TerraSwarm

Semantic Heuristic Localization

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Who's in Lab?

Background

What People Carry	What People Are	What People Use
• Phones	• Voice	• Desk Chair
• Laptops	• Faces	• Computer
• RFID Cards	• Height	
• Fitbits	• Weight	

Background

What People Carry

- Phones
- Laptops
- RFID Cards
- Fitbits

Fitbit Scanning

Fitbits communicate over BLE

Actively scan using base station

Can run from a Raspberry PI

```
[brghena@ubuntu whereabouts] [master *] $ ./fitbitfinder.py test
Scanning for fitbits...
E385285A5EE0 : -79
27E78B1E97F9 : -74
4D8D0D8CB7EE : -82
C372A4DA26C4 : -85
```
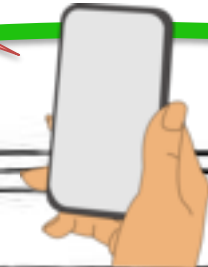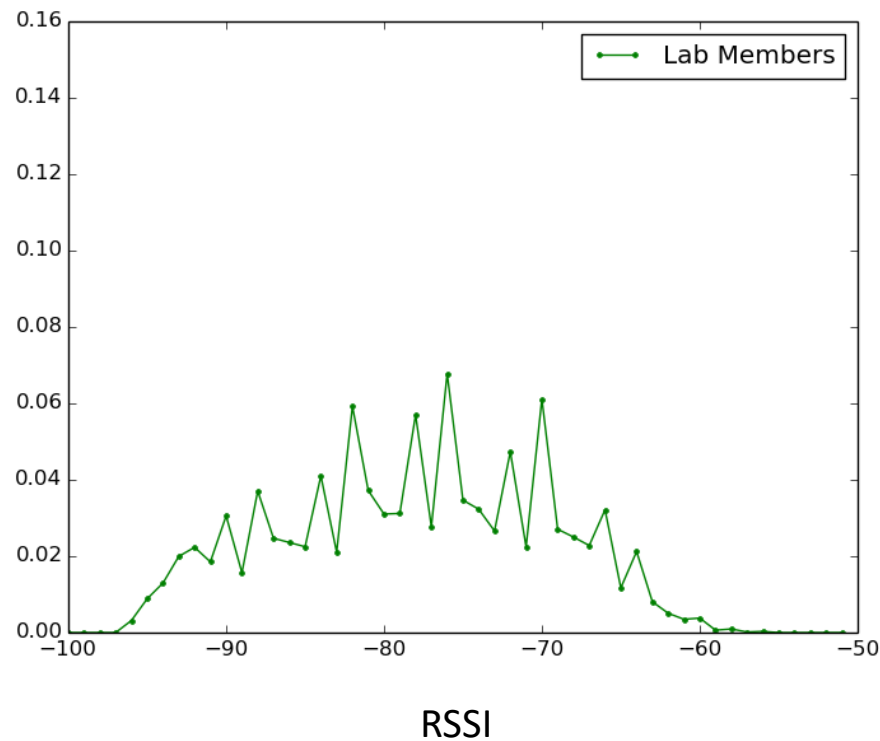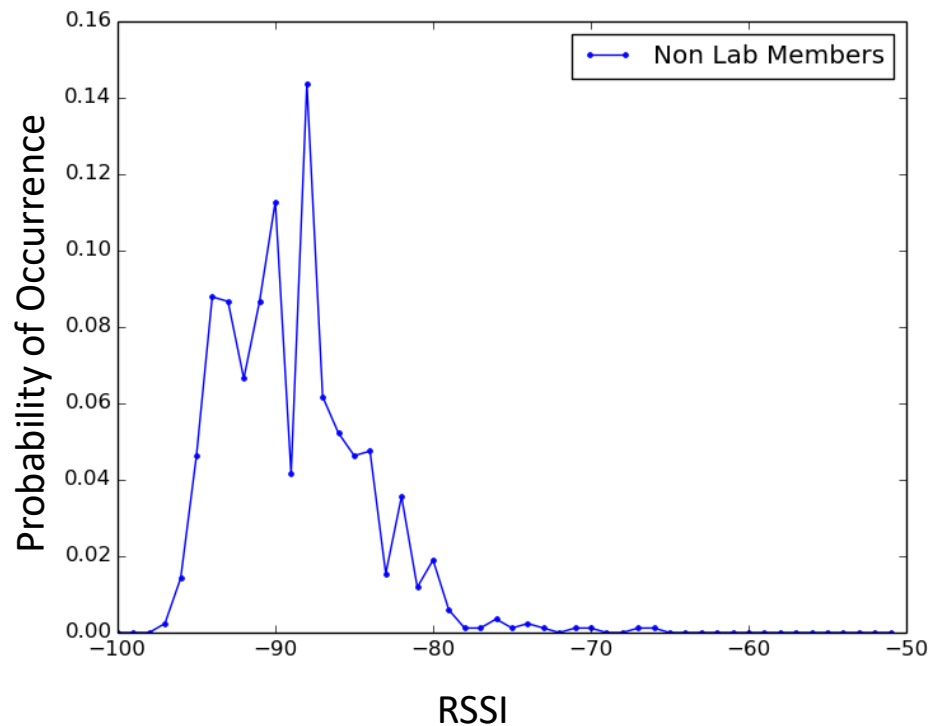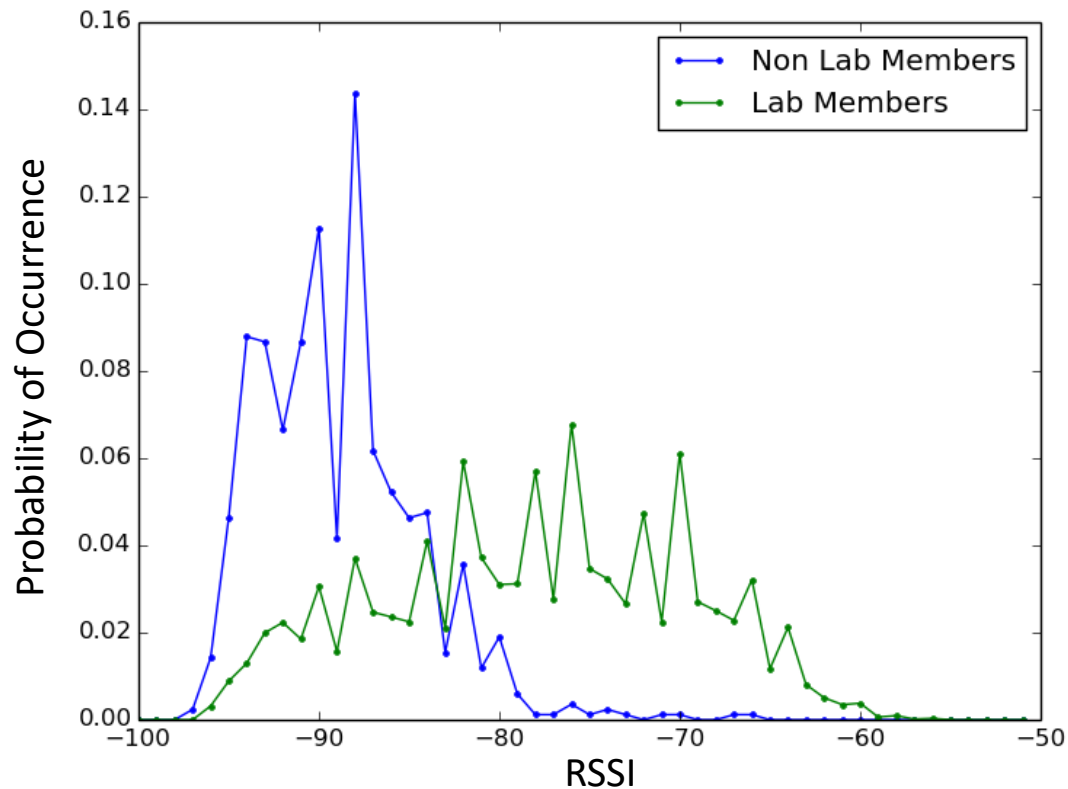
The Barrier Problem

Challenges

How bad is RSSI in practice?

Challenges

How bad is RSSI in practice?

Whereabouts

Demos | Whereabouts

Whereabouts Semantic Heuristic Localization

Josh Adkins	Brad Campbell	Branden Ghena	Pat Pannuto	Ye-Sheng Kuo
University of Michigan, BBB, 4908	University of Michigan, BBB, 4908	University of Michigan, BBB, 4908	University of Michigan, BBB, 2909	University of Michigan, BBB, 4908
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Updated: 3:52 PM	Updated: 3:52 PM	Updated: 3:52 PM	Updated: 3:52 PM	Updated: 3:52 PM

http://inductor.eecs.umich.edu/whereabouts.html

https://github.com/lab11/whereabouts