

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

Dealership Inventory Optimization

The Capstone Experience

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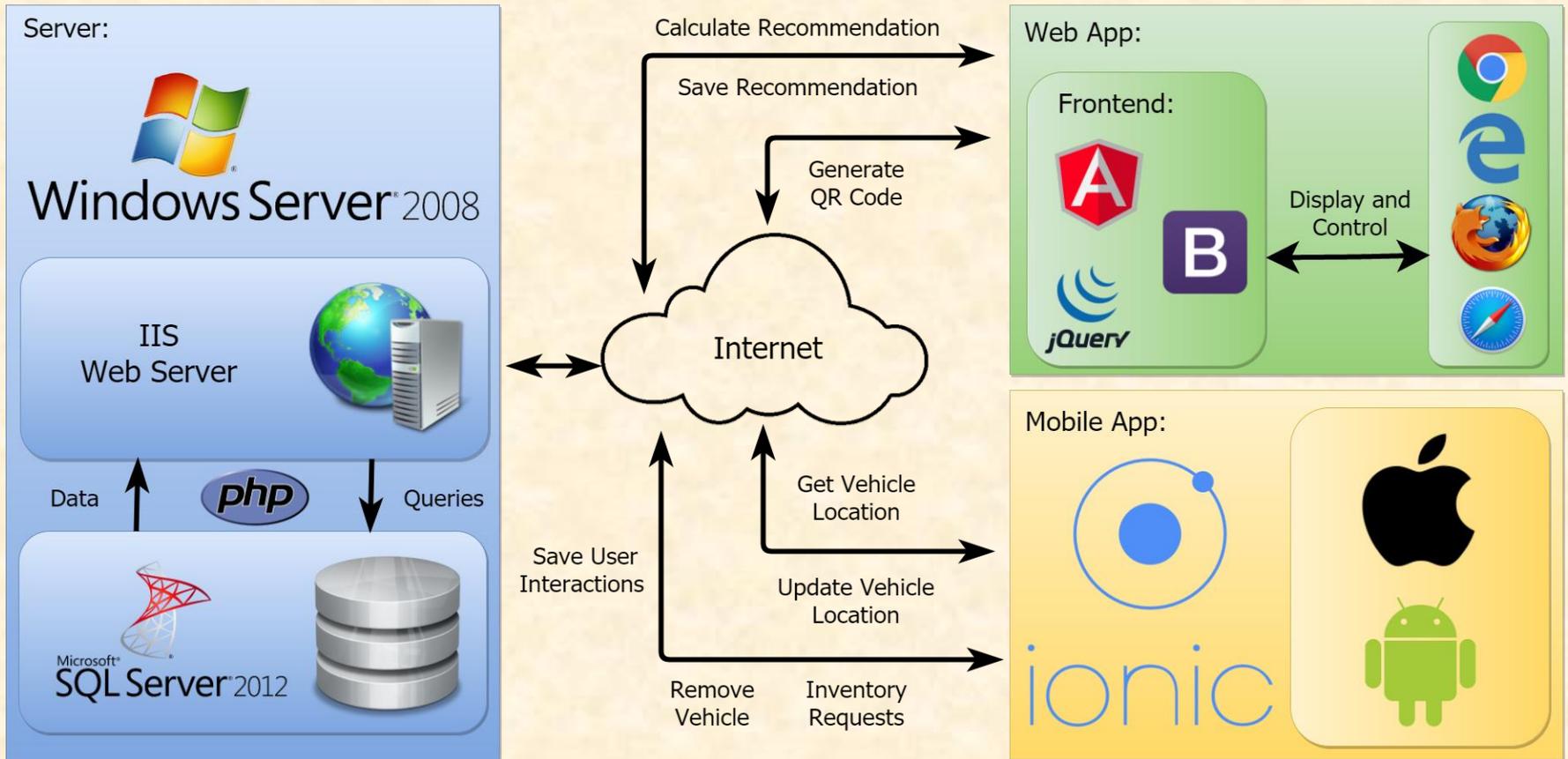
*From Students...
...to Professionals*

Project Overview

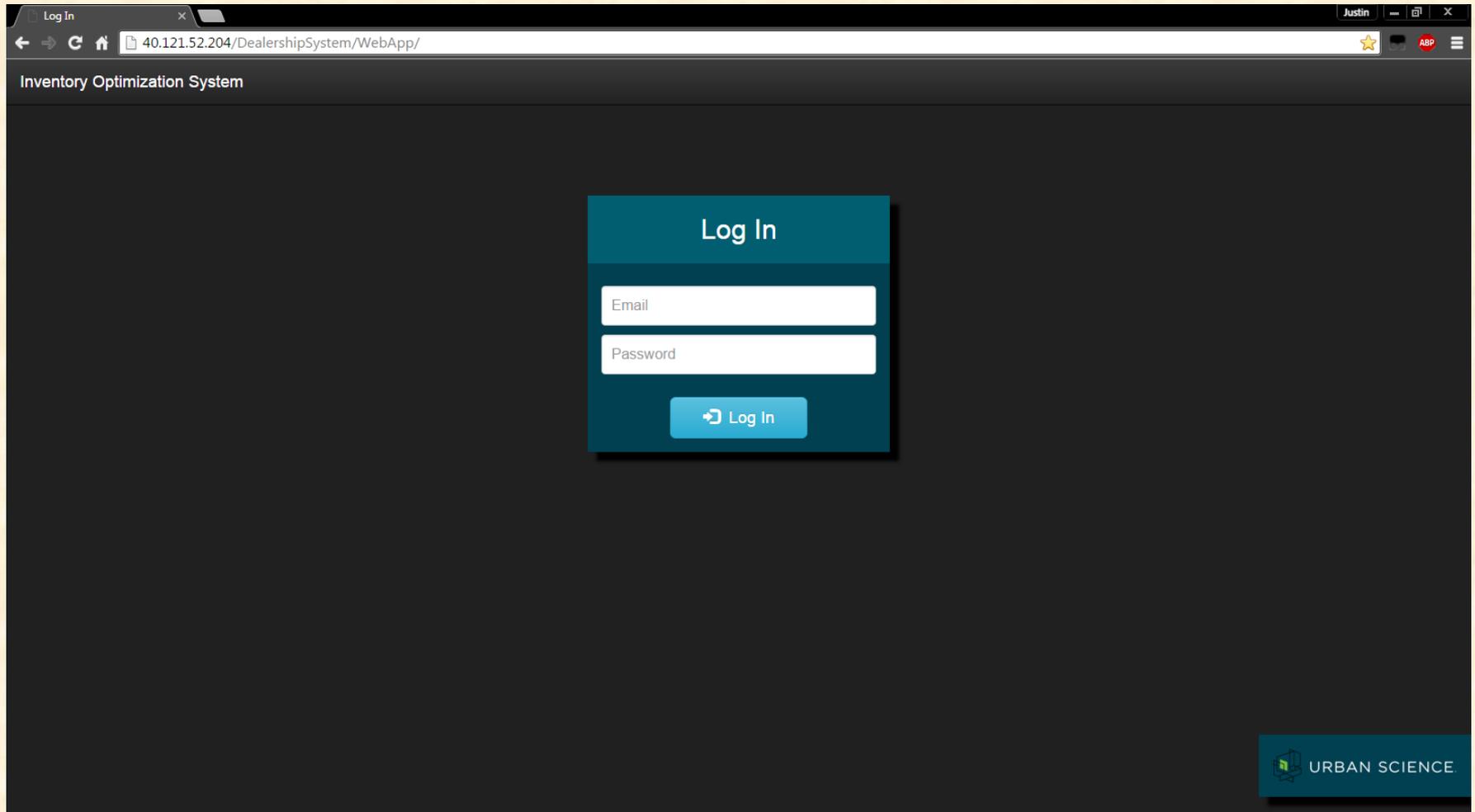
- Assist dealerships in determining the optimal amount and types of vehicles to purchase
- Generate and export a purchase report
- Allow customers to view the inventory of a dealership
- Aid customers and employees in locating vehicles on the lot



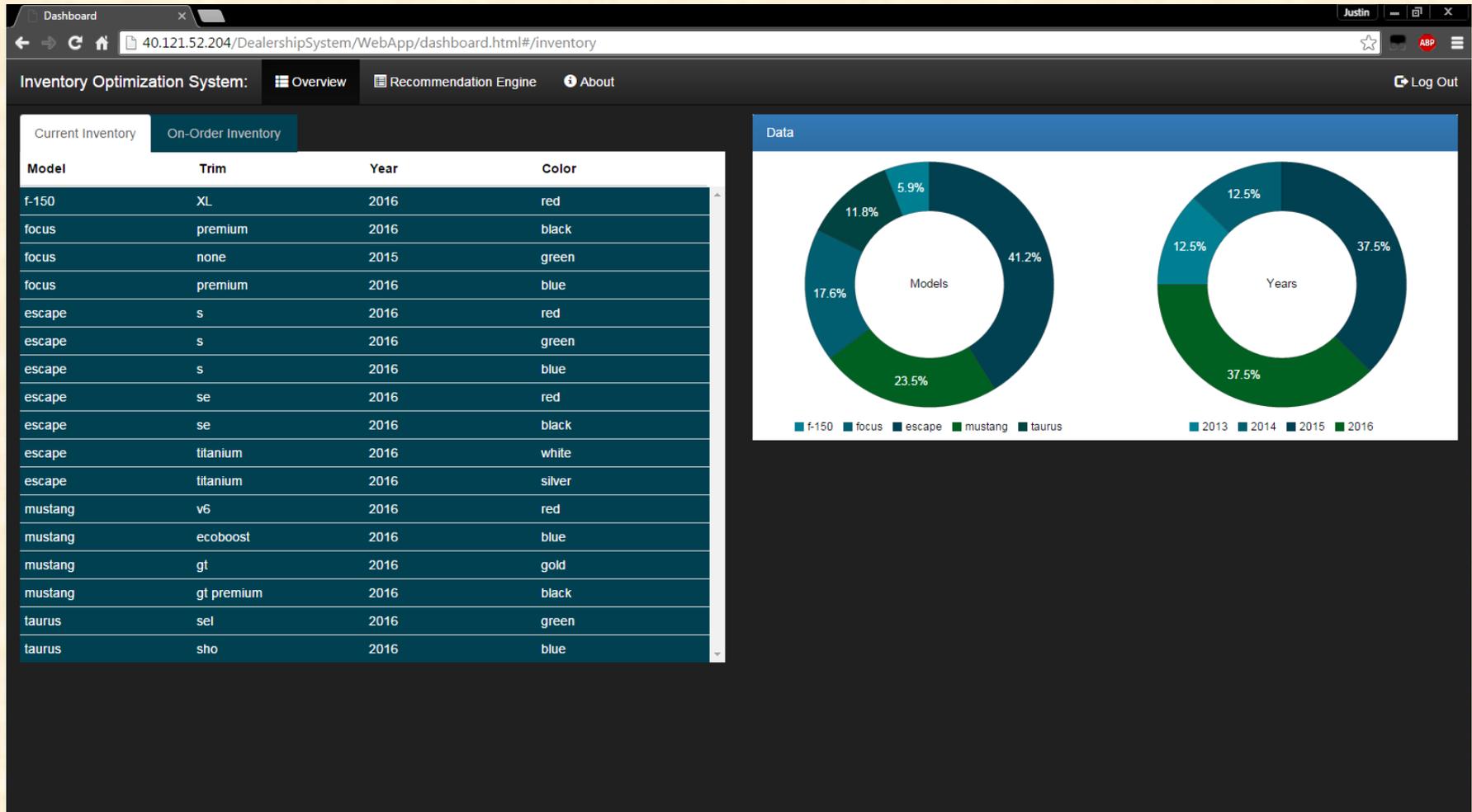
System Architecture



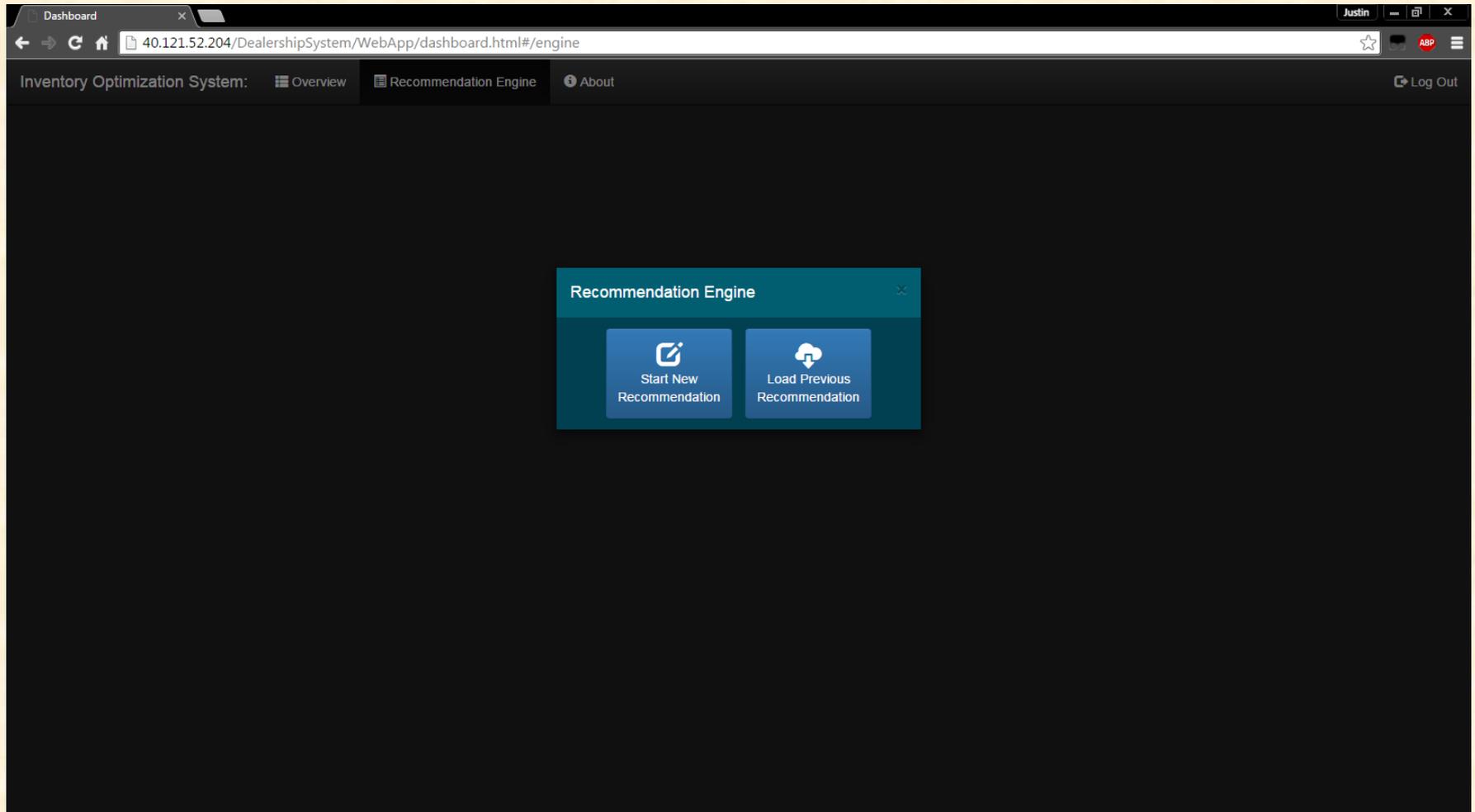
Web App: Login



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	Customize
mustang	3	<input type="text" value="4"/>	4	Customize
focus	3	<input type="text"/>	0	Customize
taurus	2	<input type="text" value="1"/>	1	Customize
f-150	2	<input type="text"/>	1	Customize

Re-Calculate Recommendations

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="✖"/>

Reset Save



Web App: Edit Trim

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	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="✕"/>

Customize Trim

Color: Blue



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	<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	??	↓
2	mustang	ecoboost	??	↓
	mustang	ecoboost	??	↓
	s	limited	??	↓
	s	limited	??	↓
		none	??	↓

Desired Trims

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

Cancel Save

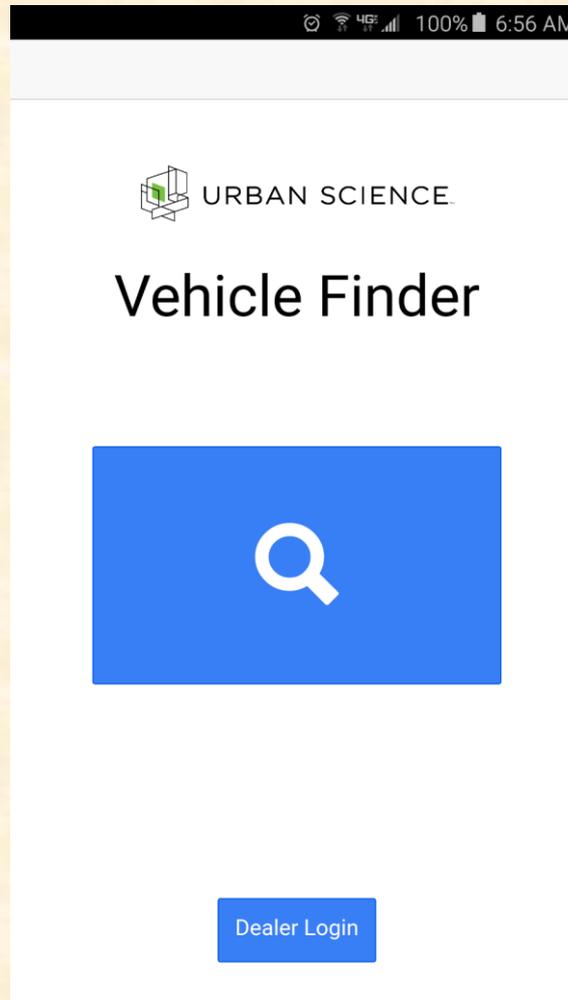
Model	Trim	Customize	Remove
mustang	ecoboost	⚙️	✖️
s	limited	⚙️	✖️
3	f-150	⚙️	✖️
4	mustang	⚙️	✖️
5	mustang	⚙️	✖️
6	mustang	⚙️	✖️

Re-Calculate

Reset Save



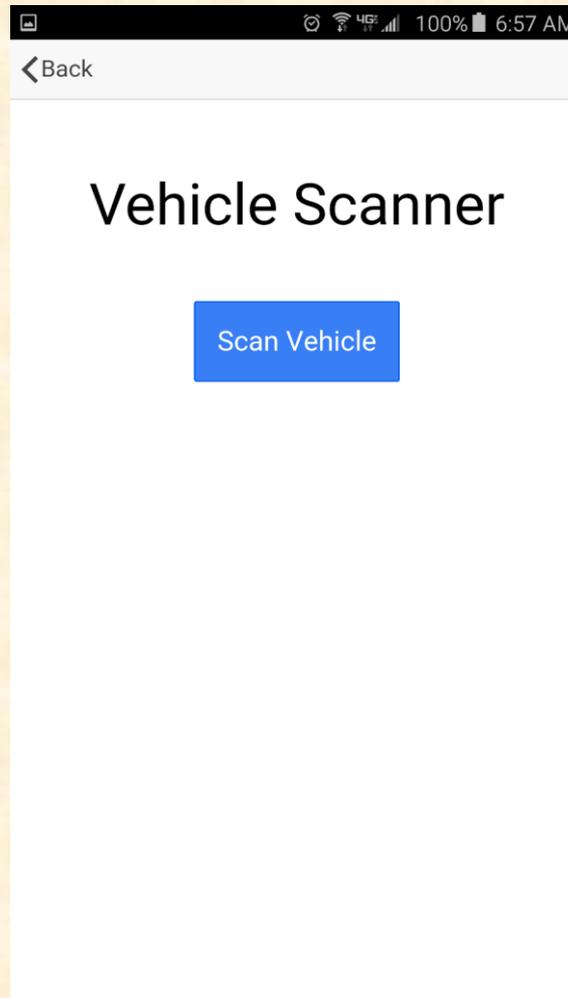
Mobile App: Home Screen



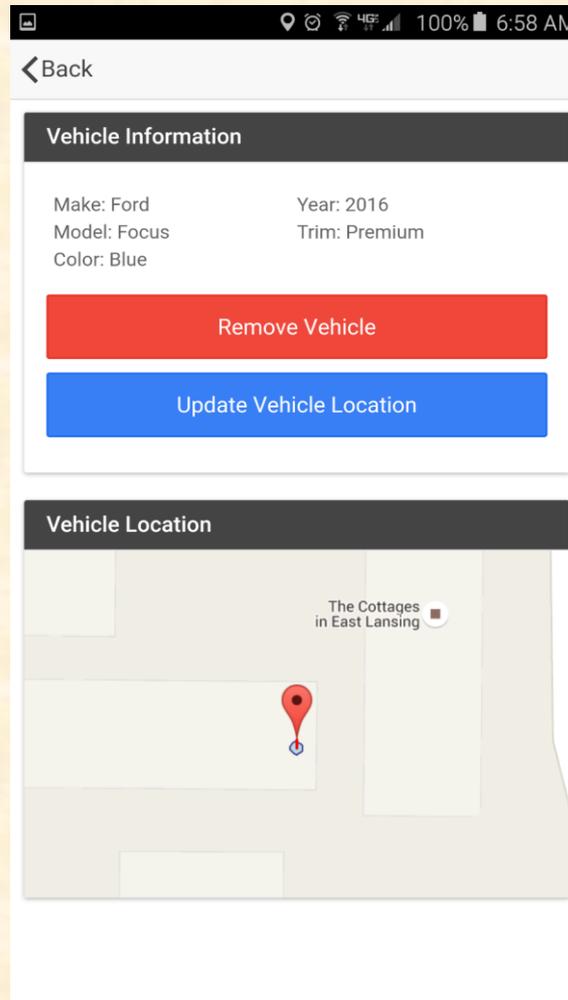
Mobile App: Dealer Login

The screenshot displays a mobile application interface for a dealer login. At the top, there is a black status bar with icons for a home button, alarm, Wi-Fi, 4G LTE signal, 100% battery, and the time 6:56 AM. Below the status bar is a white header with a grey bar containing a left-pointing 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 a light grey border and a small grey label on the left side. Below the input fields is a prominent blue button with the text 'Login' in white. The entire app interface is centered on a light beige background.

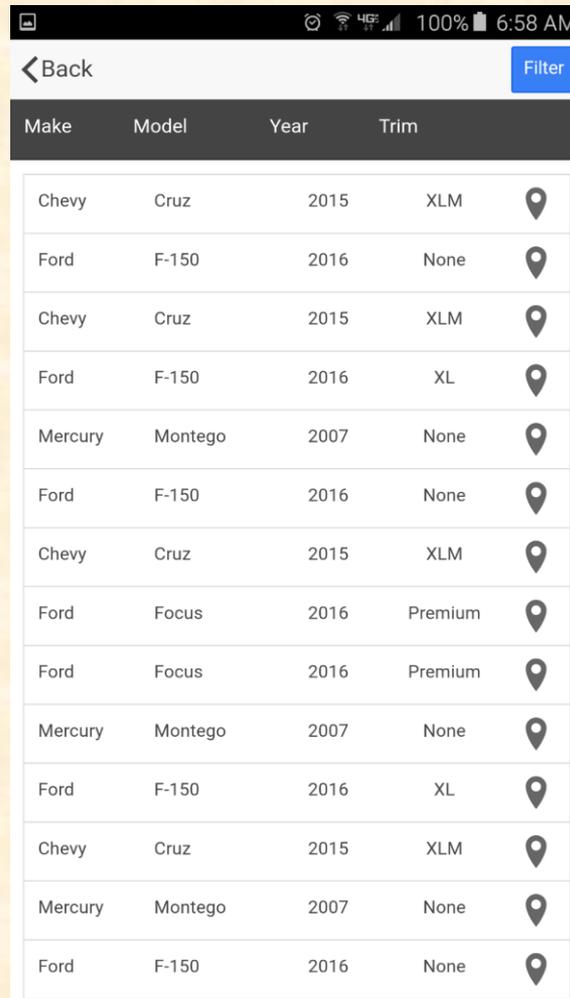
Mobile App: Vehicle Scanner



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 strength, Wi-Fi, and battery, along with the time 6:58 AM. Below the status bar is a navigation bar with a back arrow and the text '< Back' on the left, and a blue button labeled 'Filter' 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 includes a location pin icon on the right side.

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

