Team 20
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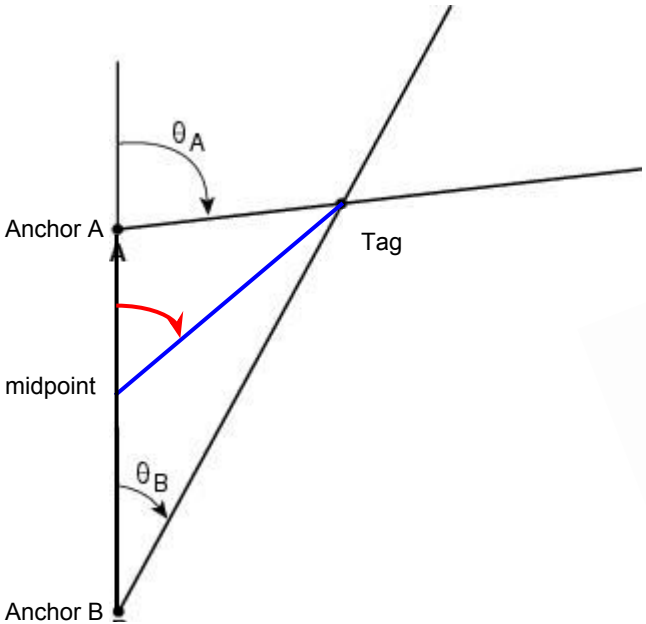
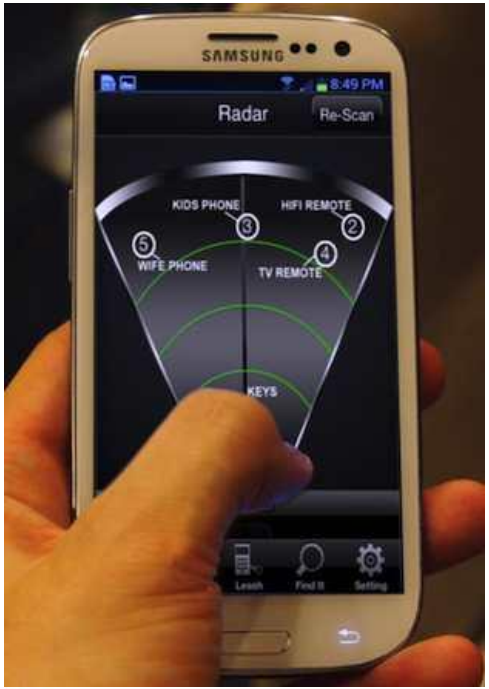
Concept

A real time web API for **angle of arrival** and **range** information of a tag.





Competitive Analysis

- Wifi-based
  - Signal strength, fingerprint
  - Often 5-10 m accuracy
- BLE Beacons
  - Signal strength
  - ~5 m accuracy
- UWB
  - TOF
  - < 1m accuracy
  - Often a custom system installation, very expensive

Requirements

- Range and angle data shall be available to web accessible API in under two seconds after the data is collected.
- Range and angle data shall be collected at a rate of at least 1 Hz.
- Tag shall be portable (battery powered).
- Anchors and Raspberry Pi shall be powered from an outlet.
- Tag shall be able to run at least two hours on a full battery.

Tech Specs

Parts

- DWM1000
- Raspberry Pi
- Some cheap microcontroller
- Web server (AWS or homegrown)