**Team 205**
# Software Design

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## Main Loop

**Start**

- Initialize system
- Enable Interrupts

### Interrupts Enable

Reset Button Pressed → Reset System

Motion Detected → Start System

- Motion Routine
- set iTime = time
- Get Distance

time - iTime >= 1000

- Sending and Receiving information from Wi-Fi

time - itime < 1000

- Print Distance
- Get time

IR distance sensor (Analog)

Screen (SPI)

Pls Ignore

## Initialize System

- Set Hardware Registers
- Reset Internal Variables
- Establish Communication

## Reset System

- Button Pressed
- Reset All Variables
- Start System from Motion Routine

## Motion Routine

- Get Angular Velocity
- Get Orientation

Gyroscope (I2C)

## Sending and Receiving information from Wi-Fi

ESP32 (UART/I2c)

Sending Distance → MQTT

Receiving Commands to Print