MICHIGAN STATE
U N I V E R S I T Y

Project Plan
Spectrum Health GO

The Capstone Experience

Team Spectrum Health

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From Students…
…to Professionals
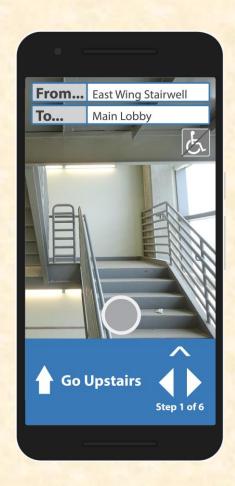
Functional Specifications

- Mobile App for Real-Time Hospital Navigation
  - Poster waypoints guide a user through routes
  - Routes direct users between major locations
  - Routes recalculate if user scans off-route waypoint
- Web App for Managing Waypoints and Routes
  - Routes are all preconfigured
  - Waypoints can be added and deleted
  - Web app primarily used by administrative assistants and secretaries
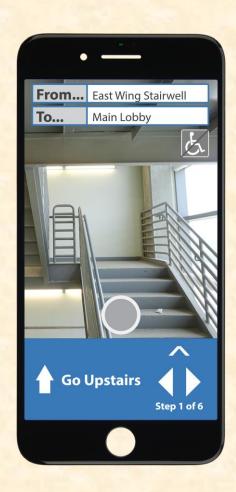
Design Specifications

- QR codes on posters called waypoints

- App to navigate through Spectrum Health Facilities using waypoints, even without wi-fi

- Web application for staff to create new waypoints, track user routes
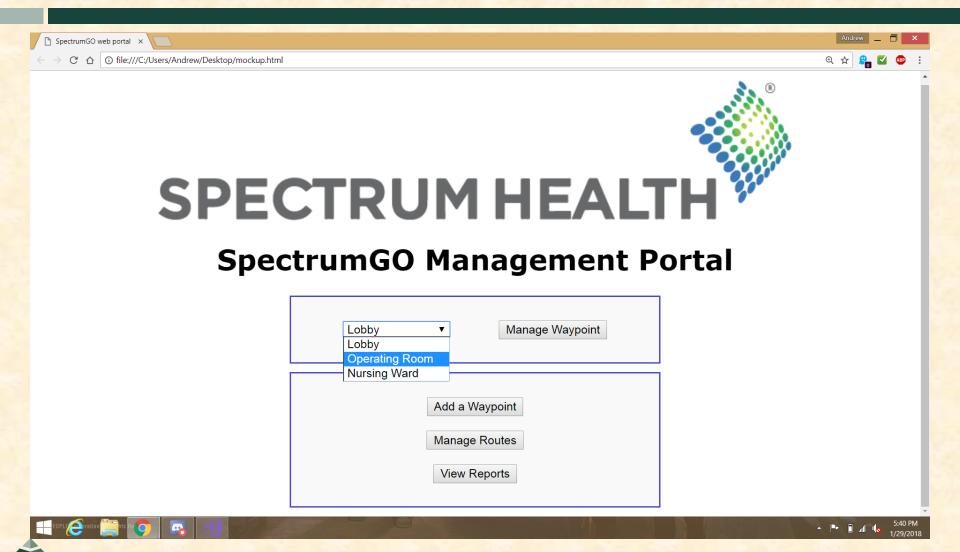
Screen Mockup: Android App

Screen Mockup: iOS App
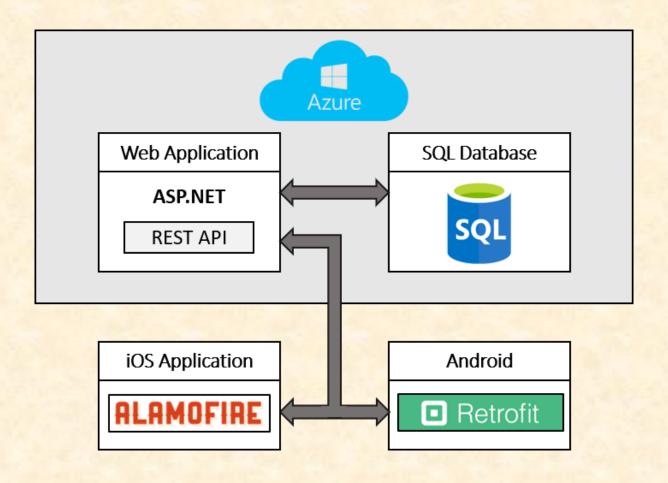
Screen Mockup: Web App

Screen Mockup: Web App

Technical Specifications

- SQL database on Microsoft Azure to store waypoints and routes

- Barcode detection with Mobile Vision API to scan QR codes (Android)

- Retrofit and Alamofire for HTTP requests from mobile devices

System Architecture

System Components

- Hardware Platforms
  - Android Phones
  - Apple iOS phones
- Software Platforms / Technologies
  - Android SDK (Java)
  - iOS SDK (Swift)
  - HTML5 / CSS
  - .NET Core 2.0 MVC (C#)
  - Microsoft SQL / Azure

Risks

- Risk 1
  - AR arrow will be difficult to implement and not compatible with all devices
  - Develop a simpler but functional solution
- Risk 2
  - Integration of database with web and mobile applications
  - Research integration techniques
- Risk 3
  - QR code and .pdf generation
  - Research APIs and Tutorials, clear libraries with client
- Risk 4
  - Database download size could be too large for mobile app
  - Allow user to download only the current facility

Questions?

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