



SmartNet Fall 2017 Presentation



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Problem

- WiFi signal is very finicky
- Signal is unreliable at certain spots
 - Leads to dead spots
- Hard to determine optimal location for extenders





Solution: SmartNetwork

- Mobile diagnostic tools
 - Video Stream Analyzer (VSA)
 - Wifi speed test
 - Wifi Heatmap
- Easier mobile setup for technicians
 - Automatically connect to the SmartRG router
 - GUI Portal



Users

- ISP technicians
- Everyday users



Our Goals

What we inherited

- WiFi speed tests
- WiFi heatmap (basic functionalities)
- Connect to router via WPS

Our goals

- VSA
- Router pin drop/birth certificate
- GUI portal
- Improve heatmap features

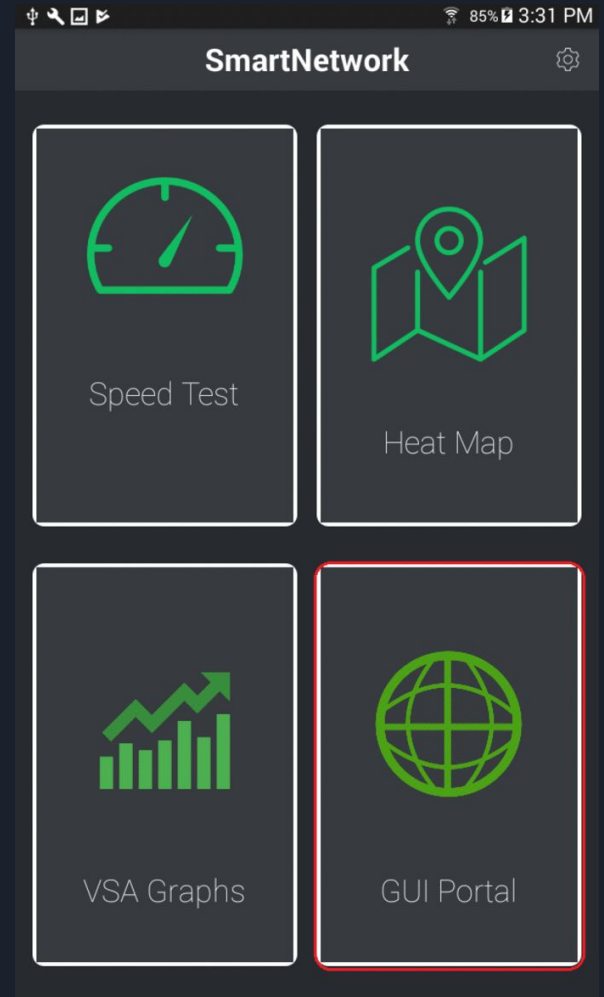
VSA

- Metric tool
 - High bandwidth consumption
 - Requires decent connection
- Measurements
 - MDI
 - PP/s
 - Mb/s



GUI Portal

- Automatically connect to router
- Connect to SmartRG-Setup
 - Quickstart Wizard
 - Quickstart → New SSID
- Configure Network Attributes
 - Navigate to gateway
 - Configure advanced settings



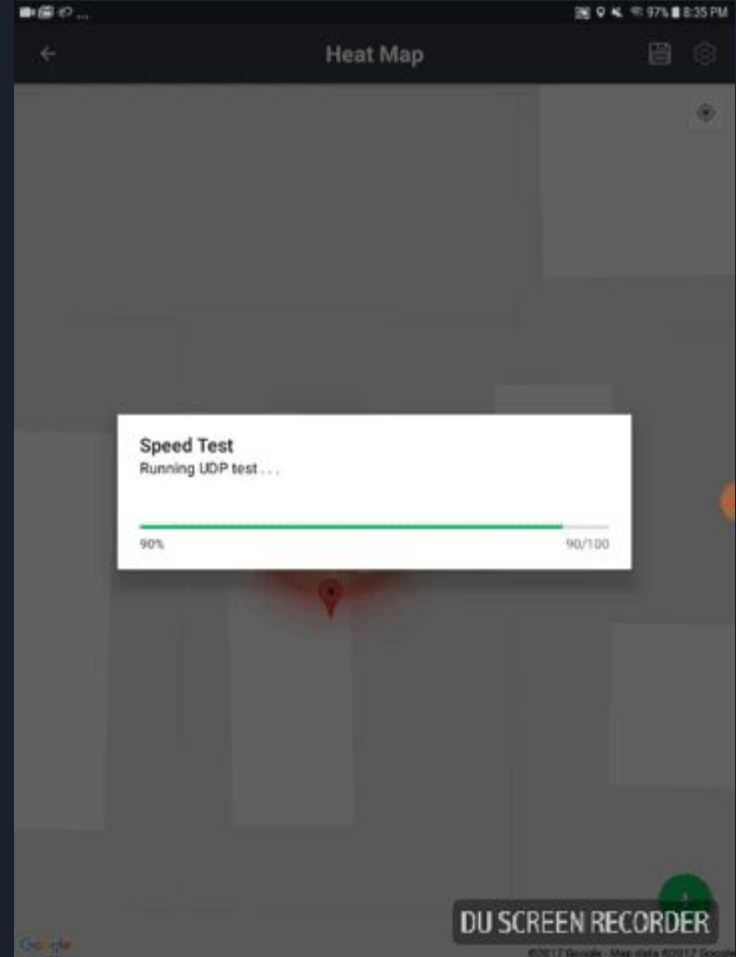
Heatmap

Heatmap

- Router pins
- Test pins
- Retrieving from backend

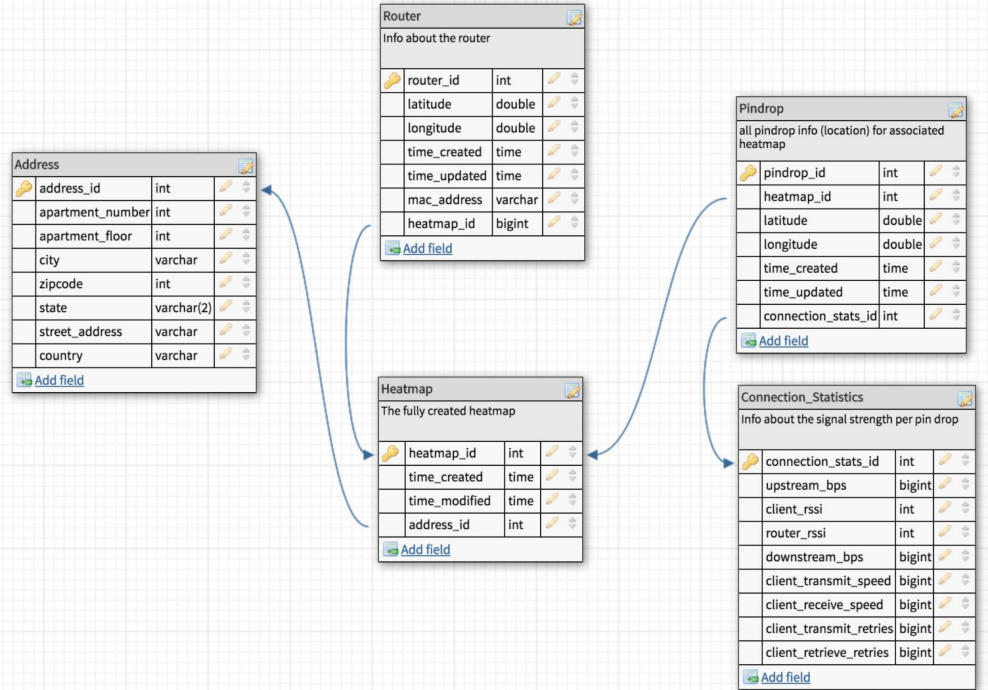
Birth Certificate

- Initial router's metadata



Backend

- MongoDB
- Stores heatmap
- Stores birth certificates





What's Next?

- Port VSA to android
 - Super User
- Heatmap scaling
- Push birth certificate to router
- Automatically launch GUI portal
- Backend integration



Technologies Used

- Android
- MongoDB
- Espresso
- Google Maps API
- iPerf
- VSA

Demo

