

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

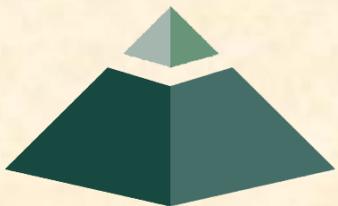
**Project Plan**  
**Vehicle Audit Analytics**  
**The Capstone Experience**

**Team Ford**

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Fall 2014



*From Students...  
...to Professionals*

# Project Overview

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- 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

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- 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



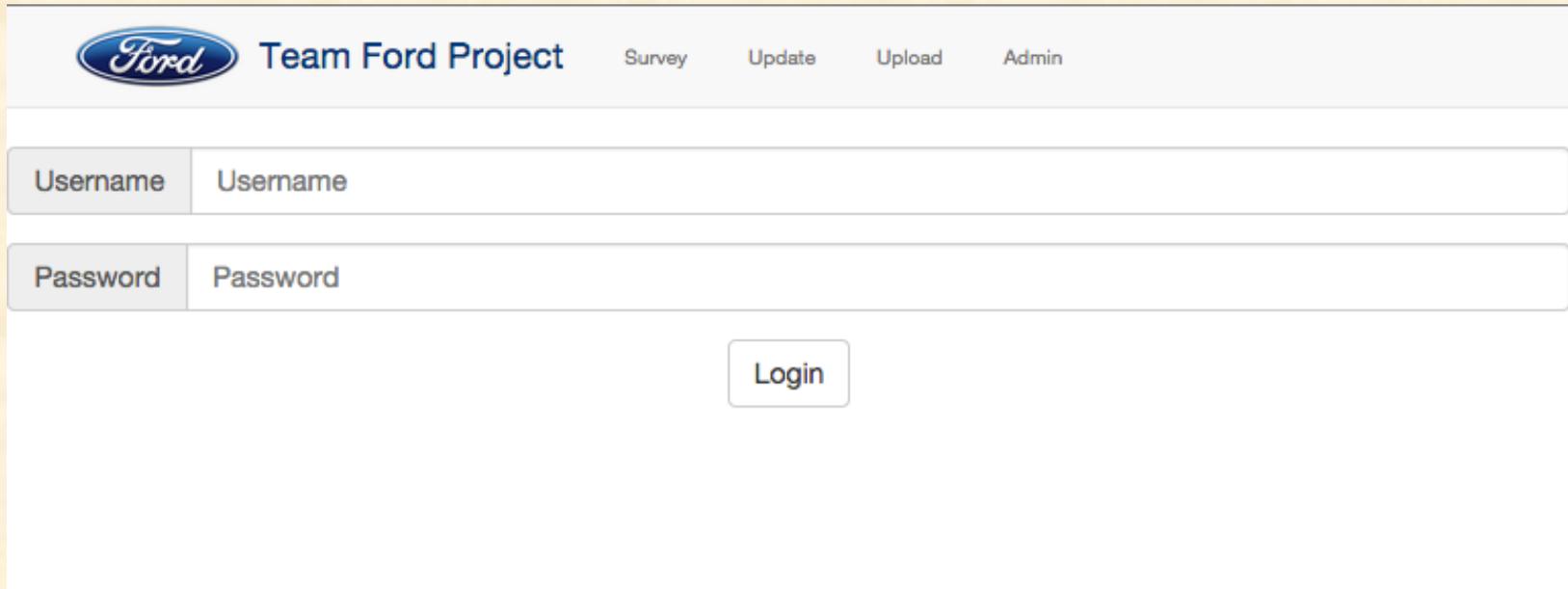
# Design Specifications

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



# Screen Mockup: Login Page



The mockup shows a login page with a header, two input fields, and a login button. The header contains the Ford logo, the text 'Team Ford Project', and navigation links for 'Survey', 'Update', 'Upload', and 'Admin'. Below the header are two input fields: one for 'Username' and one for 'Password'. A 'Login' button is centered below the input fields.

	<b>Team Ford Project</b>	<a href="#">Survey</a>	<a href="#">Update</a>	<a href="#">Upload</a>	<a href="#">Admin</a>
Username	<input type="text" value="Username"/>				
Password	<input type="password" value="Password"/>				
<input type="button" value="Login"/>					



# Screen Mockup: Survey Page

 **Team Ford Project** Survey Update Upload Admin

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### Vehicle Information

Vehicle Year:

Vehicle Make:

Vehicle Model:

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### Vehicle Survey

Front console

Feature	Rating	Media
Speedometer	<input type="text" value="Select rating: v"/>	<input type="button" value="Choose File"/> No file chosen
Clock	<input type="text" value="Select rating: v"/>	<input type="button" value="Choose File"/> No file chosen
Radio	<input type="text" value="Select rating: v"/>	<input type="button" value="Choose File"/> No file chosen
Dashboard	<input type="text" value="Select rating: v"/>	<input type="button" value="Choose File"/> No file chosen
Steering Wheel	<input type="text" value="Select rating: v"/>	<input type="button" value="Choose File"/> No file chosen

Select rating:

- 1 (Low rating)
- 2
- 3
- 4
- 5 (Medium rating)
- 6
- 7
- 8
- 9
- 10 (Best rating)



# Screen Mockups: Update Page

**Team Ford Project** Survey Update Upload Admin

Select Existing Survey: ▾

- 2015 Jeep Cherokee
- 2015 Porsche Cayenne

Vehicle Year: 2015

Vehicle Make: Jeep

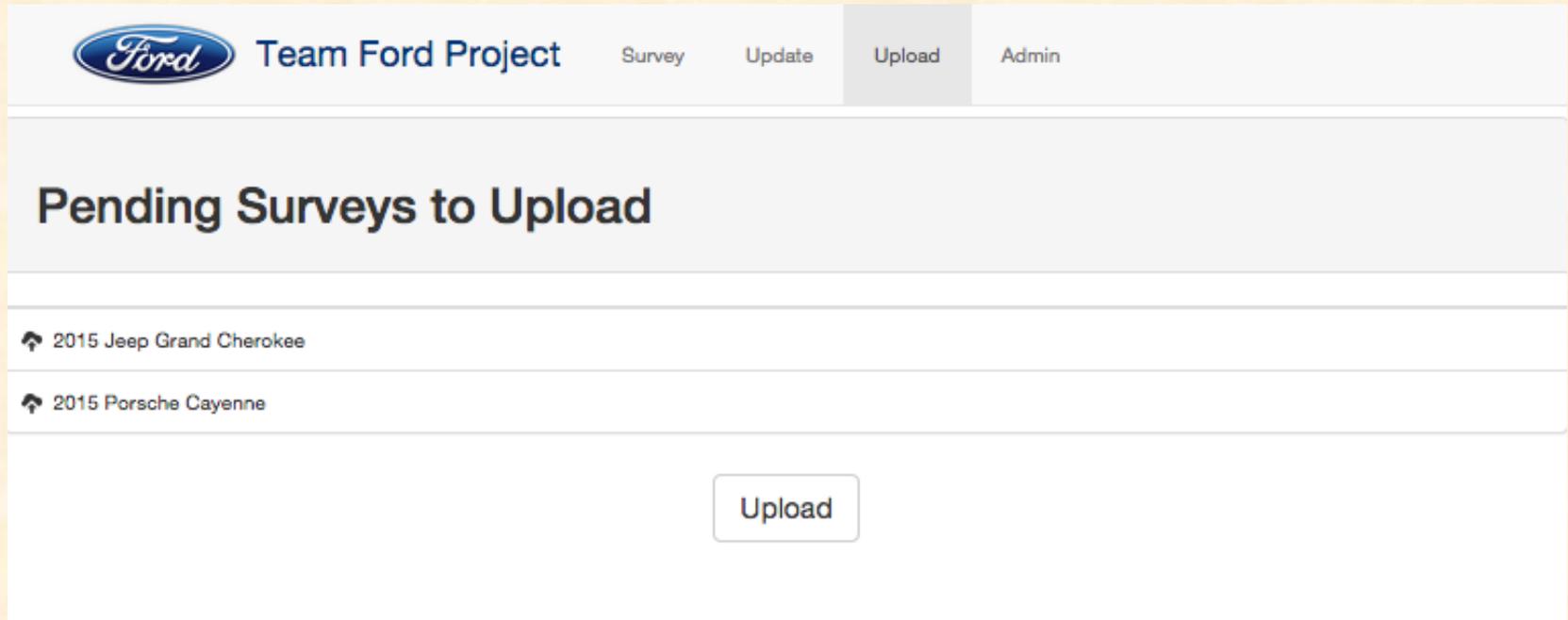
Vehicle Model: Grand Cherokee

### Vehicle Survey

Feature	Rating	Media
Speedometer	9 ▾	<input type="button" value="Choose File"/> No file chosen
Clock	4 ▾	<input type="button" value="Choose File"/> No file chosen
Radio	4 ▾	<input type="button" value="Choose File"/> No file chosen
Dashboard	6 ▾	<input type="button" value="Choose File"/> No file chosen
Steering Wheel	8 ▾	<input type="button" value="Choose File"/> No file chosen



# Screen Mockup: Upload Page



The screenshot shows a web interface for the Team Ford Project. At the top, there is a navigation bar with the Ford logo, the text "Team Ford Project", and four menu items: "Survey", "Update", "Upload" (which is highlighted), and "Admin". Below the navigation bar is a section titled "Pending Surveys to Upload". This section contains a list of two items: "2015 Jeep Grand Cherokee" and "2015 Porsche Cayenne", each preceded by a small upward-pointing arrow icon. At the bottom of this list is a button labeled "Upload".

**Team Ford Project**   Survey   Update   **Upload**   Admin

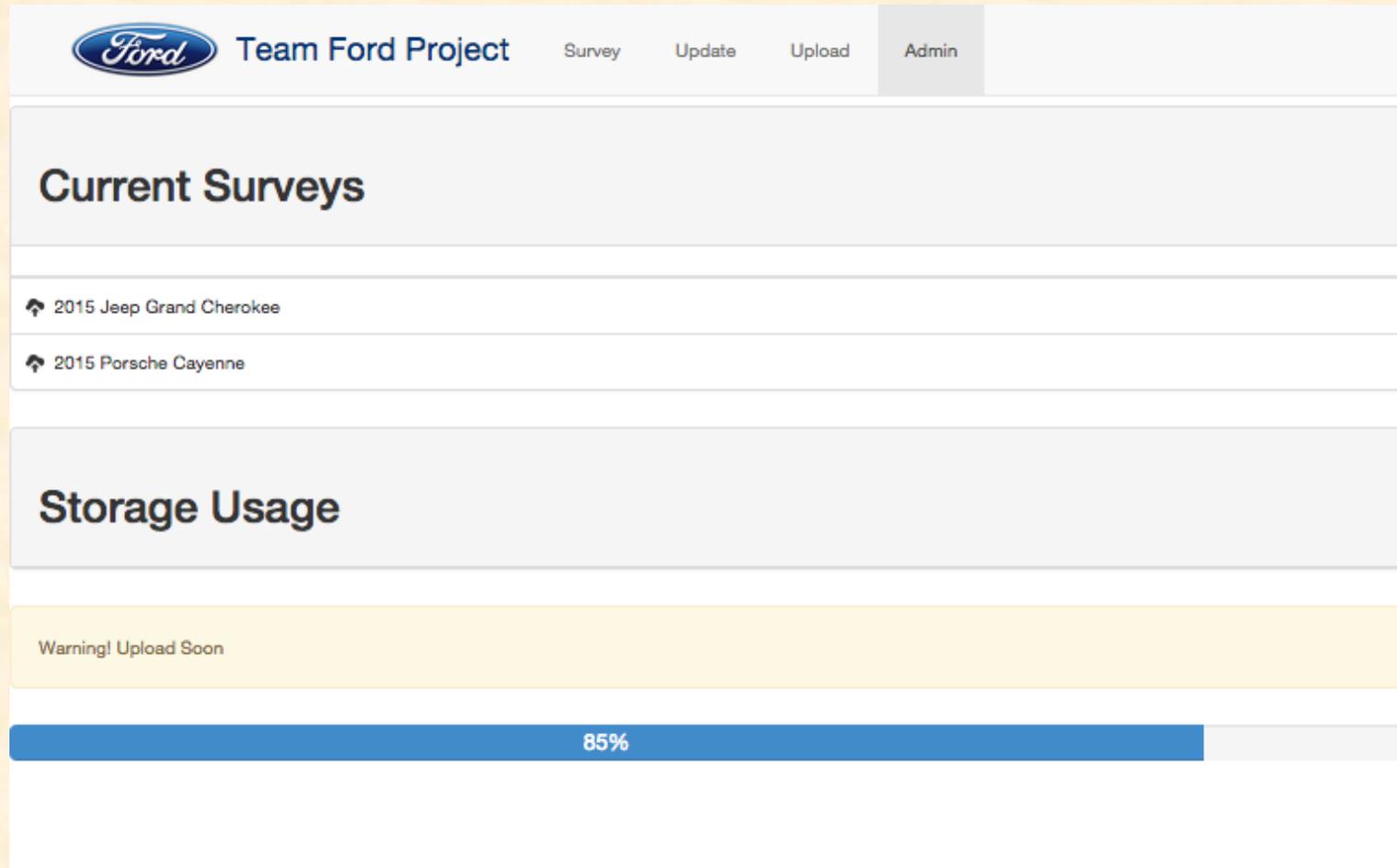
## Pending Surveys to Upload

- 2015 Jeep Grand Cherokee
- 2015 Porsche Cayenne

Upload



# Screen Mockup: Admin Page



The mockup shows an admin interface for the Team Ford Project. At the top, there is a navigation bar with the Ford logo, the text 'Team Ford Project', and four menu items: 'Survey', 'Update', 'Upload', and 'Admin'. The 'Admin' menu item is highlighted. Below the navigation bar, there are two main sections. The first section is titled 'Current Surveys' and contains a list of two items: '2015 Jeep Grand Cherokee' and '2015 Porsche Cayenne', each with a small icon to its left. The second section is titled 'Storage Usage' and features a yellow warning banner that says 'Warning! Upload Soon'. Below the banner is a progress bar that is 85% full, with the percentage '85%' displayed in the center of the bar.

**Team Ford Project** | Survey | Update | Upload | **Admin**

## Current Surveys

- 2015 Jeep Grand Cherokee
- 2015 Porsche Cayenne

## Storage Usage

Warning! Upload Soon

85%



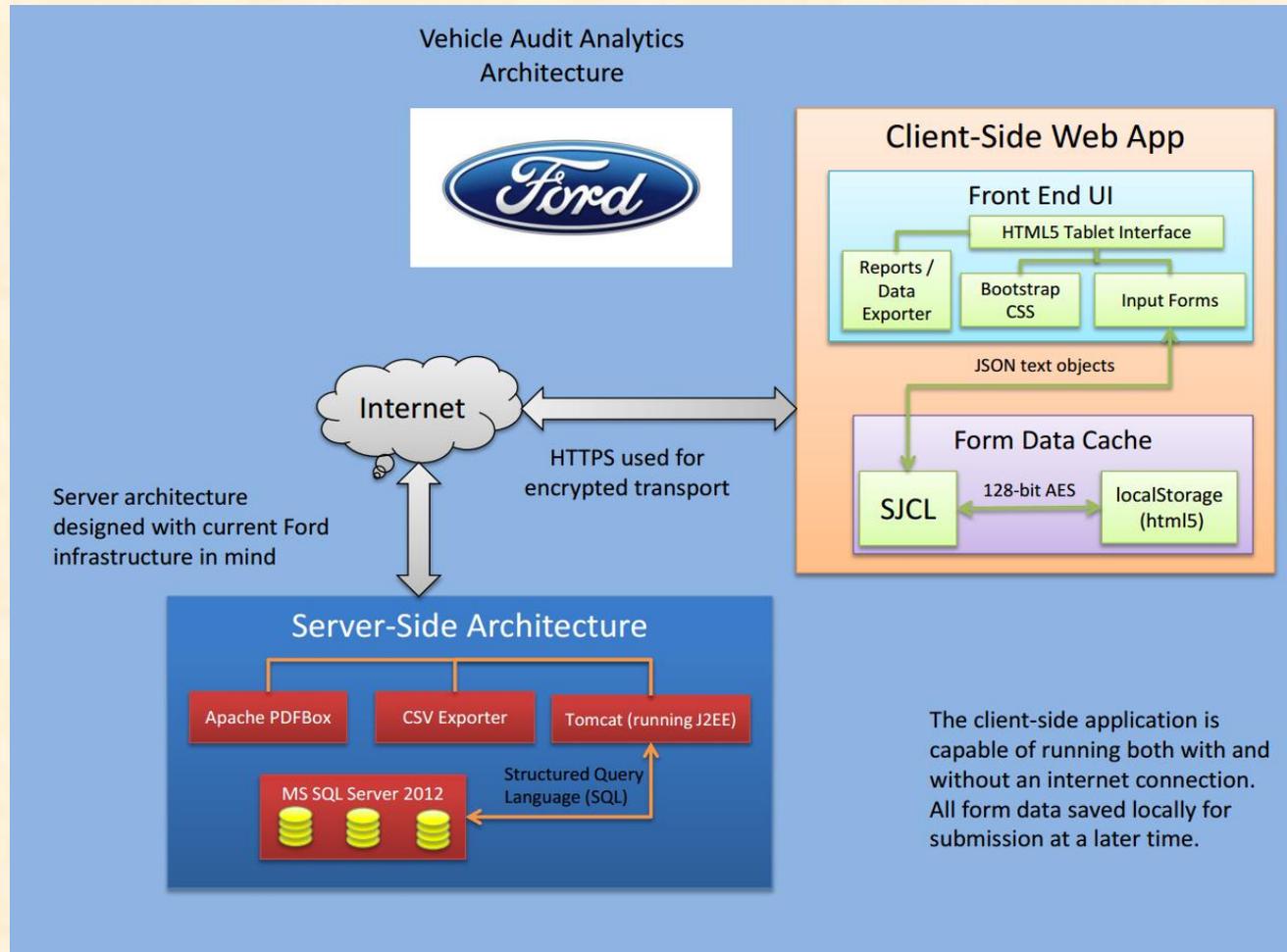
# Technical Specifications

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- 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

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



# Testing

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- 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

