assess wobble, make adjustments as needed, and get the pieces printed as soon as possible. Complete proto-board and test all electrical components in conjunction.

- **Next week's individual goals**: A concise statement of intended action to continue progress on the project - be specific, i.e. what will you research.

  Eva: Print and test new load cell holder design.

  Jacob: Understand the issue with the displays and help James with the proto-board.

  Nolan: Help with new load cell holder design

  James: Finish soldering proto-board with Jacob.

  Owen: Finalize new load cell holder design, print IR holder, order wire sheathing, order new walker, and help evaluate the next iteration of the load cell holders . When the load cell holders are finalized, I will add heat inserts

Project Goal	Deadline	Assigned	Progress	Completed
Select Journal	2/7	Team	100%	Y
Preliminary Presentation	2/7	Team	100%	Y
Preliminary Deliverables	2/26	Team	100%	Y
Invention Disclosure Report (optional)	3/7	Team	0%	N
Executive Summary	4/18	Team	0%	N
Outreach Materials	4/18	Team	20%	N
Final Presentations	4/25	Team	0%	N
Final Deliverables	4/30	Team	0%	N

- **Previous week's goals and accomplishments**: Full-scale IR testing was completed this week. Additionally, team members met to choose a direction to solve load cell holder wobble. As well as began laying out protoboard.

  Team:

  Eva: Met with Nolan and Owen to discuss meeting with Jesse Darley and future steps with the load cell holder design. Created Solidworks for new design.

  Jacob: Conducted a very successful (~0.25% error) IR testing with the sensor integrated into the leg. Also began laying out the proto-board with James for the complete and final circuit.

  Nolan: Helped with IR testing, met with Jesse Darley with Owen regarding wobbles in the walker, also then met with Eva and Owen to discuss future changes with load cell holder.

  James: Purchased wire connectors and make connection diagram for proto-board soldering, started soldering components.

  Owen: Met with Jacob and Nolan on Monday and Tuesday, to conduct full-scale IR testing. Met with Jesse Darley to discuss the load cell holder wobble issue. Met with Nolan and Eva to discuss the next step regarding load cell holder design. Compiled purchased item costs. Made a masterlist of all the design's components. Looked into wire sheathing for wires entering and exiting the electrical housing. Modeled a permanent holder for the IR sensor in the bottom leg. Discussed with the team regarding a new walker purchase.

  Activities: a concise accounting of time spent working on the project.

	Eva	Jacob	Nolan	James	Owen
Week 1	3 hrs	4 hrs	2.5 hrs	2 hrs	3 hrs
Week 2	2 hrs	3 hrs	5 hrs	2.5 hrs	6.5 hrs
Week 3	3 hrs	4 hrs	2.5 hrs	4 hrs	4 hrs
Week 4	2.5 hrs	8 hrs	2hrs	4 hrs	9 hrs
Week 5	2.5 hrs	4 hrs	4.5hrs	2 hrs	5 hrs
Week 6	3 hrs	6 hrs	5 hrs	3 hrs	7 hrs