Indoors Navigation System

(I.N.S)

Nir Moshe, September 2016

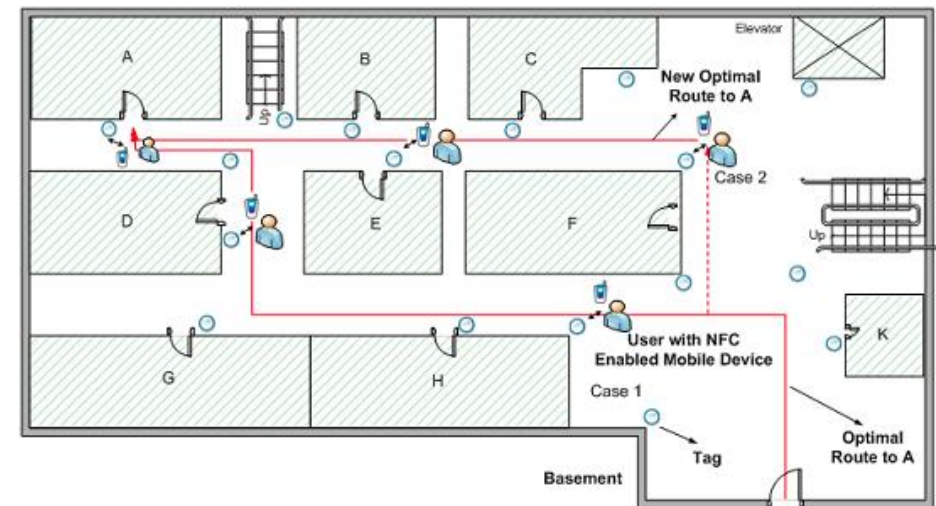67625 POST PC COMPUTING: HUMAN-CENTRIC MOBILE COMPUTION

Outline

- Concept

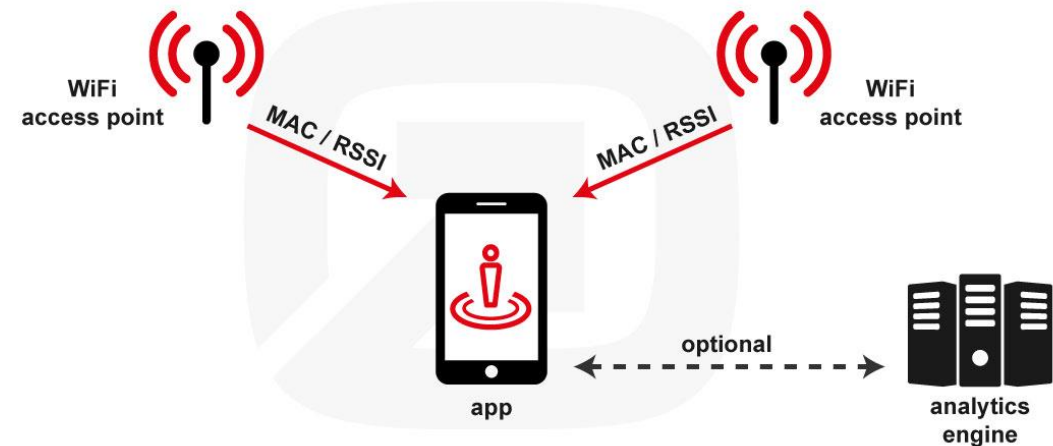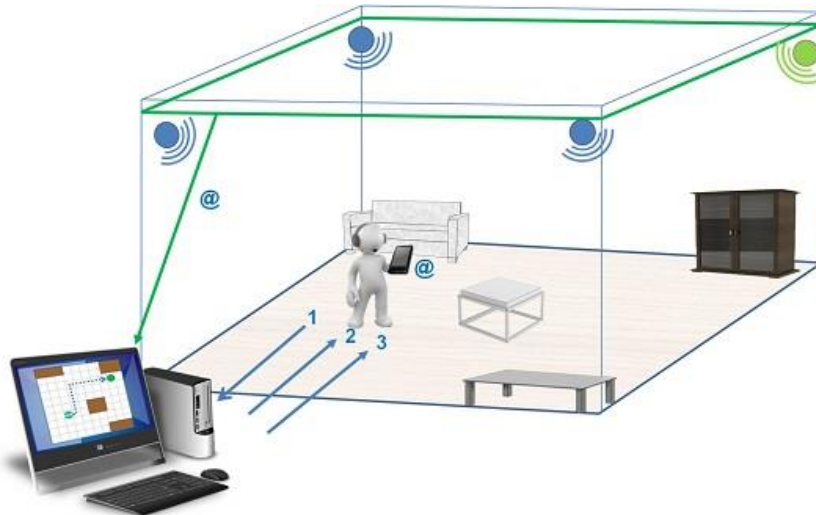- Demonstration

- Tech. Description

- Q & A

Concept

- Indoors navigation system is a system to locate objects or people inside a building using WiFi waves.

- Wi-Fi positioning takes advantage of the rapid growth of wireless access points in urban areas.
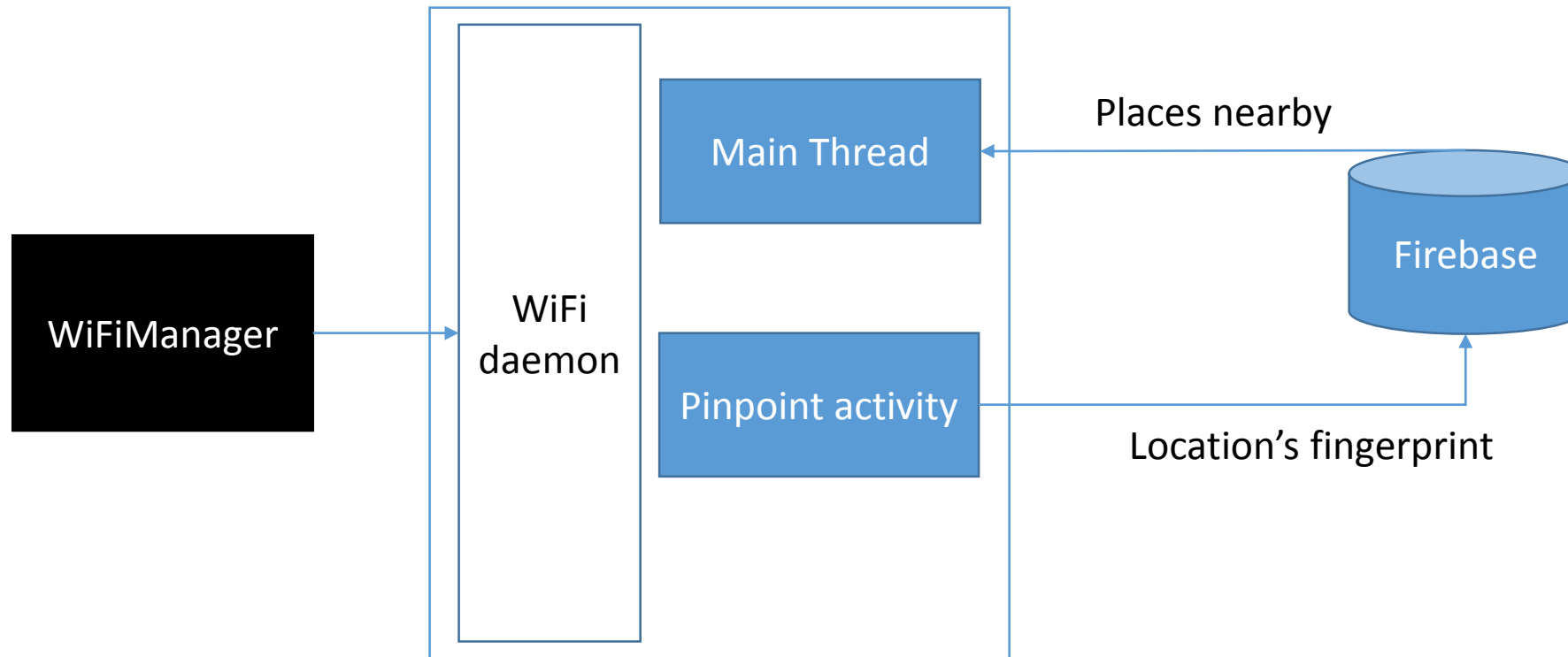
Concept

- I.N.S generates unique *fingerprint* for every location according to set of BSSID's and their signal strength

- I.N.S samples WiFi signals repeatedly and determines the current user location by using various heuristics

Demo

Technical Description

WiFiManager → WiFi daemon

Main Thread

Pinpoint activity

Places nearby

Firebase

Location's fingerprint

Technical Description

- Android WiFi API - WifiManager

- Manage remote database - Firebase

Q & A

- **Google Play**: https://play.google.com/store/apps/details?id=il.ac.huji.ins
- **Git**: https://github.com/nir-mo/INS