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

Project Plan
Product Development Portfolio and Planning

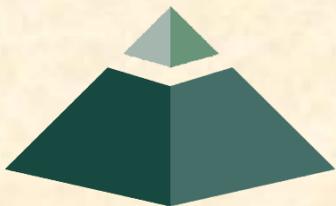## The Capstone Experience

Team DRIVEN-4

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From Students…
…to Professionals

Functional Specifications

- Developing an environment to create product plans and roadmaps that the Original Equipment Manufacturers need to be a successful business in their industry by maximizing the use of available resources.

- **Portfolio Planning**: Show the most efficient 1, 3, 5 year plan to best allocate time/resources.

- **Portfolio Execution**: Keep track of the current status of the portfolio and compare it to the forecast.

- **Product Planning**: Develop capabilities that allow Product Managers to define and baseline an interactive 10-year product plan.

Design Specifications

- Portfolio Planning
  - Module will display resources, scenario, and forecast which will show employee hours, project capacity, expense budget, ability to remove/add projects, and accessibility to reports from resources displayed in graphs.
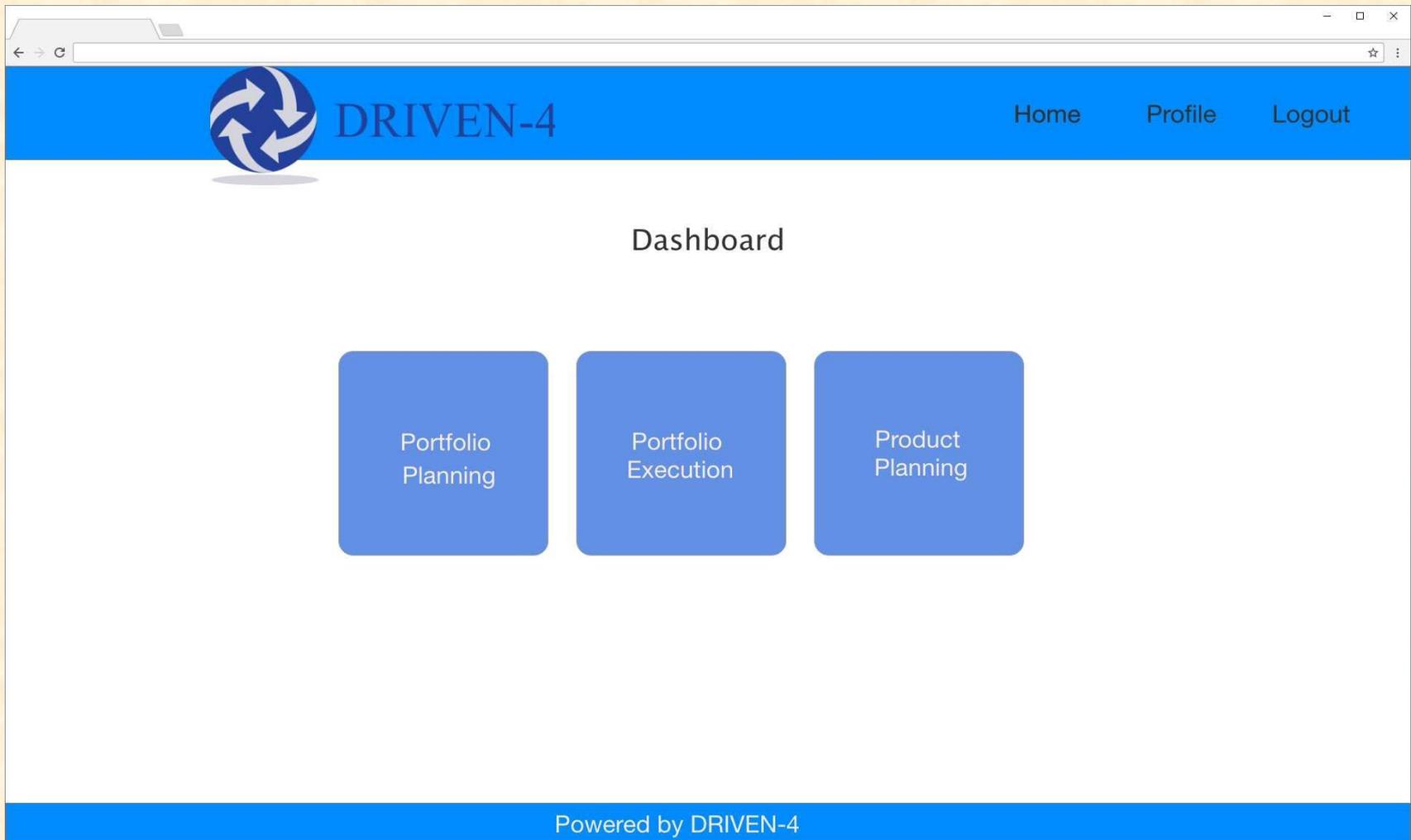
- Portfolio Execution
  - View updates of forecasts/projects, access to employee timesheets (table), and track execution of previously forecasted portfolios.
  - Mobile app will have a dashboard of reports(visuals of web app), updates, and employee timesheets.
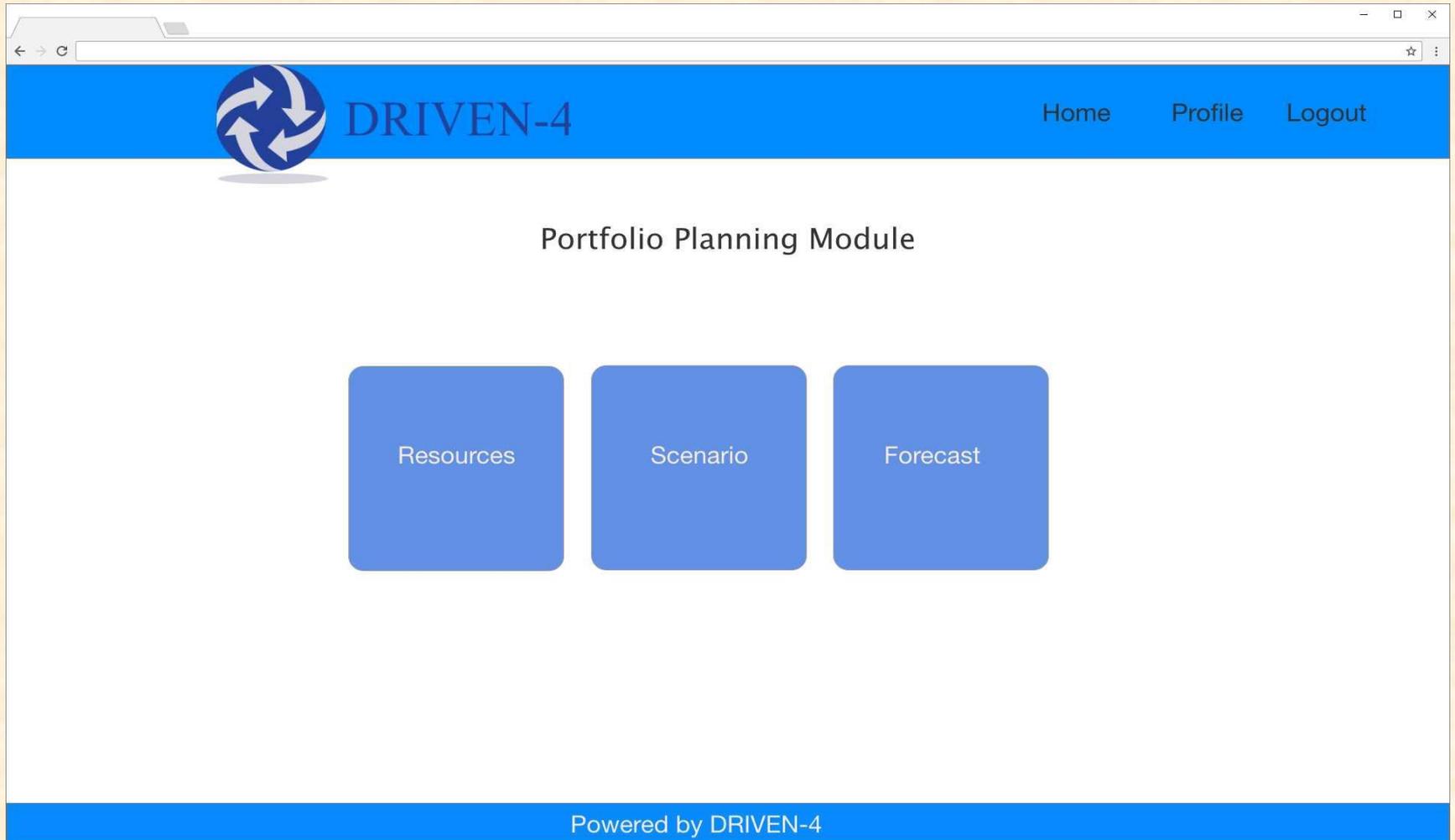
- Product Planning
  - 10-year Gantt chart: assigning/tracking action items, Program/Project building block definition, storage of artifacts: documents/images etc.
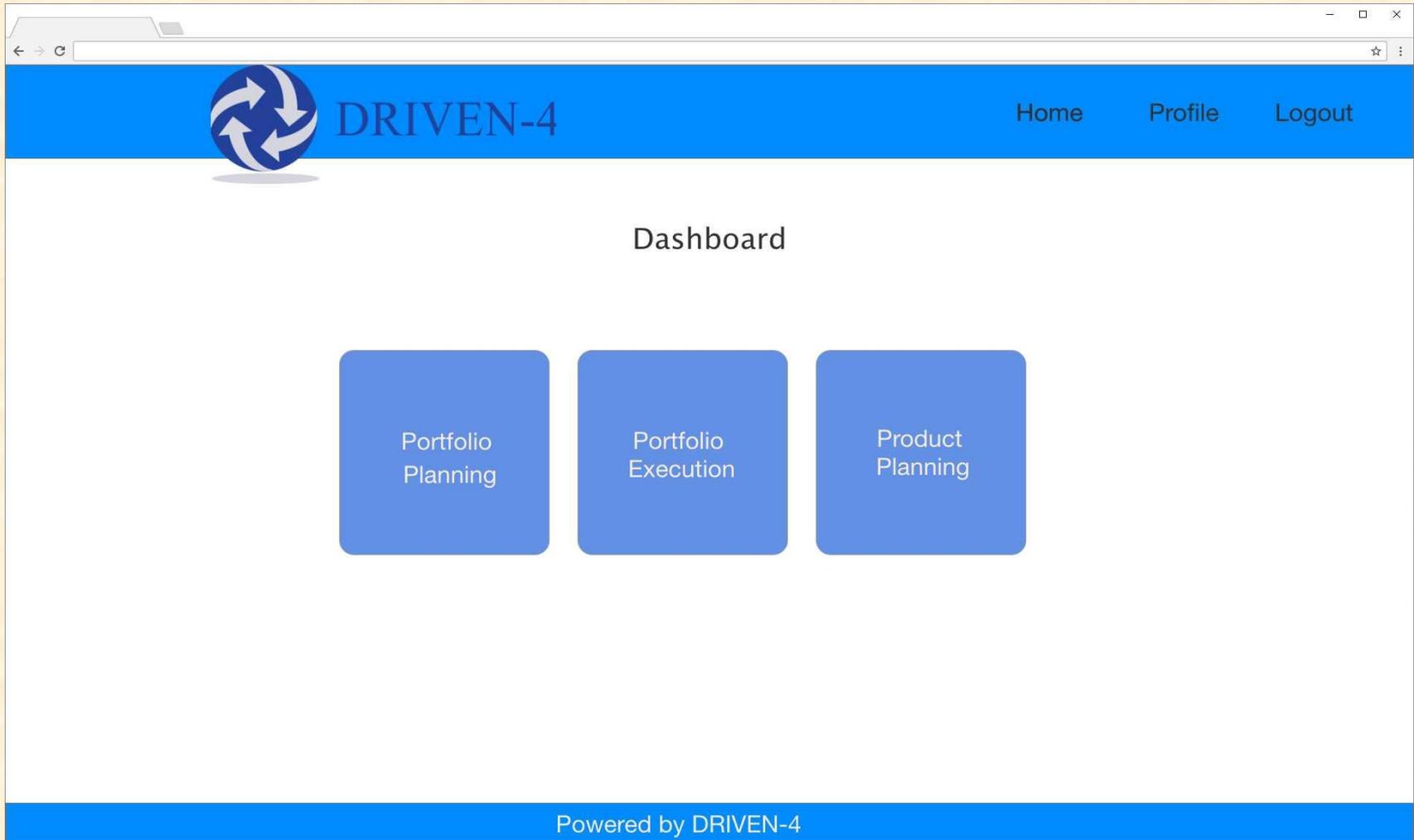
Screen Mockup: Home Dashboard
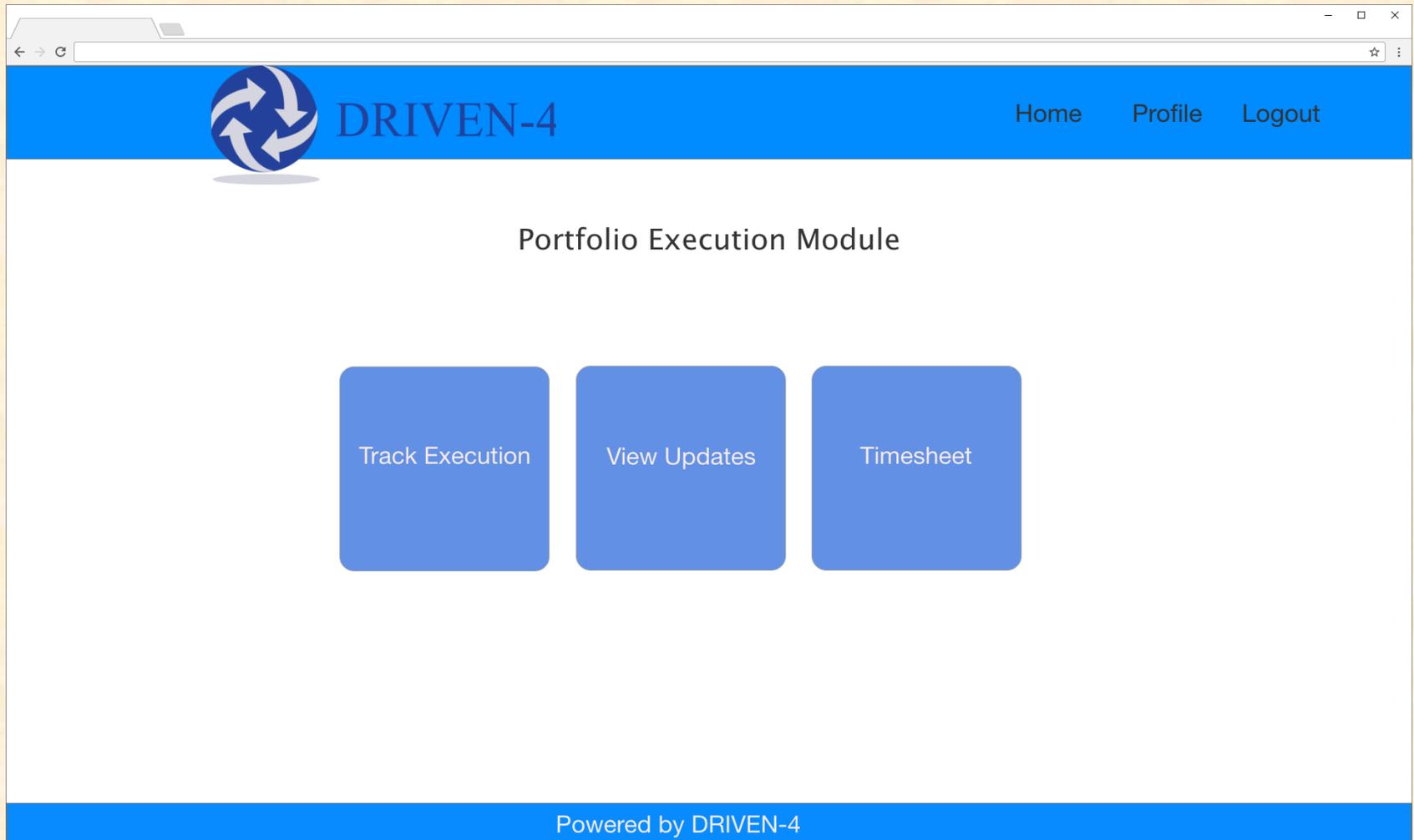
Screen Mockup: Portfolio Planning

Screen Mockup: Forecast
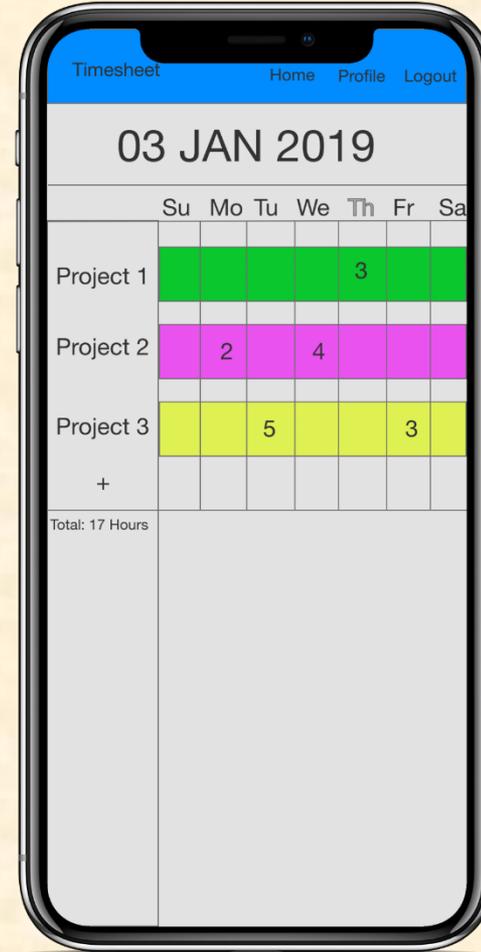
Screen Mockup: Home Dashboard

Screen Mockup: Portfolio Execution Module

Screen Mockup: Forecast vs. Actual
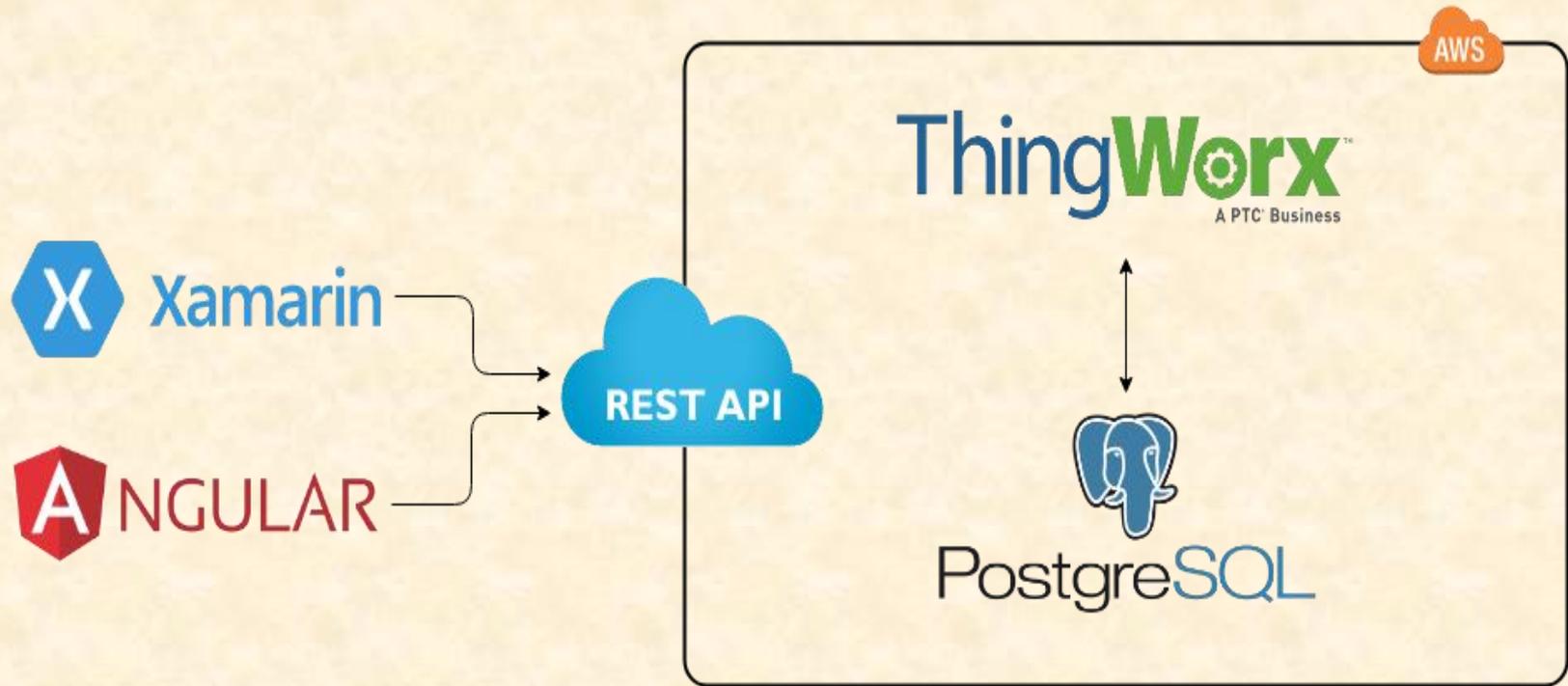
Screen Mockup: Mobile Interface

Technical Specifications

- Backend Service
  - ThingWorx Platform
  - PostgreSQL
  - Amazon Elastic Cloud Compute

- Mobile Application (iOS + Android)
  - Xamarin
  - ThingWorx REST API

- Web Application
  - Angular
  - ThingWorx REST API

System Architecture

System Components

- Software Platforms / Technologies
  - ThingWorx REST API
  - Angular
  - Xamarin
  - Amazon Web Services
  - Apache Tomcat
  - ThingWorx Platform
  - PostgreSQL

Risks

- ThingWorx Platform as an Application Backend
  - No team member has worked with this platform.
  - Our client has provided us with a library of enterprise-level training for all the features of the ThingWorx Platform.
- AWS Integration
  - Description: Our team has little knowledge of AWS.
  - We will try to continuously integrate pieces of our application into the AWS environment.
- Role-based Authentication and Access to Modules
  - Our application relies on different users having different levels of access to the core features. We are not familiar with this implementation.
  - Dan and Hassan have found an Angular tutorial online that uses role-based authentication. They will learn from this while implementing.
- Project Scope Creep
  - The initial project proposal has a lot of features to be implemented.
  - We will continually work with our client to identify main features.

Questions?

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