MICHIGAN STATE UNIVERSITY

Project Plan

Vehicle Audit Analytics

The Capstone Experience

Team Ford

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From Students…
…to Professionals

Project Overview

- Web application for Ford Designers
- Compare products against competitors
- Previous process involved long series of spreadsheets
- Mobile web application to simplify the process
- Decrease audit time and analysis

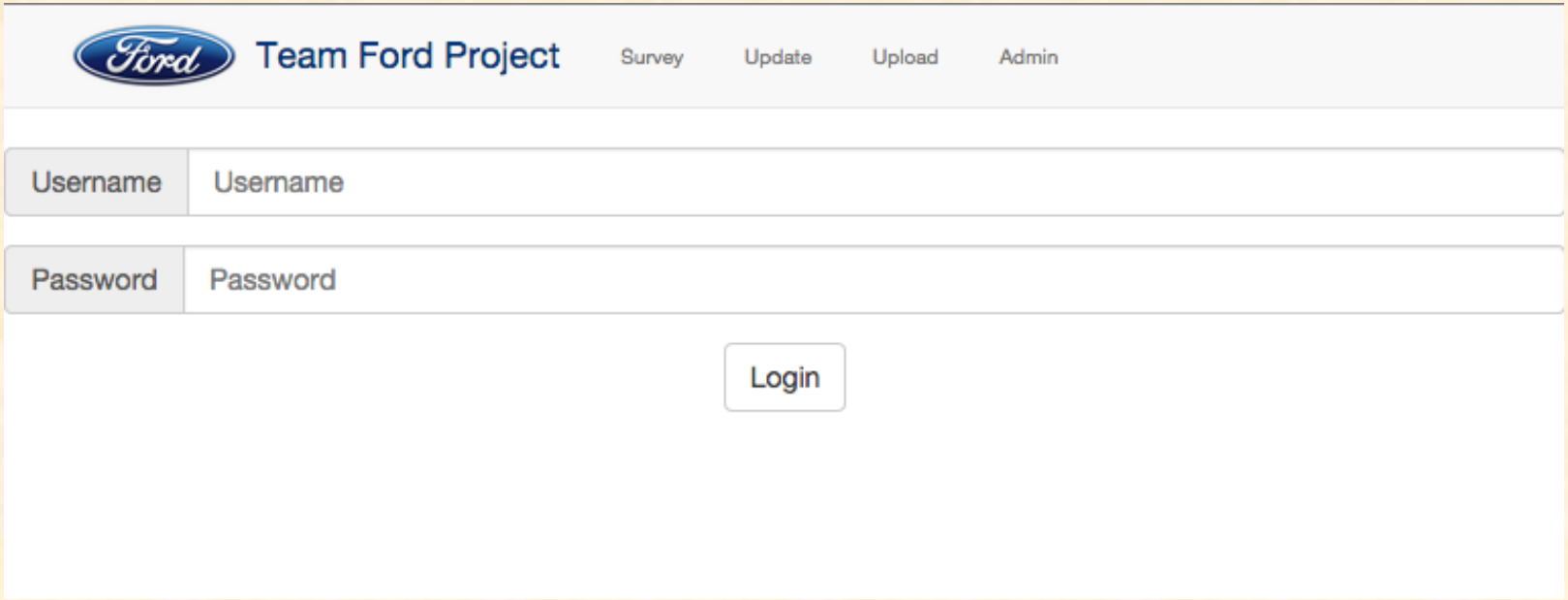
Functional Specifications

- Target Tablet-Size Devices
- Maintain Audit Forms Questions & Responses
- Utilize Device Camera/Microphone
- Function Offline Without Internet Connection
- Export Data & Reports
- Encrypt Data During Storage & Transport

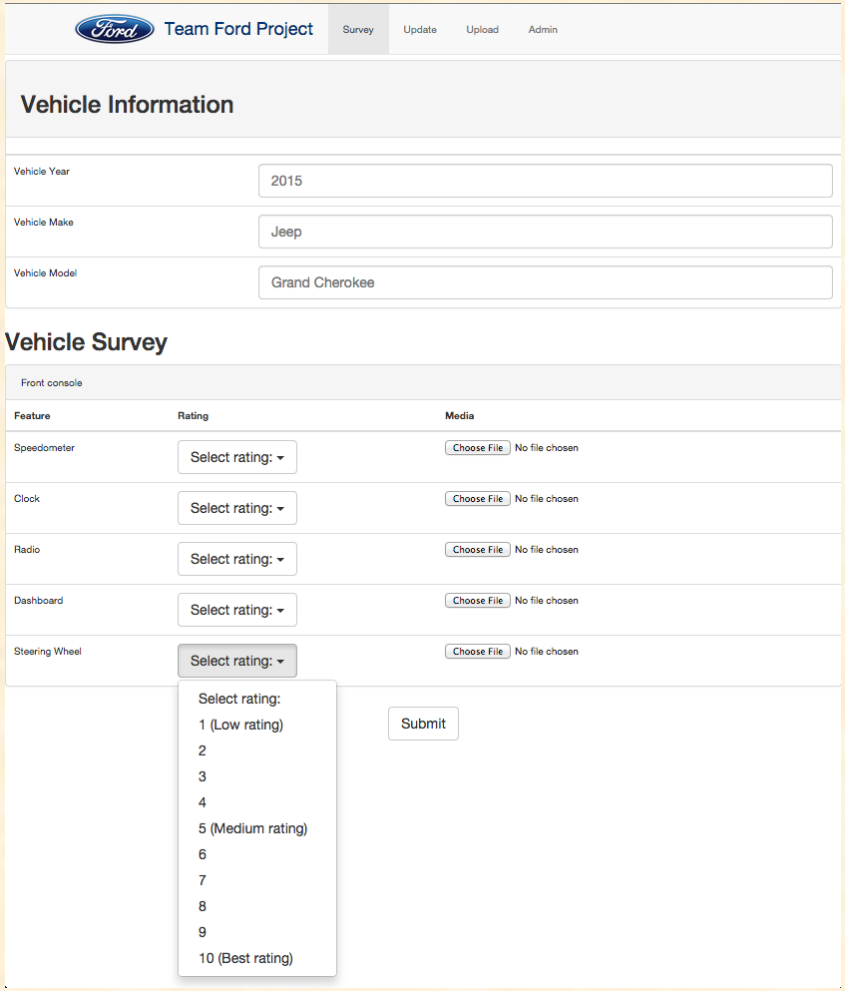
Design Specifications

- Web browser (mobile & desktop)
- Initial login screen
- 4 options
  - Survey
  - Update
  - Upload
  - Administrator

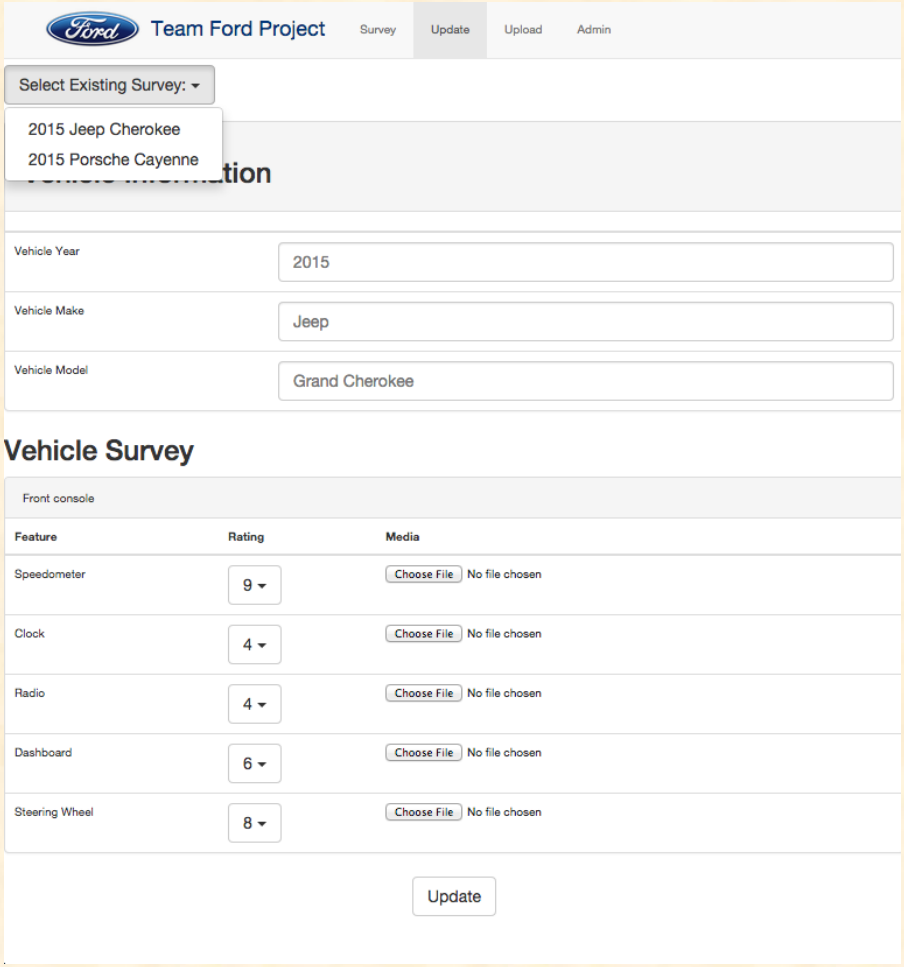
Screen Mockup: Login Page



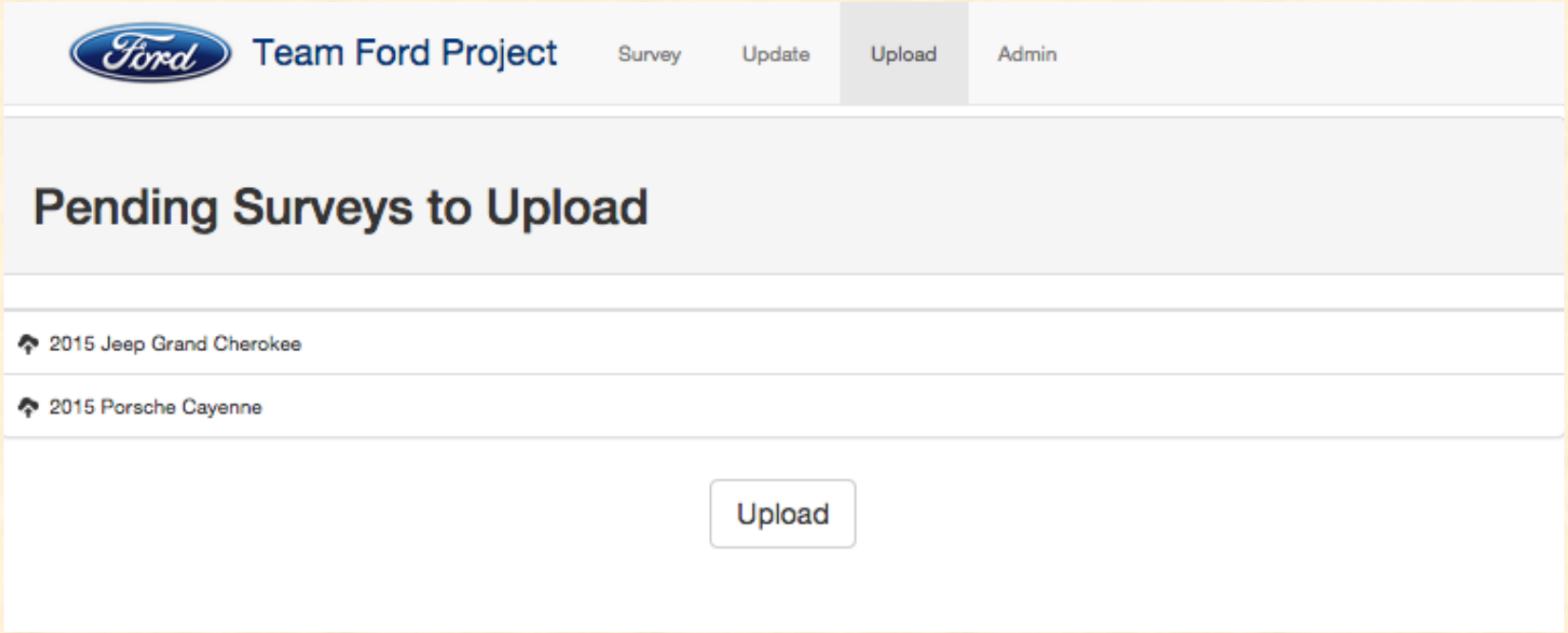
Screen Mockup: Survey Page



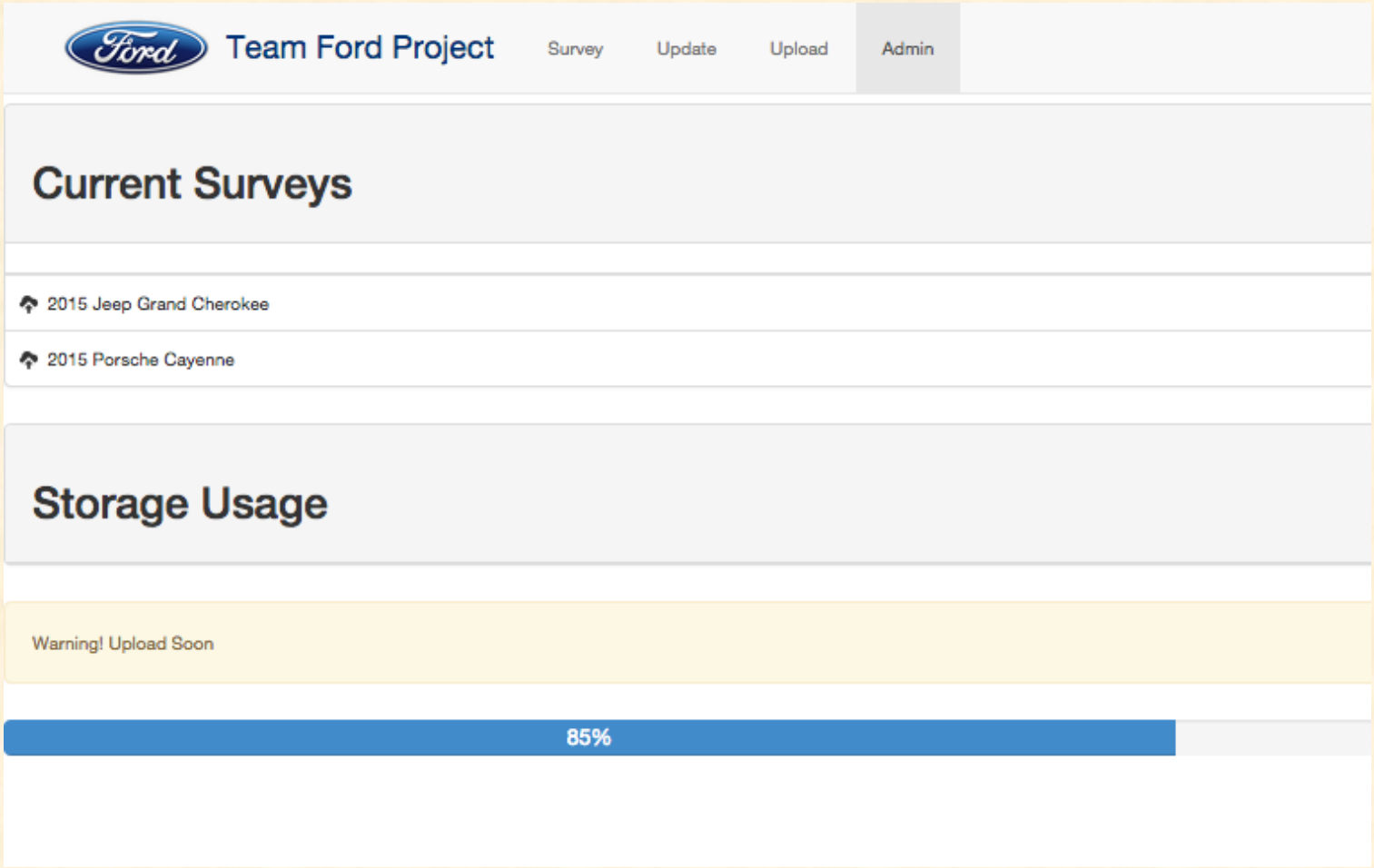
Screen Mockups: Update Page



Screen Mockup: Upload Page



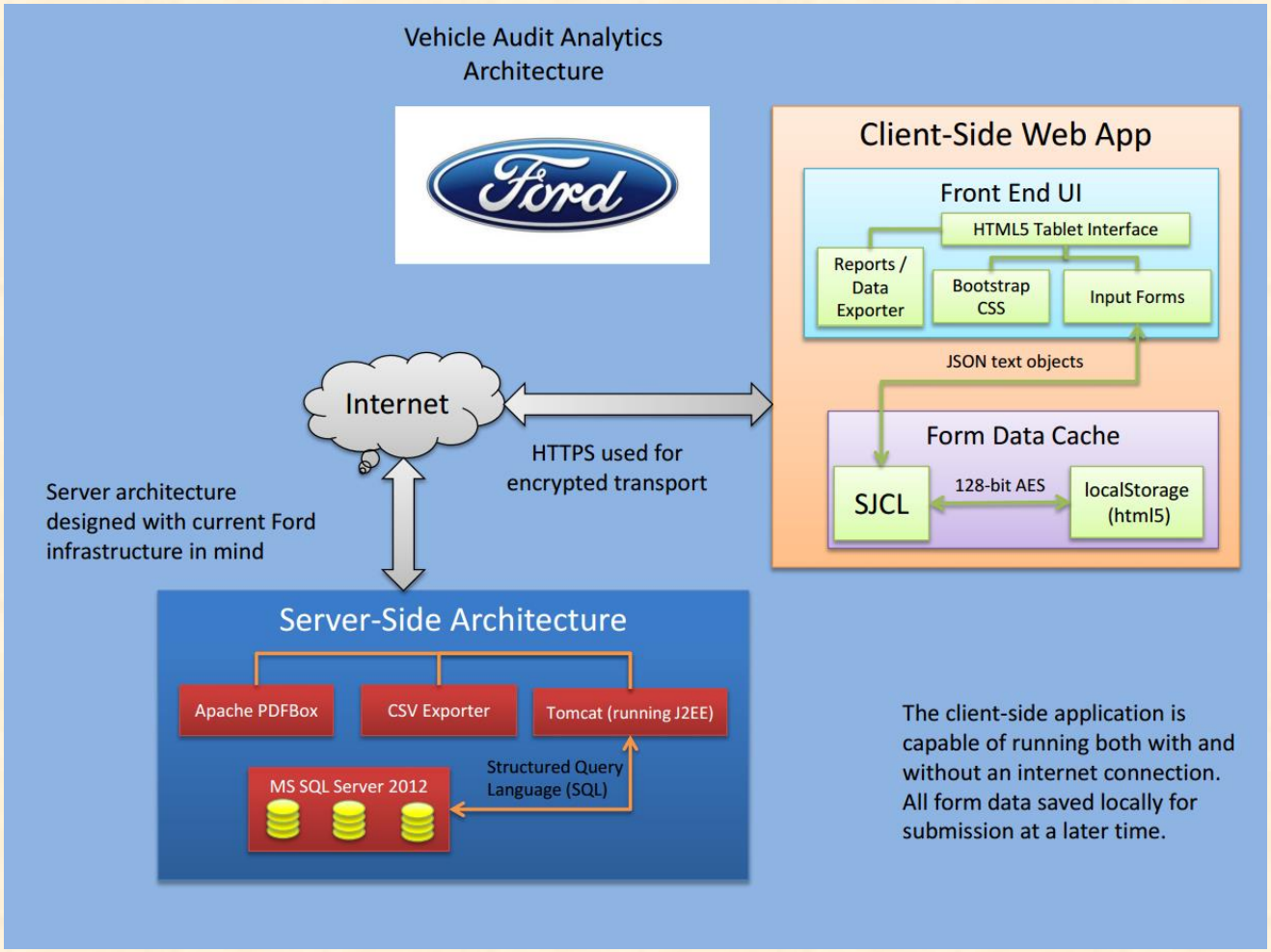
Screen Mockup: Admin Page



Technical Specifications

- Front End
  - HTML5, Bootstrap, AngularJS
- Back end
  - J2EE, Apache Tomcat, RESTful web service
  - SQL Server 2012
- Development Tools
  - NetBeans, SQL Server 2012 running on Windows Server 2008, Subversion

System Architecture



System Components

- Hardware Platforms
  - iPad / iPhone
  - Android Tablets
- Software Platforms / Technologies
  - Any mobile operating system (iOS, Android, etc)
  - Google Chrome mobile browser

Testing

- Unit Testing using JUnit for Java and Jasmine for Javascript
- UI Testing using Selenium
  - Written in Java, integrated using JUnit

Risks

- Mobile web browser cache limit
  - The users might be taking pictures using the app and could fill up cache limit quickly
  - Allow the user to attach files from local storage to the web app entries
- HTML5 multimedia mobile support
  - Video and audio recording support within web browser
  - Can take images outside of browser and attach later
- Data Communication between the app and the database
  - Unable to send data from the application to the database