WiFind

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Problem Statement

- Internet connectivity can be unreliable
  - Downed service
  - Heavy reliance on being online
- Open WiFi networks are out of reach
  - Travel/Moving
  - Trial and error
- Many routers do not have security
  - Place those on the network at risk
  - Invasion of privacy
Design Overview

Mobile Sensing Platforms

Backend Google Apps Engine Database

WiFind Website
Technologies Utilized

● Android Application (Nexus One)
  o SQLite Database
  o Sensor Management
  o HttpPost Transfers
● Website Client
  o Google Web Toolkit
  o Google Maps API
● Server
  o Google Web Toolkit
  o Google Apps Engine
  o Java Data Objects
  o Geomodel
Technical Difficulties

- Android Programming Practices
  - Good models are not documented
- Transferring Data from Android to server
  - Did not have experience in the area
- Google Apps Engine
  - Lack of full SQL/JDOSQL support
  - Convoluted exceptions
- Geocell Modeling
  - Originally written in python
  - Java port needed to be tweaked
Lessons Learned

- Use Application Programing Interfaces (API) and libraries
- Realize the limitations of the platforms chosen
- Develop in pieces and slowly combine
- When possible, develop in simulators to speed up development
- [http://stackoverflow.com/](http://stackoverflow.com/) - a great resource
- Google's geocoding is amazing
- Backup the codes
- Have a mobile workspace
  - Synchronized bookmarks
  - Same development tools
Links

- Google Apps Engine JDO Storage
- GeoModel
  - http://code.google.com/p/javageomodel/
- Google Web Toolkit
  - http://code.google.com/webtoolkit/
- WiFind
  - http://mikebetawifind.appspot.com/