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

Project Plan
Mooch

The Capstone Experience

Team Whirlpool

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From Students…
…to Professionals

Functional Specifications

- Mooch: mobile app to sell and share food

  - Users will get quick access to food items from neighbors so they can avoid a trip to the store

  - Facilitate social interaction between members of a community

- Web app for administrators

  - Manage communities, users, and listings

  - View basic app data (e.g., number of users, number of exchanges between users)
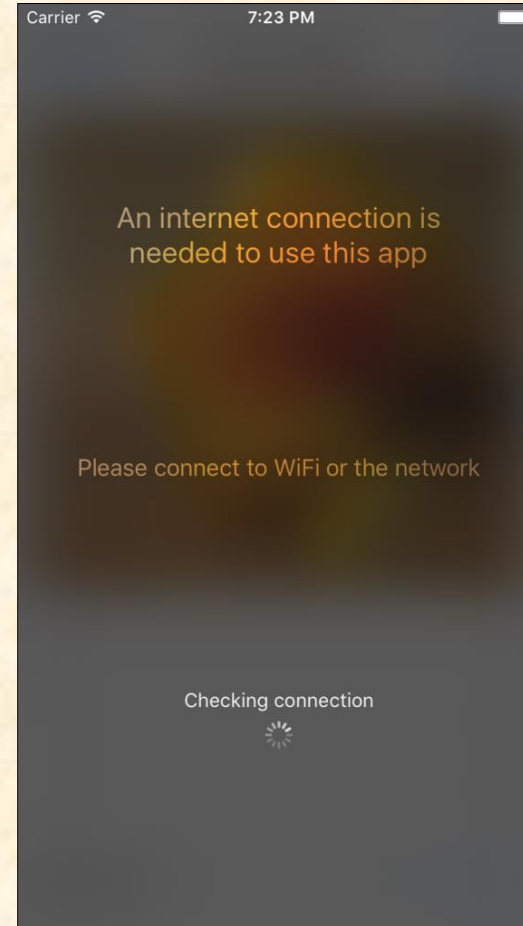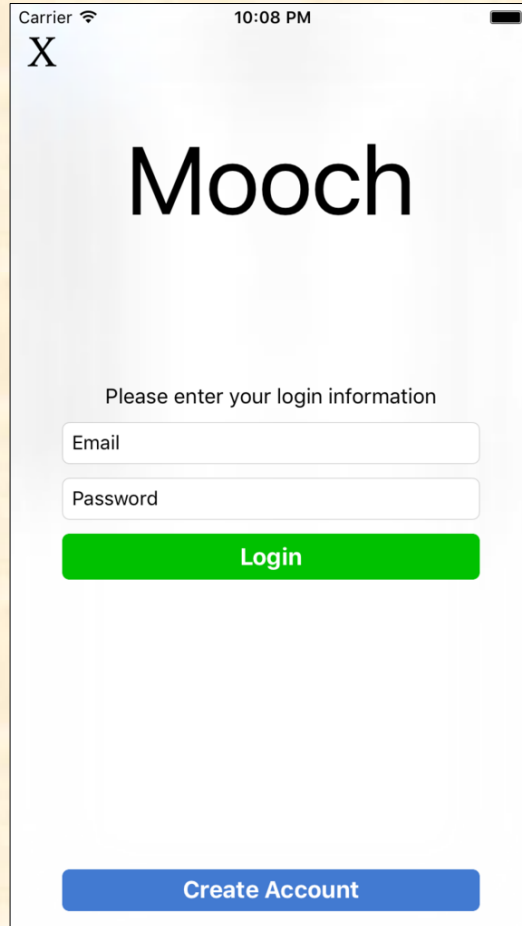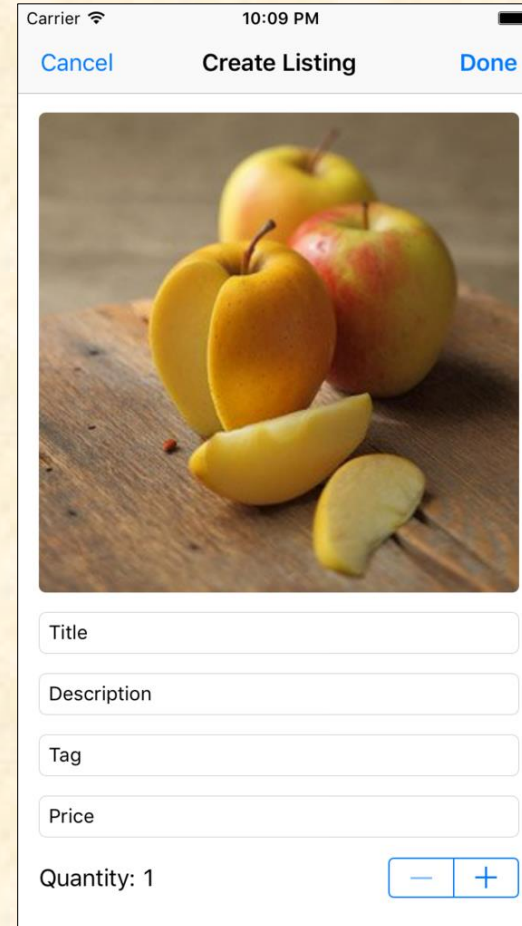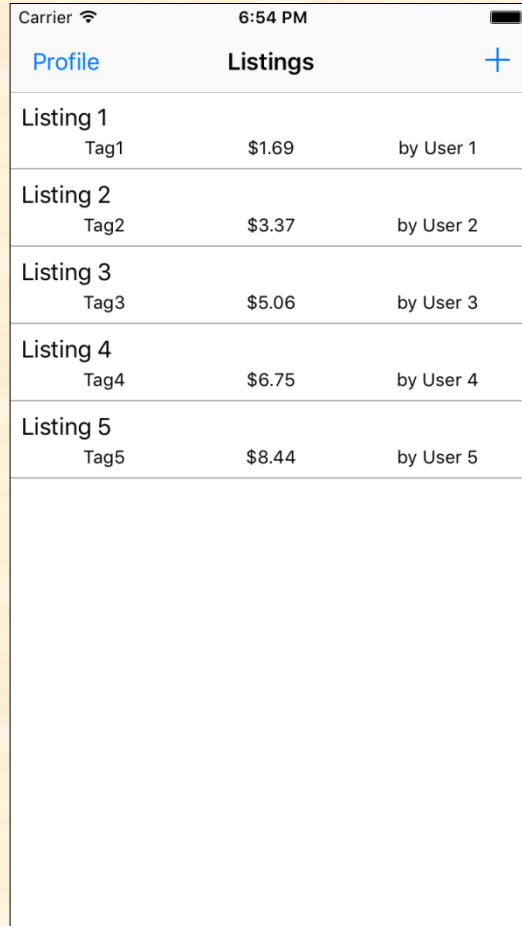
Design Specifications

- Mobile Application
  - Simple, clean design that is easy to use
  - Allow users to search or browse in their community for listings
  - Push notifications for seller and buyer
- Web Application
  - Basic admin portal
  - Pages to manage users, listings, and communities
  - Page to display data analytics of mobile app

Screen Mockup: Mobile App
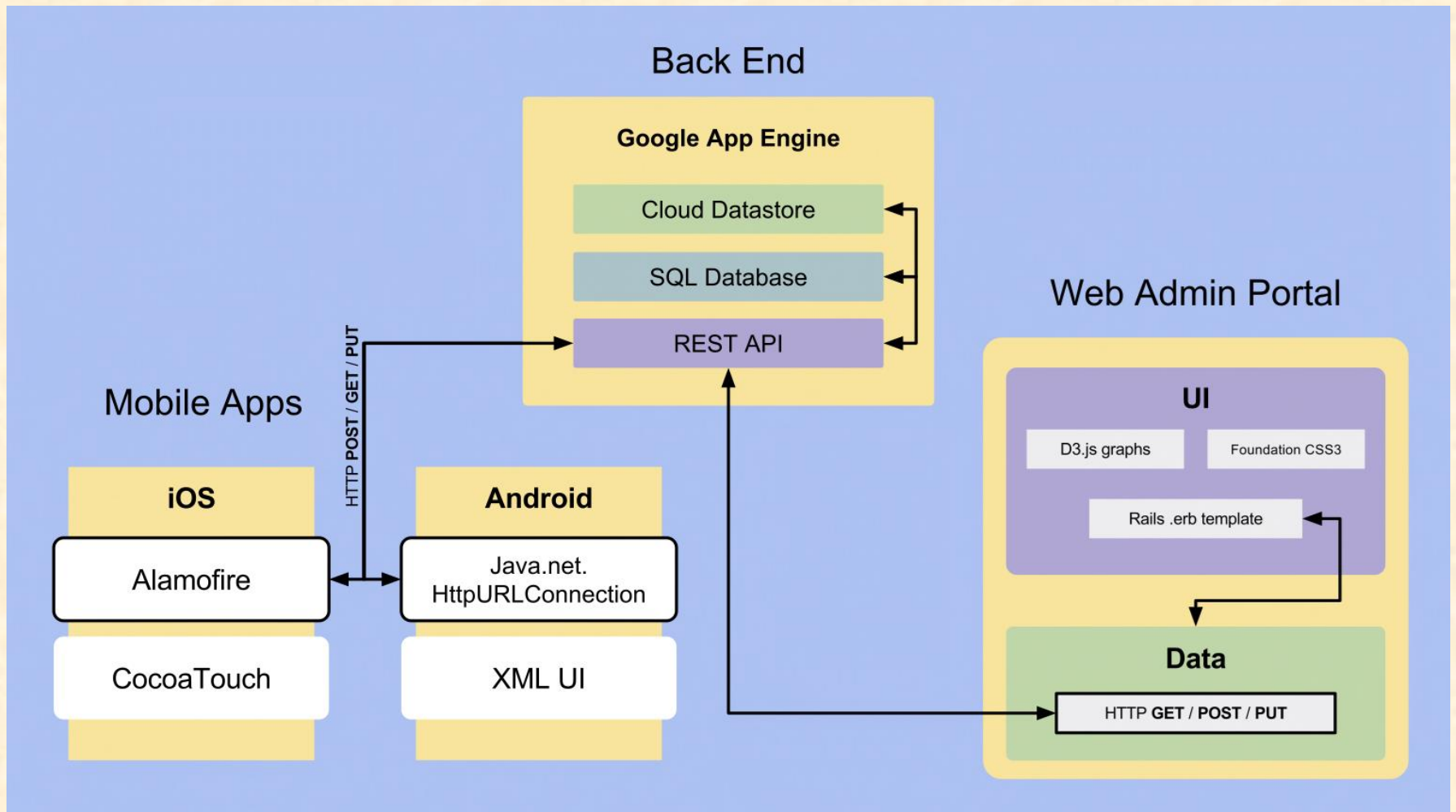
Screen Mockup: Mobile App (cont.)

Technical Specifications

- REST API
  - Ruby on Rails 4
- Google App Engine
  - SQL Database (data models)
  - Cloud Datastore (images)
- Mobile Applications
  - iOS 9 and 10, Android: Java, API 15+ ICS
- Web Admin Portal
  - Rails .erb templates

System Architecture

System Components

- Hardware Platforms
  - Google App Engine
    - Scalable platform as a service
    - SQL Database
    - Cloud Datastore
  - iPhone
  - Android
- Software Platforms / Technologies
  - Ruby on Rails
  - Xcode
  - Android Studio

Testing

- Focus on Test Driven Development
- API
  - RSpec used to test endpoints and object lifecycle
- Android Studio
  - Use JUnit and Mockito
- Xcode
  - Use XCTest to write unit tests
  - Use OHHTTPStubs library to test network requests

Risks

- Android Application Development
  - No prior experience
  - Using online tutorials, coursework from CSE 476, and peers
- Design
  - Started working with third party design firm in Week 3
  - Set up direct communication through Basecamp
- Exchanges Between Users
  - These need to be secure and logical
  - Brainstormed with Whirlpool, design firm
- Privacy of User Information
  - Contact information of users cannot be shared to everyone, but users need to contact each other
  - Only share the info when the seller has accepted a request