

# Dynamic Balance Device, BME 200/300

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**Advisor:** Dr. James Trevathan

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**Date:** September 27 to October 3, 2024

## Problem Statement

Many elderly people—especially those who have suffered from strokes—sustain lasting mobility problems as they attempt to recover and return to “everyday” life. Currently, the solutions for physicians to use in addressing this issue are either too expensive to easily acquire, or are inadequate and are too hard to use while giving sufficient attention and support to the patient. The goal of this project is to provide a solution that remedies the issues with current designs at an affordable cost.

## Brief Status Update

The team finished the design matrices and prepared the preliminary presentation. We are also communicating with our client to plan a visit.

## Summary of Weekly Team Member Design Accomplishments

- Team:
  - Created a preliminary presentation to highlight the various designs created and the chosen final design.
  - Began to work on the preliminary report.
- Gabriela:
  - Worked on the preliminary presentation
  - Did research on materials
- Gracie:
  - Worked on the team’s preliminary presentation.

- Researched microcontrollers that are compatible with the display screen.
- Jack:
  - Worked on the preliminary presentation slides.
  - Continued to research materials for the design.
- Kyle:
  - Prepared preliminary presentation
  - Researched LED boards

## **Weekly/Ongoing Difficulties**

-Finding a time to visit the hospital

-Preparing to order materials and finding the cheapest version possible

-Gabriella came down with Covid-19

## **Upcoming Team and Individual Goals**

- Team:
  - Begin prototyping.
  - Finalize material choices and order materials.
  - Prepare a fabrication plan.
- Gabriela:
  - Start brainstorming about prototyping
- Gracie:
  - Begin to plan the fabrication of the various components of the prototype.
  - Work on ordering materials.
  - Continue to work on the preliminary report.
- Jack:
  - Work on a preliminary report.
  - Work on fabrication plans.
- Kyle:
  - Begin ordering materials
  - Work on preliminary deliverables
  - Begin researching how to make board Arduino compatible

## **Project Timeline**

<b>Project Goal</b>	<b>Deadline</b>	<b>Team Assigned</b>	<b>Progress</b>	<b>Completed</b>
Preliminary Presentations	Oct 4	All	In progress	No
Preliminary Deliverables	Oct 9	All	–	No
Show and Tell	Nov 1	All	–	No
Poster Presentations	Dec 6	All	–	No
Final Deliverables	Dec 11	All	–	No

**Expenses**

<b>Item</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Part Number</b>	<b>Date</b>	<b>QTY</b>	<b>Cost Each</b>	<b>Total</b>	<b>Link</b>
<b>Component 1</b>								

<b>Component 2</b>									
<b>Component 3</b>									
<b>TOTAL:</b>								<b>\$0.00</b>	