

# Dynamic Balance Device, BME 200/300

**Client:** Mr. Daniel Kutschera

**Advisor:** Dr. James Trevathan

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**Date:** October 4 to October 11, 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 has completed the Preliminary Report, which outlined various design options and the final design idea. Additionally, the report detailed how we will fabricate, test, and analyze the design. We have our materials selected and we have to move forward with ordering them this week. We will also begin to create fabrication plans as well as testing plans in the coming weeks.

## Summary of Weekly Team Member Design Accomplishments

- Team:
  - Completed the Preliminary Report and preliminary presentation.
  - Completed feedback
- Gabriela:
  - Completed the preliminary report
  - Continued to conduct research on materials

- Completed feedback on teammates and myself
- Gracie:
  - Outlined testing procedures and how we will evaluate the results of the tests in the Preliminary Report.
  - Continued to research materials for the project.
- Jack:
  - Completed FeedbackFruits for teammate reviews
  - Completed Fabrication and Design Matrix categories on the Preliminary Report
  - Set up hospital visit with client
- Kyle:
  - Completed the preliminary report
  - Continued research on materials

## **Weekly/Ongoing Difficulties**

## **Upcoming Team and Individual Goals**

- Team:
  - Meet with the client to discuss our design and next steps.
  - Create a plan to order materials and begin developing a fabrication plan.
- Gabriela:
  - Keep updated on client's visit
  - Work on a plan to order materials and prototype
- Gracie:
  - Meet with our client to discuss our design.
  - Begin to order materials and create a fabrication plan for a prototype.
- Jack:
  - Read through FeedbackFruits feedback and fill out reflection
  - Create 3D printer model to test weight distribution
- Kyle:
  - Meet with our client at the hospital
  - Begin developing a fabrication plan for a prototype

## **Project Timeline**

<b>Project Goal</b>	<b>Deadline</b>	<b>Team Assigned</b>	<b>Progress</b>	<b>Completed</b>
Preliminary Presentations	Oct 4	All	Completed	Yes
Preliminary Deliverables	Oct 9	All	Completed	Yes
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>