

# Johns Hopkins Engineering

## **Location Services and Frameworks**

Module 4



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## Introduction

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# Module 3 Recap

- Threads on iOS
- Asynchronous Multithreading
- Gestures
- Instruments

# Module 4 Topics

- Onboard Sensors
- CoreMotion Framework
- CoreLocation Framework
- MapKit

# Reminders

- Development Log 2 is due at the end of this module
- Homework 2 is now available



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## Onboard Sensors

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# Onboard Sensors

- iOS devices come with a suite of onboard sensors (note: not all devices have all sensors)
  - Accelerometer
  - Gyroscope
  - Ambient Light Sensor (no public API)
  - Proximity Sensor
  - Assisted GPS (GPS + Wifi)
  - Barometer
  - Altimeter

# What can you simulate?

- Rotate Left/Right
- Shake
- Home Button
- Lock
- Reboot
- Location (custom or preset)



# Simulating External Displays

- You can also simulate external displays
  - AirPlay screens (mirror by default)
  - Apple Watch
  - Apple TV



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