Project Plan
Mobile Rounding Application

The Capstone Experience

Team Spectrum Health

Alex Hill
Andrew Kellams
Jinguang Li
Anna Pucel
Ben Tiefenbach

Department of Computer Science and Engineering
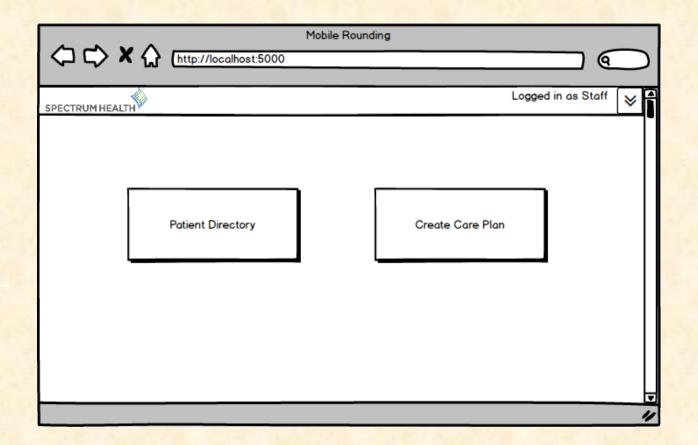Michigan State University

Spring 2016

Functional Specifications

- Nurses or other hospital staff can create Patient Care Plans with the Staff Application
- Allow patients to view their personal Care Plan on the Patient Application
- Patients can track their timeline to discharge from the hospital
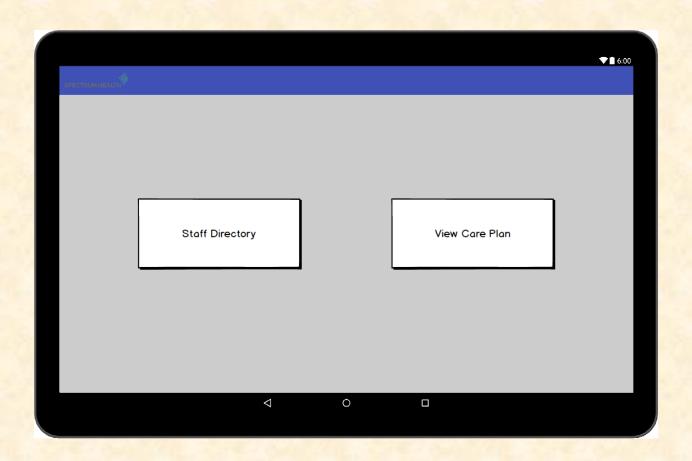- Allow for video communication between patients and surgeons/nurses/hospital staff

Design Specifications

- 5 views for Staff Application – Home Screen, Create Care Plan, View Care Plan, Patient Directory, Video Call

- 4 views for Patient Application – Home Screen, View Care Plan, Staff Directory, Video Call

- Staff Application is intended for use on desktop but will be responsive

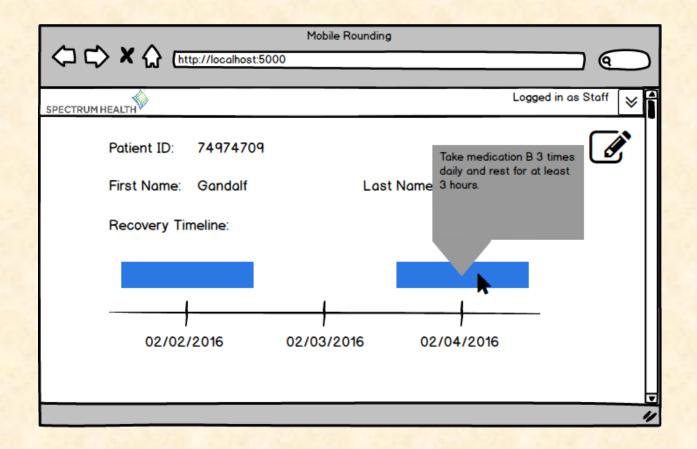- Patient Application will be developed exclusively for Android devices
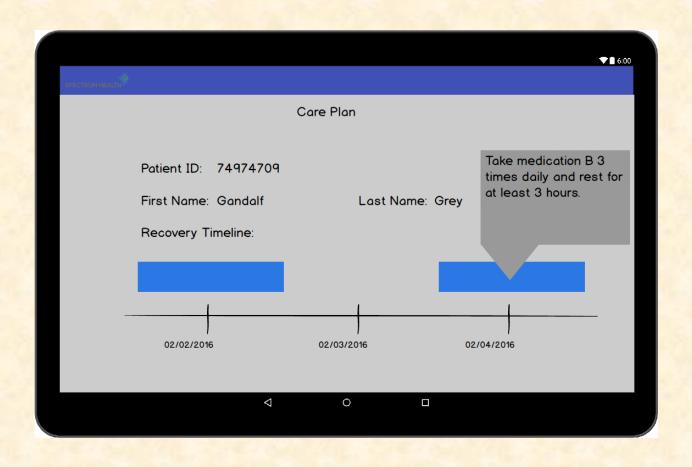
Screen Mockup: Home Screen (Staff Application)

Screen Mockup: Home Screen (Patient Application)

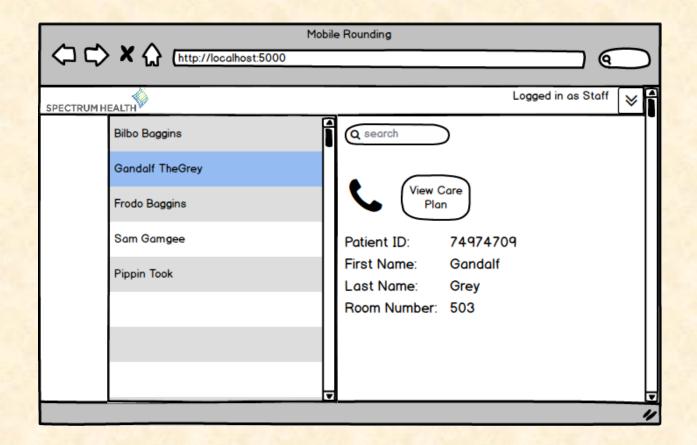# Screen Mockup: View Care Plan (Staff Application)

Screen Mockup: View Care Plan (Patient Application)

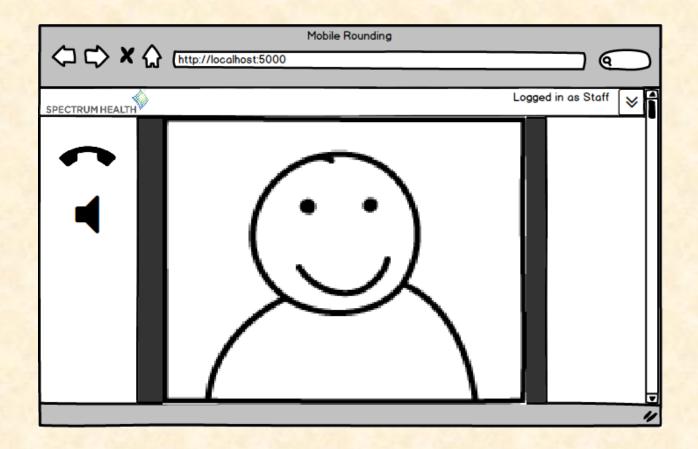# Screen Mockup: Create Care Plan (Staff Application)

Screen Mockup: Directory View (Staff Application)
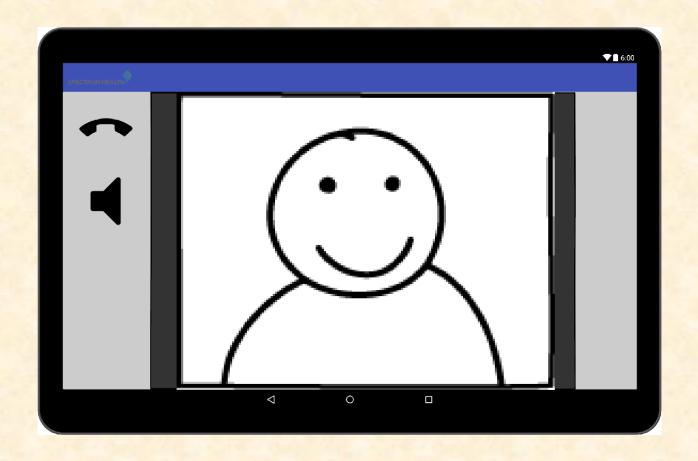
Screen Mockup: Directory View (Patient Application)

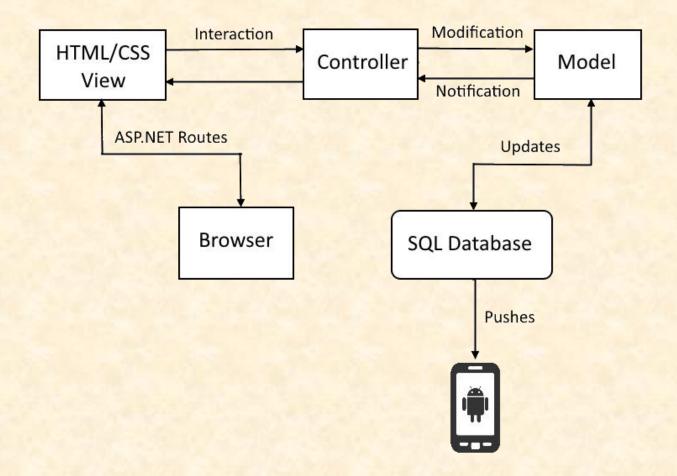# Screen Mockup: Video Call (Staff Application)

Screen Mockup: Video Call (Patient Application)

Technical Specifications

- Application follows MVC Design Pattern
- Data is pushed to SQL Server by Staff Application
- Data is retrieved from SQL Server by Patient Application
- Routing on Staff Application is provided by ASP.NET

System Architecture

System Components

- Hardware Platforms
  - Staff Application runs on any web browser
  - Patient Application runs on Android Tablet as provided by Spectrum Health
- Software Platforms / Technologies
  - Microsoft Visual Studio with ASP.NET 5 MVC
  - HTML/CSS + C#
  - Windows SQL Server 2012
  - Android Studio SDK with Java

Testing

- Manual Testing will be done to test functionality and user input

- Unit Testing will be done to test system components

- Visual Studio built in Testing Methods will be used for Unit Testing of the Staff Application

- JUnit and Mockito in Android Studio will be used for Unit Testing of the Patient Application

Risks

- Ensuring Secure Provider/Patient Messaging
  - Properly securing all personal/confidential patient records
  - Work directly with Spectrum to comply with patient confidentiality regulations
- Unfamiliarity with Vidyo Messaging API
  - Implementing preferred messaging API directly into mobile application
  - Consult Spectrum developers with knowledge of the API
- Overcommitting on Features
  - Not overdoing our workload to provide deliverables on-time
  - Prioritize feature list and commit to completing most important features first
- Lack of knowledge with ASP.NET MVC, SQL Server
  - Using current experience to develop with software never used before
  - Assign roles to all team members, utilize skill sets and knowledge of different team members to most effectively accomplish the tasks