

MICHIGAN STATE
UNIVERSITY

Alpha Presentation

Dealership Inventory Optimization

The Capstone Experience

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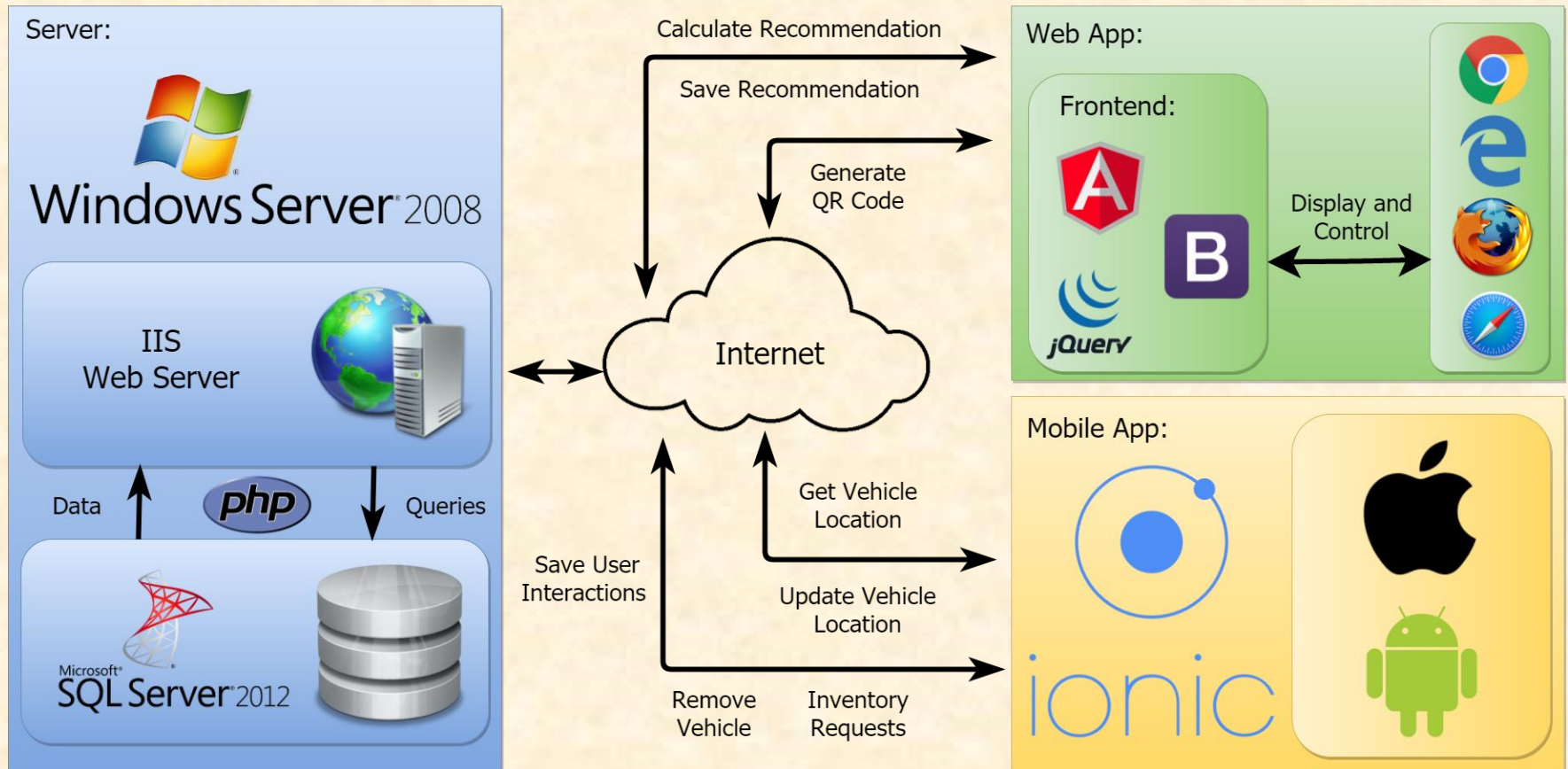
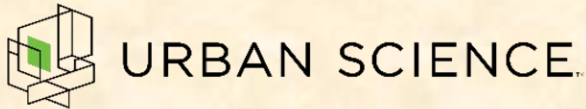
From Students...
...to Professionals

Project Overview

- Assist dealerships in determining the optimal amount and types of vehicles to purchase
- Generate and export a purchase report
- Allow customers to view the inventory of a dealership
- Aid customers and employees in locating vehicles on the lot



System Architecture



Web App: Login

Log In

40.121.52.204/DealershipSystem/WebApp/

Inventory Optimization System

Log In

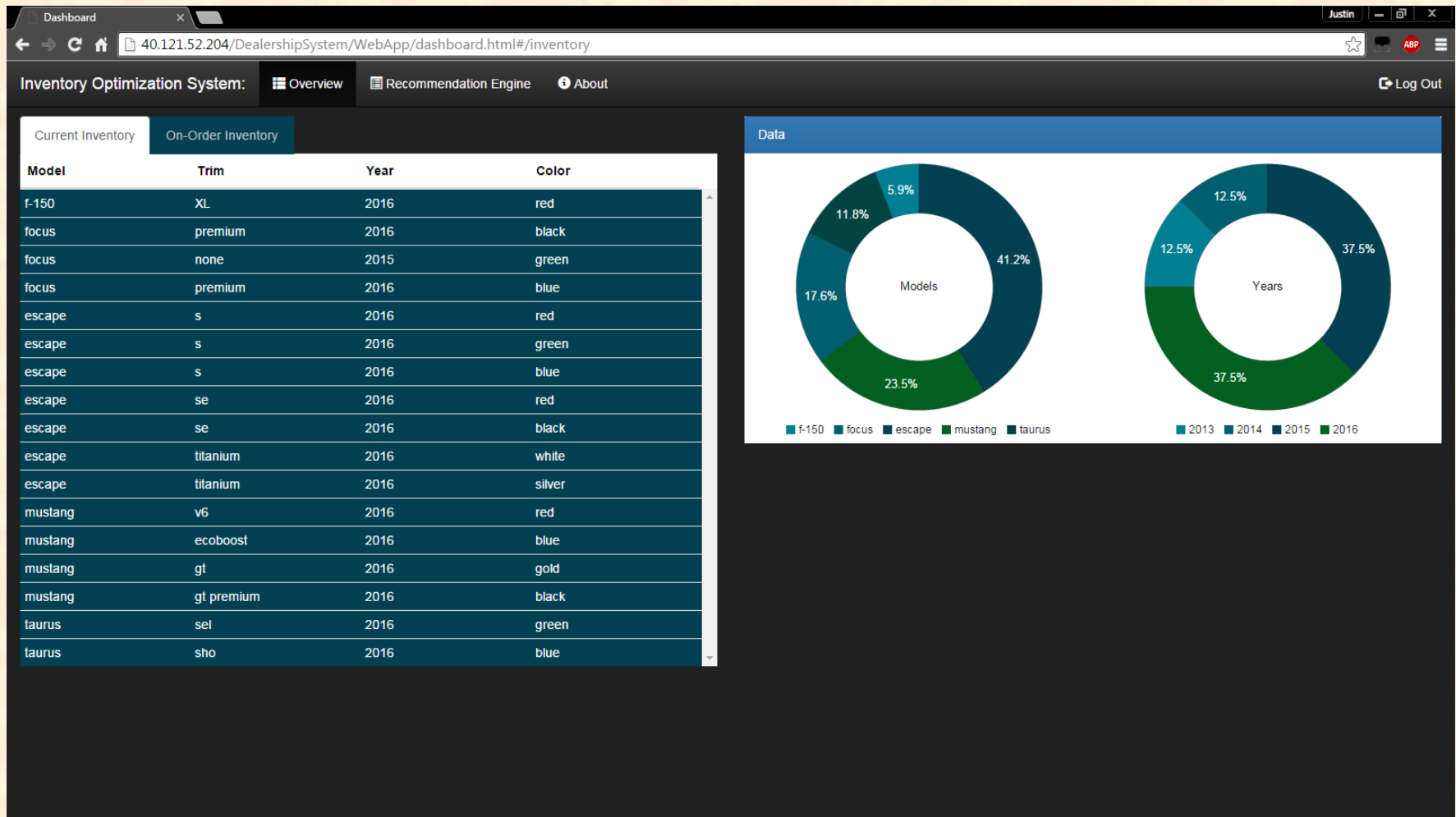
Email

Password

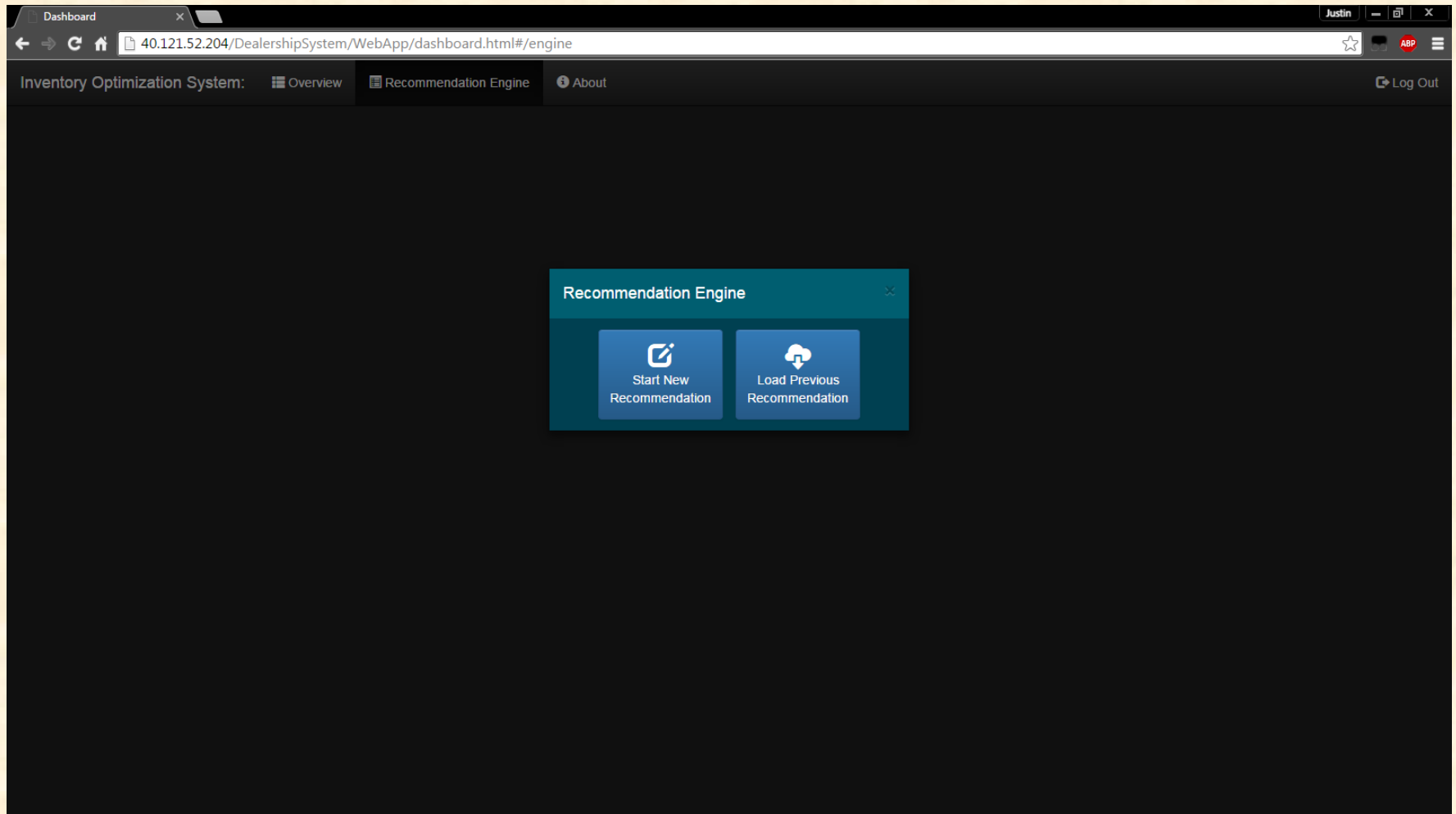
Log In

URBAN SCIENCE

Web App: Inventory Overview



Web App: Recommendations



Web App: Recommendations

Dashboard

40.121.52.204/DealershipSystem/WebApp/dashboard.html#/engine

Inventory Optimization System: Overview Recommendation Engine About Log Out

Summary List

Model	Recommended	Desired	Planned	Customize
escape	5	<input type="text"/>	0	<button>Customize</button>
mustang	3	<input type="text" value="4"/>	4	<button>Customize</button>
focus	3	<input type="text"/>	0	<button>Customize</button>
taurus	2	<input type="text" value="1"/>	1	<button>Customize</button>
f-150	2	<input type="text"/>	1	<button>Customize</button>

Re-Calculate Recommendations

Recommendations List

Priority	Model	Trim	Reason	Select
1	mustang	ecoboost	??	<button>↓</button>
2	mustang	ecoboost	??	<button>↓</button>
3	mustang	ecoboost	??	<button>↓</button>
4	taurus	limited	??	<button>↓</button>
5	taurus	limited	??	<button>↓</button>
6	f-150	none	??	<button>↓</button>

Purchase List

Priority	Model	Trim	Customize	Remove
1	mustang	ecoboost	<button>⚙</button>	<button>×</button>
2	taurus	limited	<button>⚙</button>	<button>×</button>
3	f-150	none	<button>⚙</button>	<button>×</button>
4	mustang	ecoboost	<button>⚙</button>	<button>×</button>
5	mustang	ecoboost	<button>⚙</button>	<button>×</button>
6	mustang	ecoboost	<button>⚙</button>	<button>×</button>

Reset Save

Web App: Edit Trim

The screenshot displays the 'Inventory Optimization System' web application. The interface includes a top navigation bar with 'Overview', 'Recommendation Engine', and 'About' tabs. A 'Log Out' button is in the top right. The main content area is divided into three sections: 'Summary List', 'Recommendations List', and 'Purchase List'.

Summary List

Model	Recommended	Desired	Planned	Customize
escape	5	<input type="text"/>	0	Customize
mustang	3	4	4	Customize
focus	3	<input type="text"/>	0	
taurus	2	1	1	
f-150	2	<input type="text"/>	1	

Recommendations List

Priority	Model	Trim	Reason	Select
1	mustang	ecoboost	??	<input type="button" value="↓"/>
2	mustang	ecoboost	??	<input type="button" value="↓"/>
3	mustang	ecoboost	??	<input type="button" value="↓"/>
4	taurus	limited	??	<input type="button" value="↓"/>
5	taurus	limited	??	<input type="button" value="↓"/>
6	f-150	none	??	<input type="button" value="↓"/>

Purchase List

Priority	Model	Trim	Customize	Remove
1	mustang	ecoboost	<input type="button" value="⚙"/>	<input type="button" value="✕"/>
2	taurus	limited	<input type="button" value="⚙"/>	<input type="button" value="✕"/>
3	f-150	none	<input type="button" value="⚙"/>	<input type="button" value="✕"/>
4	mustang	ecoboost	<input type="button" value="⚙"/>	<input type="button" value="✕"/>
5	mustang	ecoboost	<input type="button" value="⚙"/>	<input type="button" value="✕"/>
6	mustang	ecoboost	<input type="button" value="⚙"/>	<input type="button" value="✕"/>

A 'Customize Trim' modal is open, showing a 'Color' dropdown set to 'Blue' and 'Cancel'/'Save' buttons. A 'Re-Calculate Recommendations' button is also visible.

At the bottom right, there are 'Reset' and 'Save' buttons.

Web App: Edit Model

Dashboard

40.121.52.204/DealershipSystem/WebApp/dashboard.html#/engine

Inventory Optimization System: Overview Recommendation Engine About Log Out

Summary List

Model	Recommended	Desired	Planned	Customize
escape	5		0	Customize
mustang	3	4	4	Customize
focus	3		0	
taurus	2	1	1	
f-150	2		1	

Re-Calculate

Desired Trims

Trim	Include
ecoboost	<input type="checkbox"/>
gt	<input type="checkbox"/>
gt premium	<input type="checkbox"/>
v6	<input type="checkbox"/>

Cancel Save

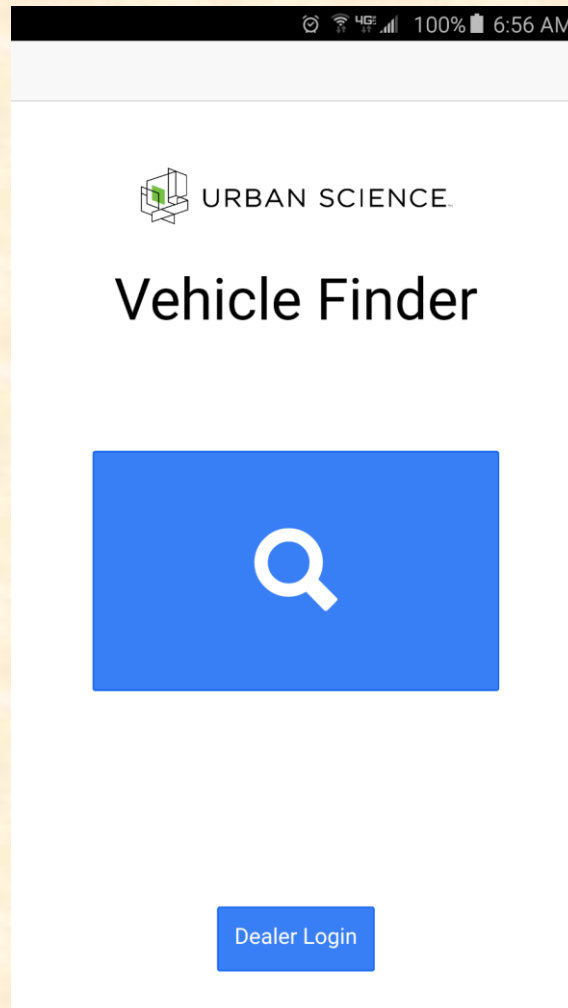
Recommendations List

Priority	Model	Trim	Reason	Select
1	mustang	ecoboost	??	
2	mustang	ecoboost	??	
	mustang	ecoboost	??	
	s	limited	??	
	s	limited	??	
		none	??	

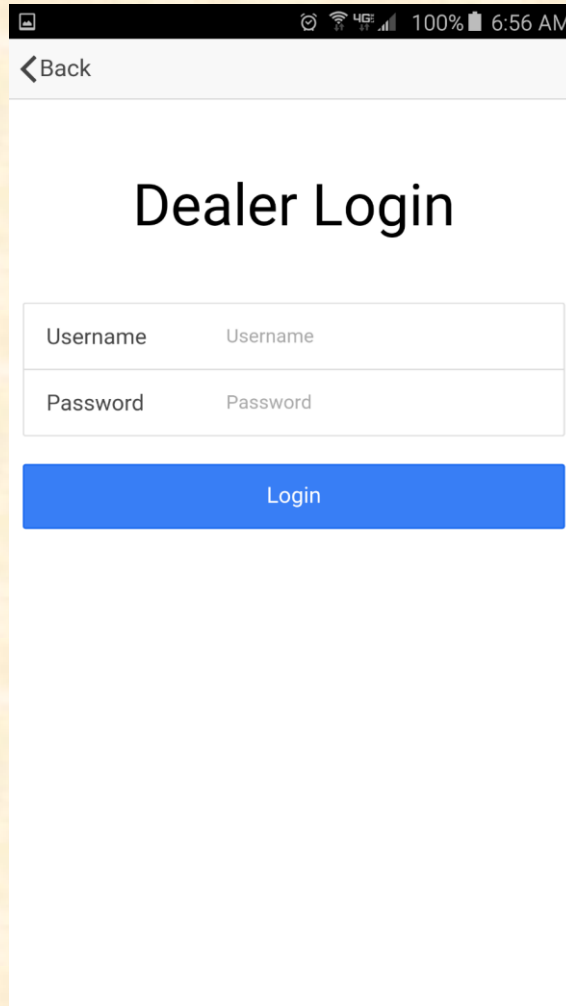
Model	Trim	Customize	Remove
mustang	ecoboost		
s	limited		
3	f-150	none	
4	mustang	ecoboost	
5	mustang	ecoboost	
6	mustang	ecoboost	

Reset Save

Mobile App: Home Screen



Mobile App: Dealer Login

A screenshot of a mobile application interface for a 'Dealer Login' screen. The screen is displayed on a smartphone, with a status bar at the top showing icons for signal, Wi-Fi, 4G LTE, 100% battery, and the time 6:56 AM. Below the status bar is a white header bar with a back arrow and the text '< Back'. The main content area is white and features the title 'Dealer Login' in a large, bold, black font. Below the title are two input fields: the first is labeled 'Username' and the second is labeled 'Password'. Both fields have placeholder text 'Username' and 'Password' respectively. Below the input fields is a blue button with the text 'Login' in white. The entire screen is framed by a dark green border.

< Back

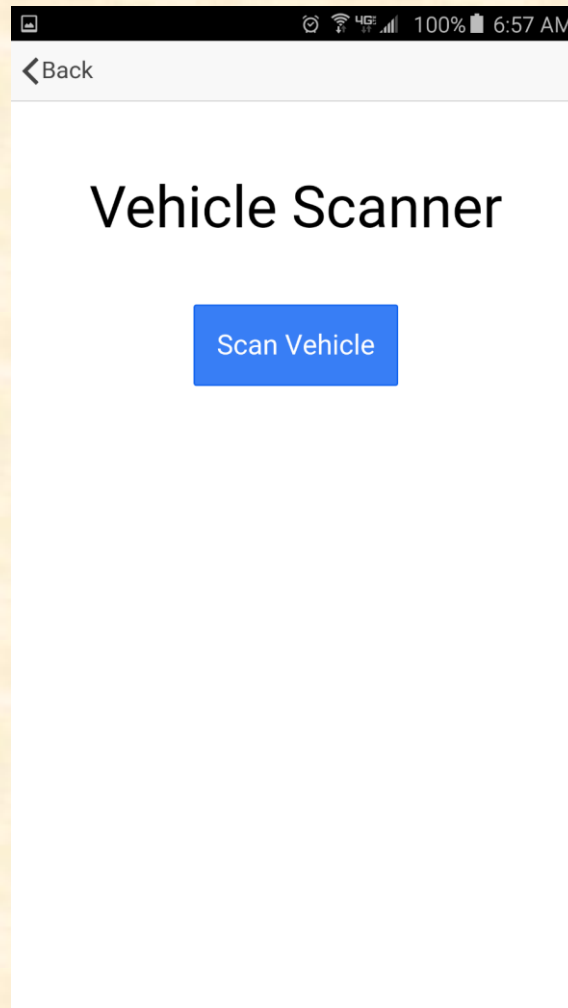
Dealer Login

Username Username

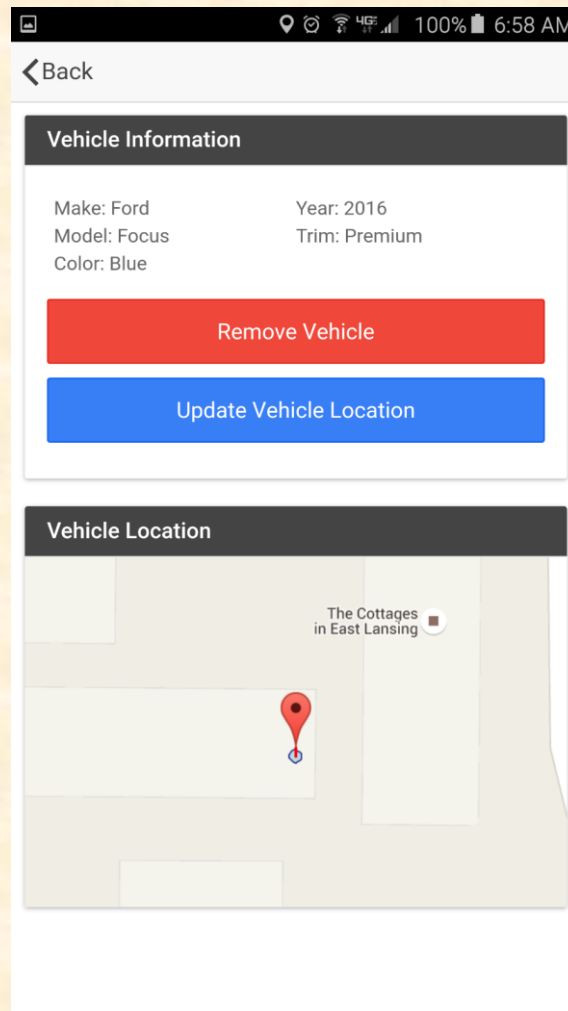
Password Password

Login

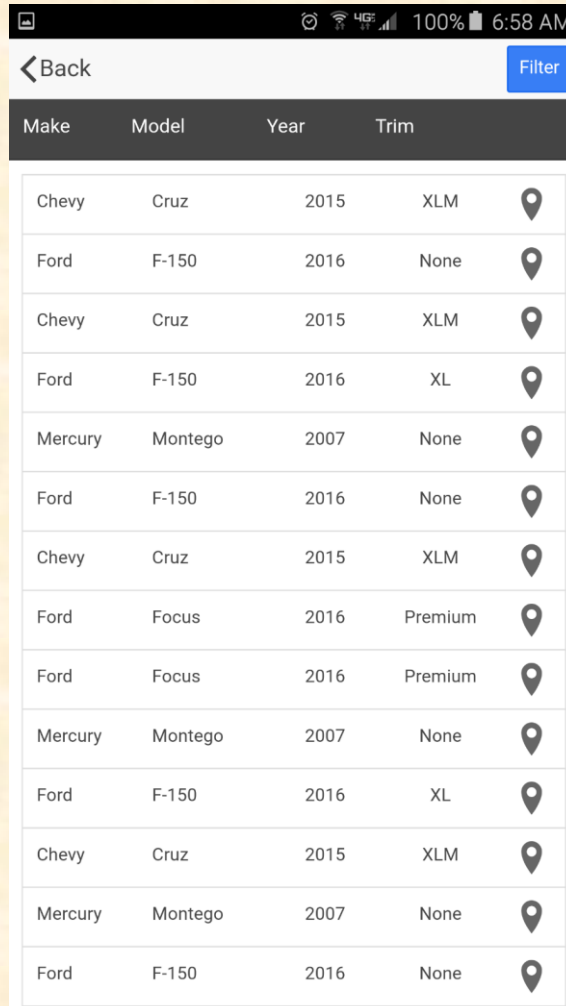
Mobile App: Vehicle Scanner



Mobile App: Vehicle Management



Mobile App: Inventory



The screenshot shows a mobile application interface for an inventory. At the top, there is a status bar with icons for signal, battery, and time (6:58 AM). Below the status bar is a header with a back arrow and the word "Back" on the left, and a blue "Filter" button on the right. The main content is a table with four columns: "Make", "Model", "Year", and "Trim". Each row in the table represents a vehicle and ends with a location pin icon. The data in the table is as follows:

Make	Model	Year	Trim	
Chevy	Cruz	2015	XLM	
Ford	F-150	2016	None	
Chevy	Cruz	2015	XLM	
Ford	F-150	2016	XL	
Mercury	Montego	2007	None	
Ford	F-150	2016	None	
Chevy	Cruz	2015	XLM	
Ford	Focus	2016	Premium	
Ford	Focus	2016	Premium	
Mercury	Montego	2007	None	
Ford	F-150	2016	XL	
Chevy	Cruz	2015	XLM	
Mercury	Montego	2007	None	
Ford	F-150	2016	None	

Mobile App: Vehicle Location



What's left to do?

- Mobile Application
 - Filter inventory
 - Refine UI/UX
 - Test across various screen sizes
 - Usage analytics
- Web Application
 - Filter inventory and visualize data
 - Save/Load recommendation
 - Re-calculate recommendation based on user input
 - Export purchase report

