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

- 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