

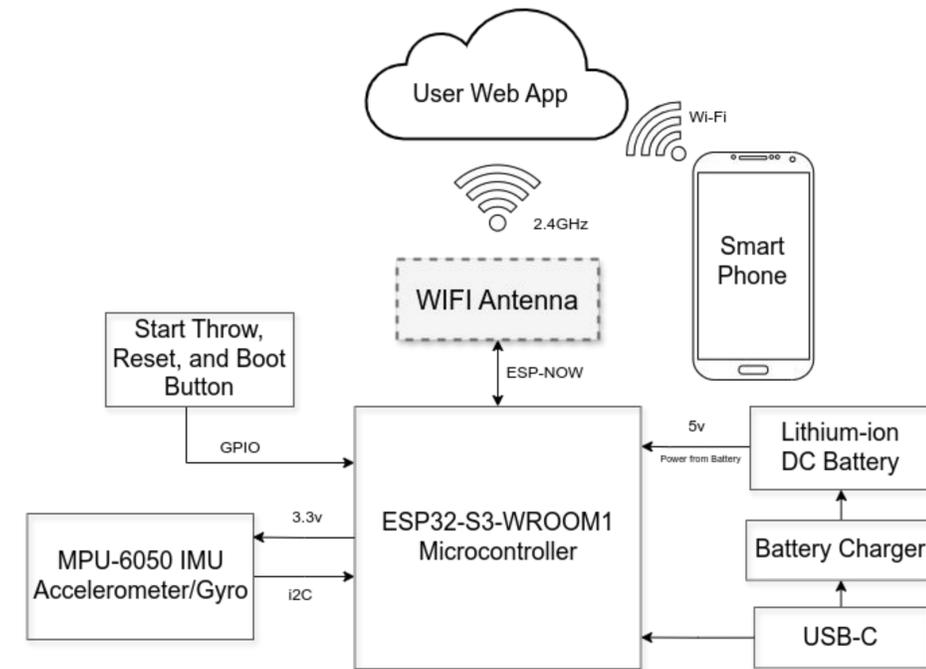
# Disc Intelligence & Sensor Companion (D.I.S.C)

## Project

The goal of this project is to create a disc golf tracker that uses sensors to collect and share data, helping players improve their throws through detailed feedback.

- When learning to play disc golf, a player may have a difficult time understanding why their disc flew a certain direction.
- Our project records the movement of a disc, including its velocity and angle.
- The recorded data is shown to the user to help them better understand the physics of their throw and what they need to change to improve.

## System Diagram



## Methods

- The project consists of two main parts. The first is a sensor mounted on a PCB board contained in a puck that is mounted to the bottom of a disc.
- The second is an ESP32 controller programmed to broadcast over Wi-Fi a web app to show data on any device with a web browser.
- The puck is powered by a lithium-ion battery and charged on device through a USB-C cable.
- The electronics are housed in a 3D printed TPU container mounted on a 3D printed TPU frisbee, to help lessen impact damage.

## Conclusion

Highlight the most significant results.

- D.I.S.C is able to collect information on the spin and throw angles.
- D.I.S.C is able to give users data to improve their disc golf throws.
- Learned how to operate ESP32 based Wi-Fi servers, web apps and complex circuit design in a PCB.
- Future iterations can explore different housing sizes and battery life lengths.