

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

- **Date:** 2/7/25 - 2/13/25

| Last Name | First Name | Role | Email |
|--------------|------------|--------------|-----------------------|
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| 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:** We have a group working on the walker legs and display box and another group working on the power and sensor testing.
- **Difficulties / advice requests:** No difficulties or advice requests for this coming week.

- **Major team goals for the next week:** Complete sensor testing and determine which one to go with for fabrication. Finish fabrication of the walker legs for the load cell holders. Finalize new load cell holder design.
- **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: 3D print final version of load cell housing.

Jacob: Finish the hall effect testing and determine which sensor to plan for final fabrication.

Nolan: Help with final fabrication of the walker legs

James: Finalize the load cell circuit.

Owen: Determine the dimensions of the PCB, and begin printing the electrical housing. Help with advanced IR sensor trials and work on preliminary report.

| 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 | 50% | N |
| 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:**

Team: The team began to test the power and sensor components on the electrical side. The team also worked on walker leg fabrication for load cell holders.

Eva: Updated Solidworks design for load cell holders.

Jacob: I completed the preliminary testing for the IR sensors and began on the hall effect

Nolan: I worked on the load cell holders and the new design. Also worked on the outreach project.

James: Integrated the battery and voltage regulators into the load cell circuit and ran some preliminary tests.

Owen: Ordered the components for mounting the electrical housing. Additionally, worked on measuring leg angles to design new load cell holders. Lastly, I worked on the screen mounting component, trial switch holder, and adding a port for the on-off switch.

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 |