MICHIGAN STATE UNIVERSITY

Project Plan
Resident Physician Tracking

The Capstone Experience

Team Spectrum Health

Katie Foss
Matt Hannan
Hao Chen
Matt Lamb

Department of Computer Science and Engineering
Michigan State University

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From Students…
…to Professionals

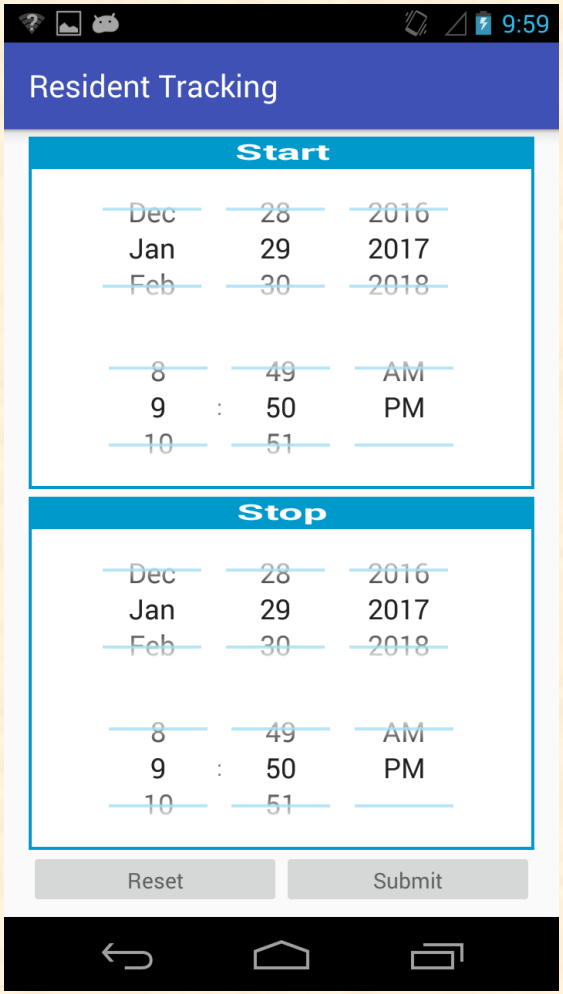
Functional Specifications

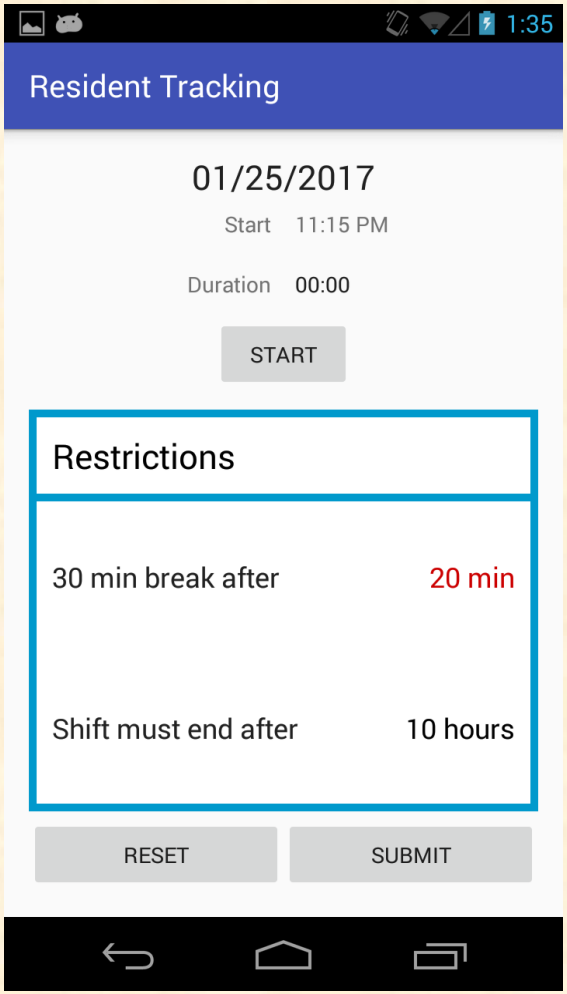
- Android and iOS app for residents to record shift times
- Shift from hand-written time sheet
- Notifications when approaching shift time limits
- Web portal for Resident Coordinator to view and export resident shift times for auditing purposes

Design Specifications

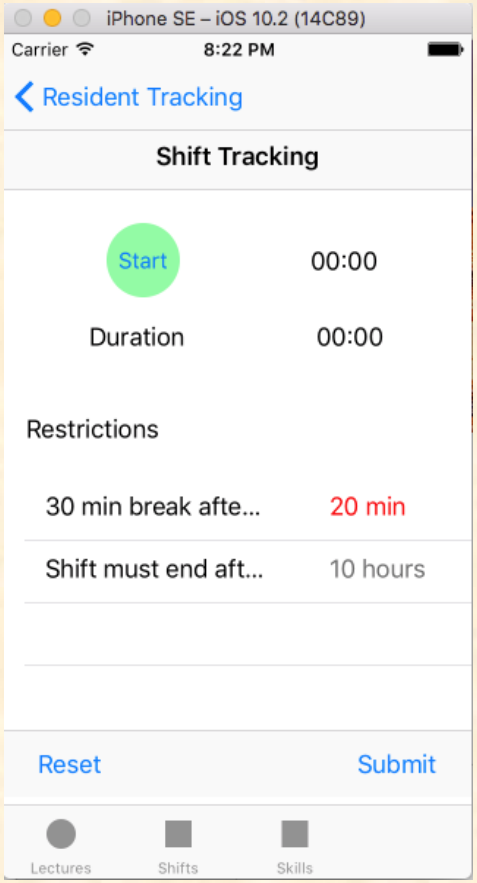
- Mobile apps
  - Manual time entry screen
  - Automatic timer screen
- Web Portal
  - Used by Resident Coordinator
  - View resident shift times in a table format
  - Export data to a CSV file for auditing purposes

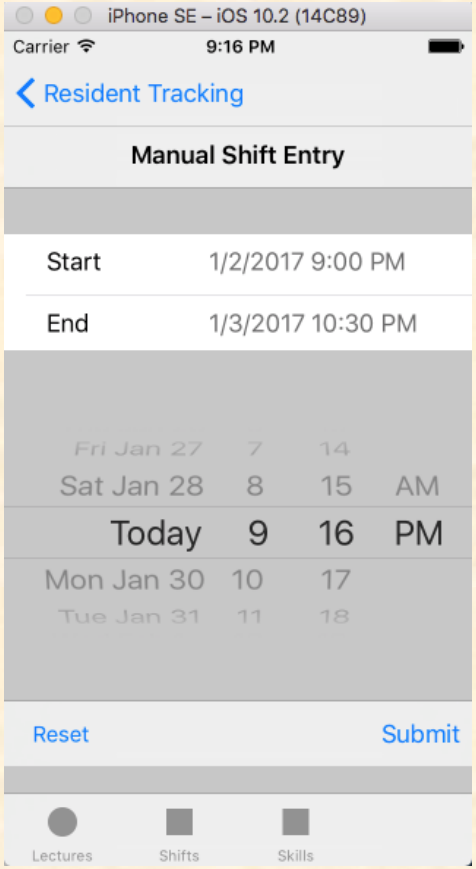
Screen Mockup: Android



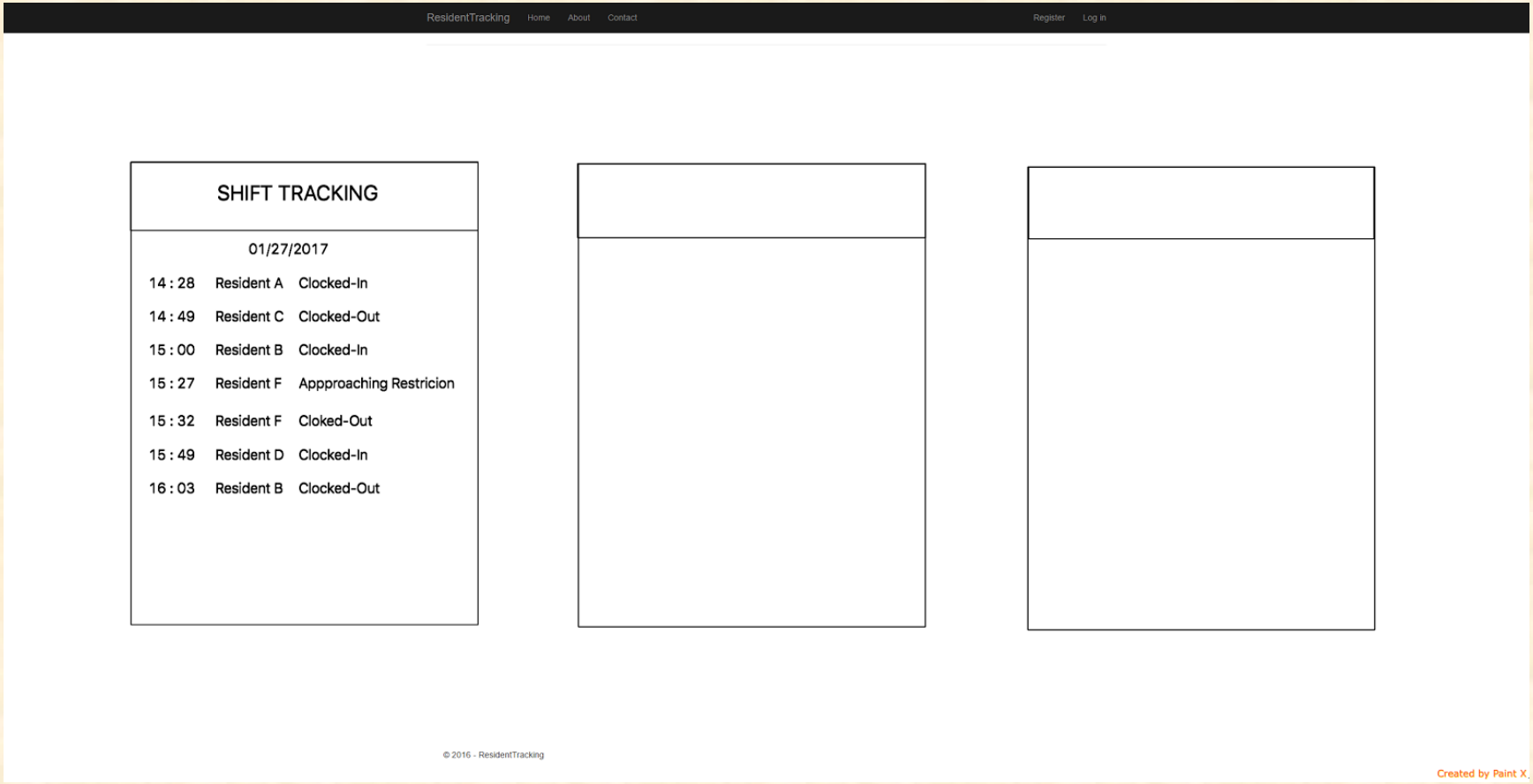


Screen Mockup: iOS

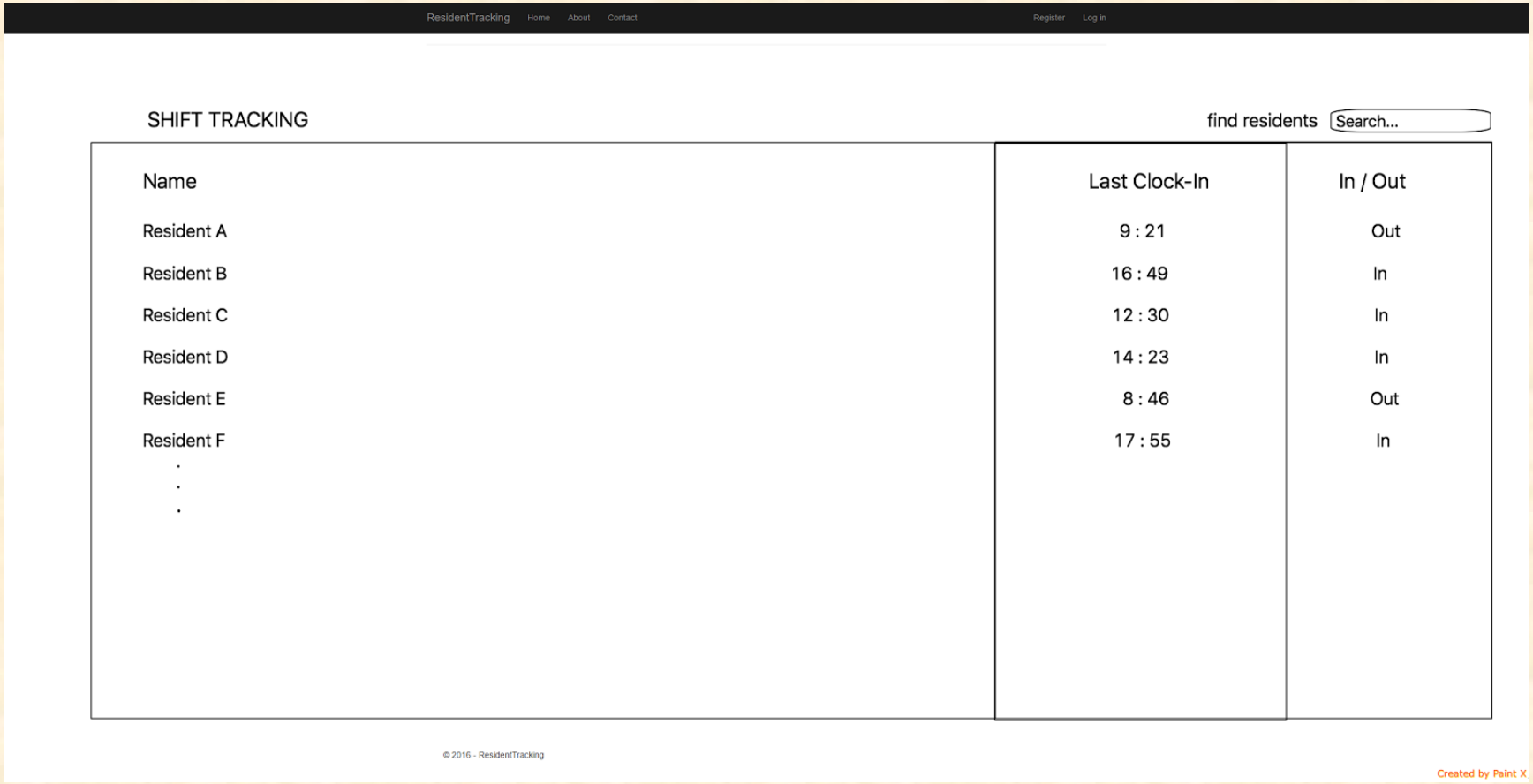




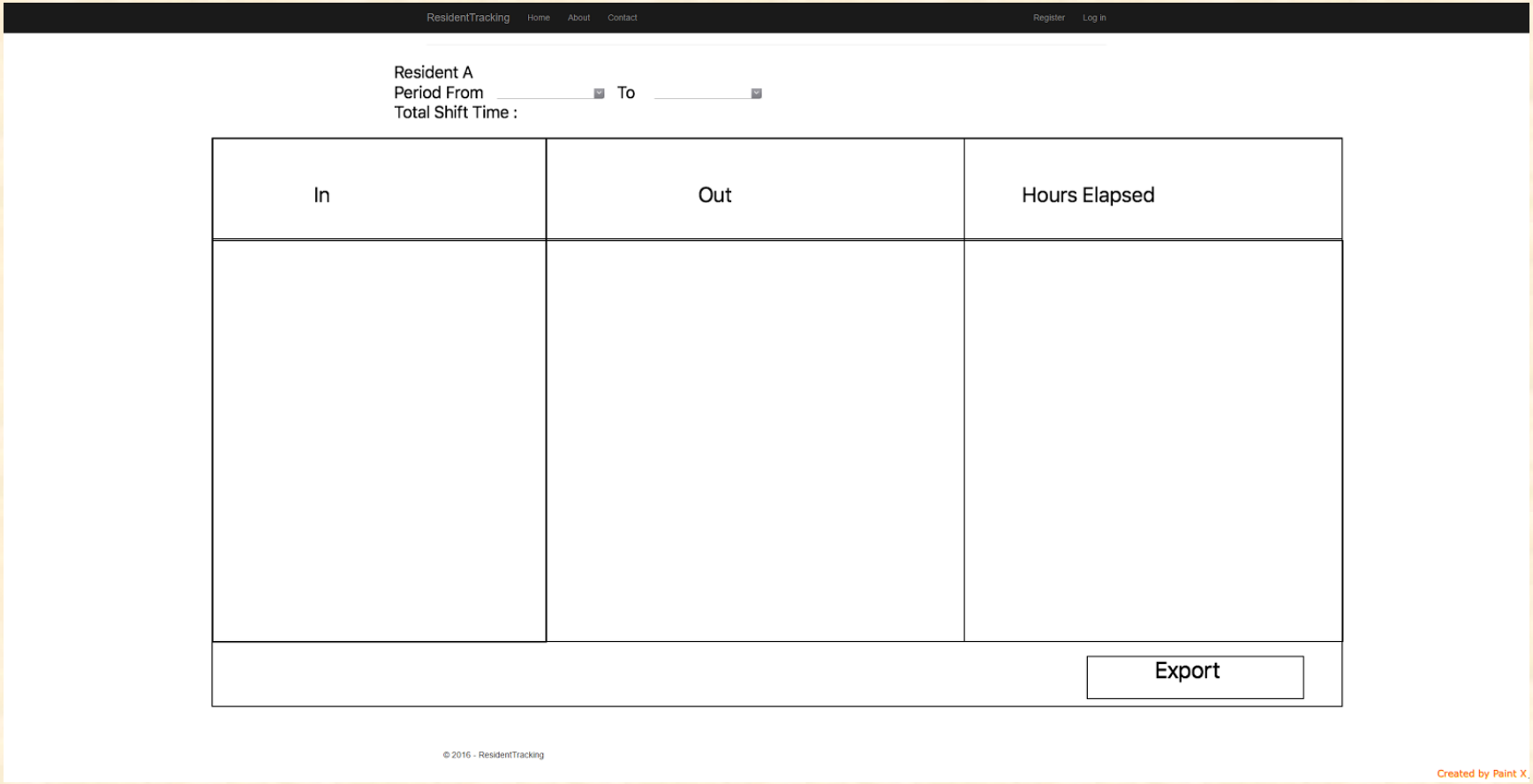
Screen Mockup: Admin Portal Home Page



Screen Mockup: Admin Portal
Shift Tracking Page



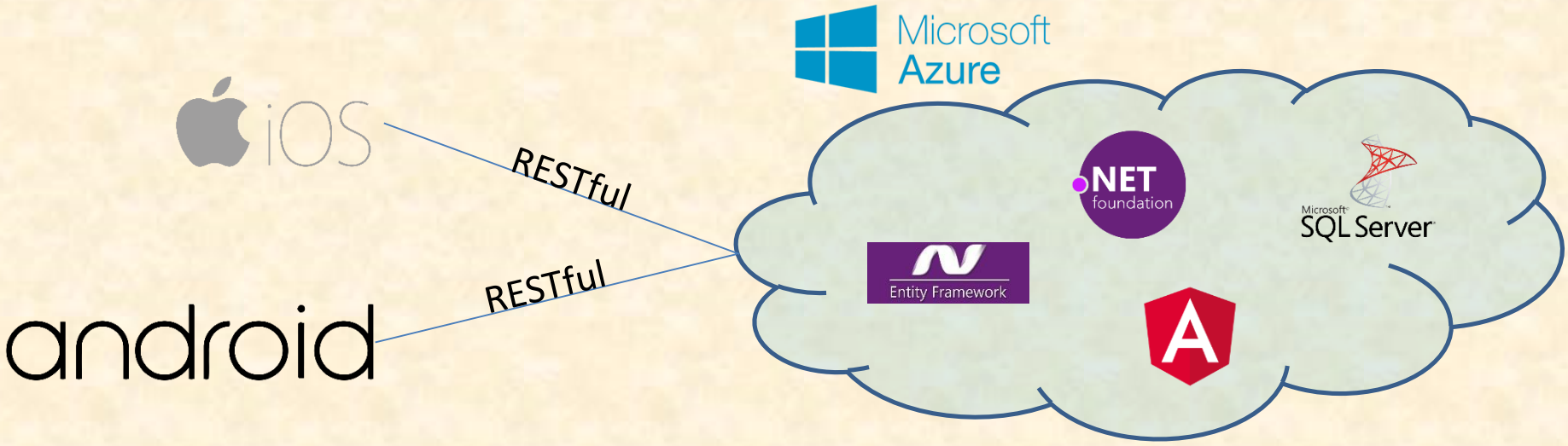
Screen Mockup: Admin Portal Resident Page



Technical Specifications

- Microsoft Azure instance to host
  - The API
  - Microsoft SQL Server Database
  - Admin portal website
- API built using
  - .NET Core Application in C#
  - Entity Framework Core
- Admin portal
  - ASP.NET Core MVC application
  - Angular 2
- Mobile apps interact with the API via RESTful services

System Architecture



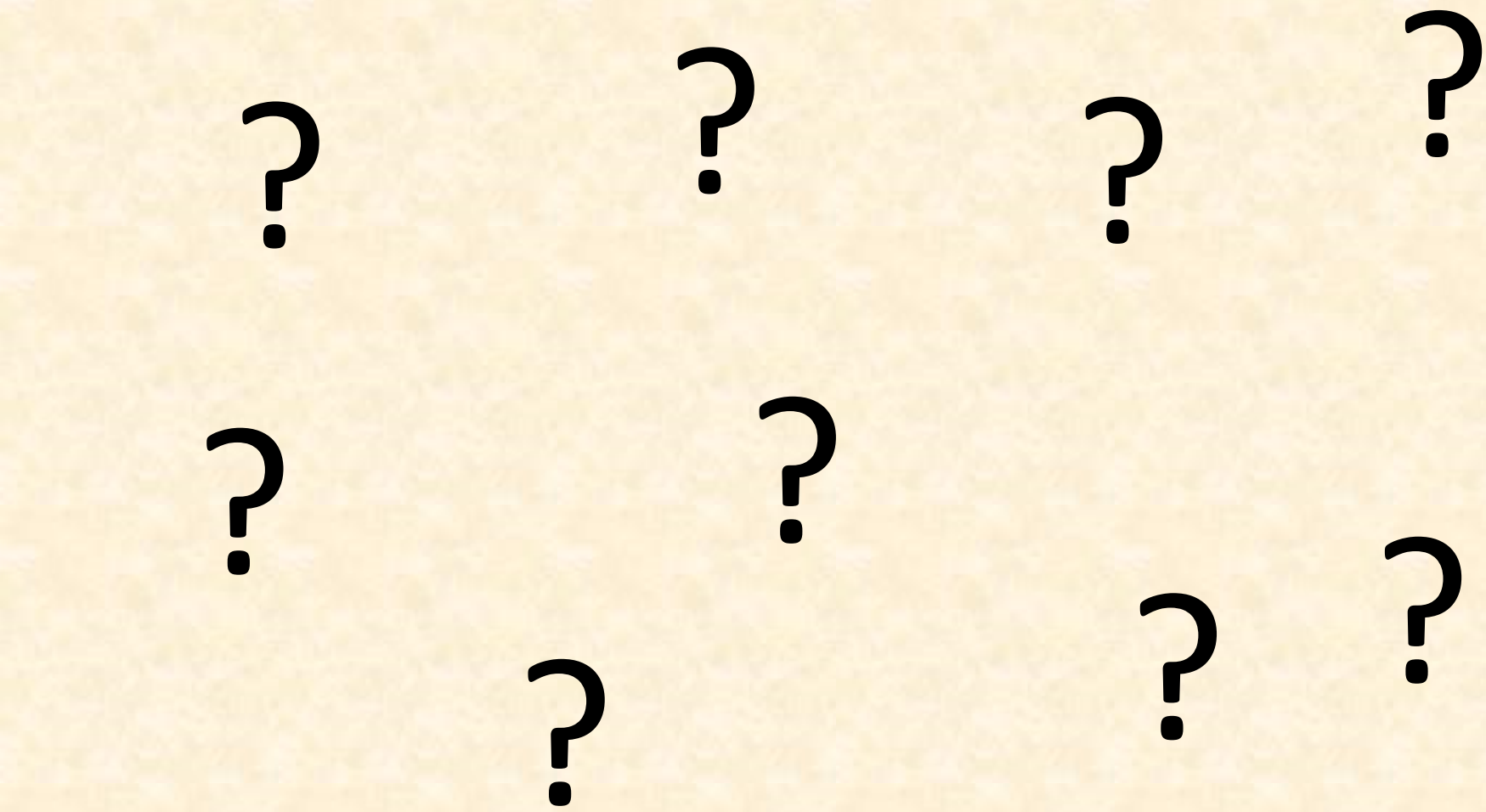
System Components

- Hardware Platforms
  - Microsoft Azure
- Software Platforms / Technologies
  - API
    - C#, .NET Core, Entity Framework
    - Visual Studio 2015
  - Mobile apps
    - Java - Android Studio
    - Swift – Xcode
    - Native
  - Admin Portal
    - cshtml, AngularJS 2.0
    - Visual Studio 2015
  - Version control
    - GitHub
  - Issue Tracking
    - ZenHub

Testing

- Junit – Android/ Java
- XCTest – Swift/ iOS
- Unit testing – C#/ API

Risks

- Risk 1
  - Open ended design process for product
  - Create frequent mock-ups and communicate frequently with client contact and Resident Coordinator
- Risk 2
  - Simultaneously developing same application and contributing to the same code base
  - Strict code reviews and version control
  - Naming standard for branches and commits
  - Pull requests
- Risk 3
  - Consistency across the app for UI/UX when having 3 teams designing 3 different set of features
  - Communication between teams and client
  - Setup for Android, iOS, and web portal UI assigned to a certain team

Questions?