



## **Company Background**

Steady Systems is a HealthTech company developing interactive training technology that reduces fall risk, promotes active lifestyles, and empowers all adults to age with confidence. The product, Steadiplay, is an engaging, evidence-based balance screening and training system that informs and entertains through game-based fitness.

Steadiplay offers quick, affordable, and accurate balance screening and engaging balance training using body motion on an instrumented wobble board with real-time robot control (patent pending). This invention is unique because it uses visuospatial feedback to promote spatial awareness and provides mental and physical relief from excessive screen-time. A research prototype has been developed and tested with human subjects showing the invention's potential value but requires further development to enable translation to a clinical environment for additional efficacy testing and defining market potential.

**Team Size:** 2-4 students

**Location:** Remote and/or in-person, client/team meetings held either on Zoom or Mines campus.

**Project Summary:** Game Development

This project involves expanding the Steadiplay mobile device application by developing a screen-based, virtual game and real-time data visualization. The virtual game will use the wobble board's IMU signals for real-time control of a screen-based graphic. The game will provide an alternative to robotic feedback to assess feedback preference and efficacy. Data visualization and analytics will also be explored if time permits to provide the clinician with real-time outcomes.

All tools including the hardware (e.g., IMU sensor, Bluetooth module, microcontroller, mobile device) and required software will be provided for prototyping as needed. Students will be asked to sign a non-disclosure agreement (NDA) and all IP rights will be retained by Steadi Systems.

## **Key Skills/Technologies:**

Familiarity with object-oriented programming concepts and Bluetooth communication protocols would be beneficial skills for this project. Experience with mobile app development languages such as Android (e.g., Java) or iOS (e.g., Swift) or cross-platform API (e.g., Flutter) is preferred but not required. Experience using Git version control is required.

## **Student Benefits:**

- Creative freedom to develop unique problem solutions.
- Potential future paid freelance opportunities in software and hardware development.
- Contribute to developing a product that can significantly impact the health care system.
- Build valuable time-management and leadership skills with successful completion of project milestones.

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