



# WiFind

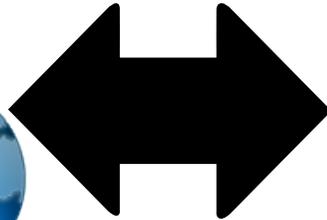
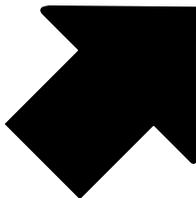
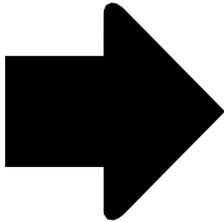
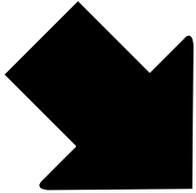
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# Problem Statement

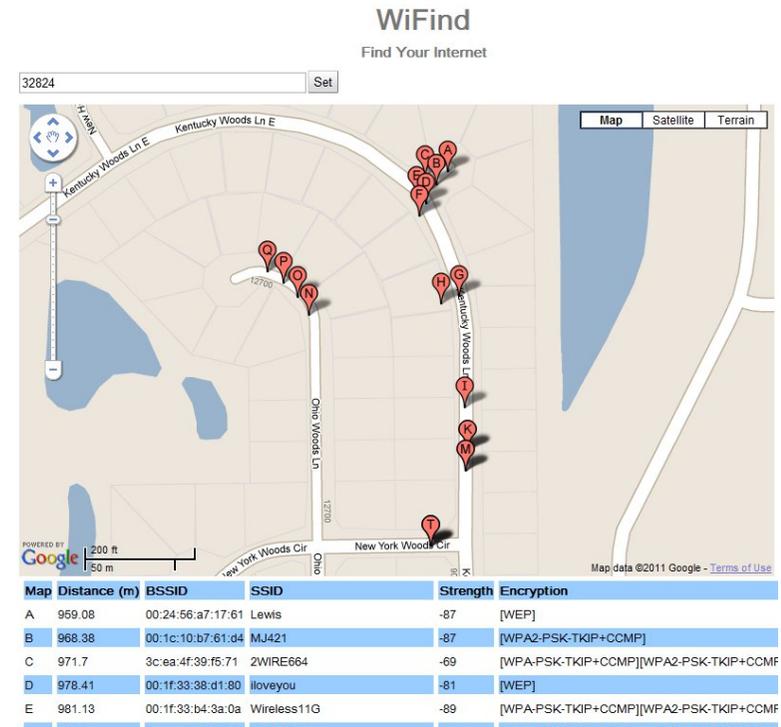
- Internet connectivity can be unreliable
  - Downed service
  - Heavy reliance on being online
- Open WiFi networks are out of reach
  - Travel/Moving
  - Trial and error
- Many routers do not have security
  - Place those on the network at risk
  - Invasion of privacy



# Design Overview



Backend Google  
Apps Engine  
Database



WiFind Website

Mobile  
Sensing  
Platforms

# Technologies Utilized

- Android Application (Nexus One)
  - SQLite Database
  - Sensor Management
  - HttpPost Transfers
- Website Client
  - Google Web Toolkit
  - Google Maps API
- Server
  - Google Web Toolkit
  - Google Apps Engine
  - Java Data Objects
  - 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 Programming 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/> - 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
  - <http://code.google.com/appengine/docs/java/gettingstarted/usingdatastore.html>
- GeoModel
  - <http://code.google.com/apis/maps/articles/geospatial.html>
  - <http://code.google.com/p/javageomodel/>
- Google Web Toolkit
  - <http://code.google.com/webtoolkit/>
- WiFind
  - <http://mikebetawifind.appspot.com/>

