



Project Plan Presentation

VW Car-Net EV Match Based Technology

The Capstone Experience

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

Project Sponsor Overview

- One of The World's Largest Car Manufacturer
- Many Brands Such as Porsche, Bentley, Ducati
- Plans To Lead The Market In Electric Vehicle Sales In The Near Future



Project Functional Specifications

- Steer Drivers Away From EV Misconceptions
- Matching Current and Future VW Customers To An Ideal EV
- Complex Algorithm That Factors Environmental Variables and Driving Habits
- Easy and Simple To Use Web Application



Project Design Specifications

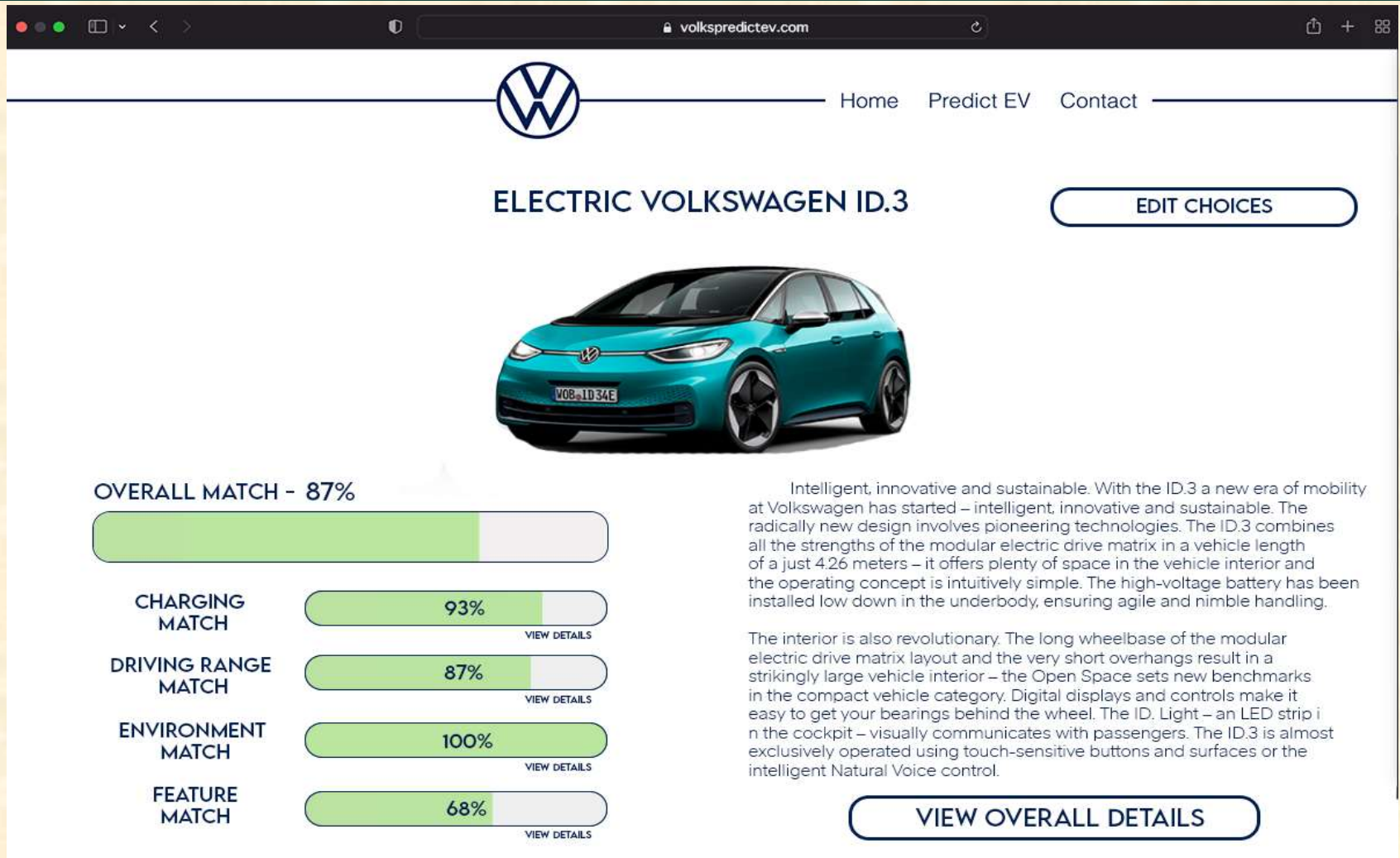
- Customers Will Have The Ability To Simply Login and Be Matched To Their Perfect EV
- Can Edit Their Driving Habits To View Other Vehicles
- Reactive Algorithm Analysis
- Visual Metrics On Vehicle Matches



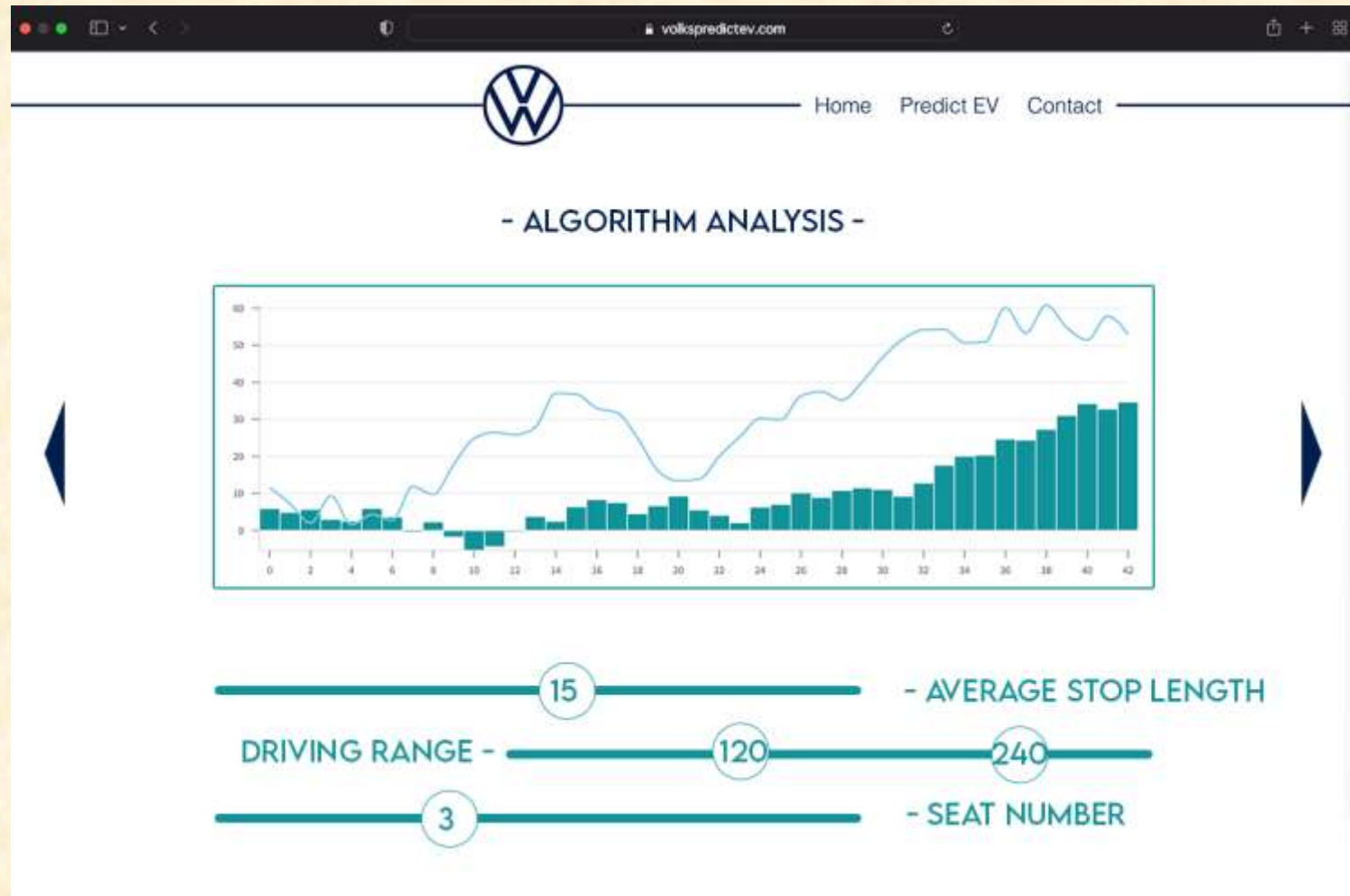
Screen Mockup: Mobile Match Page



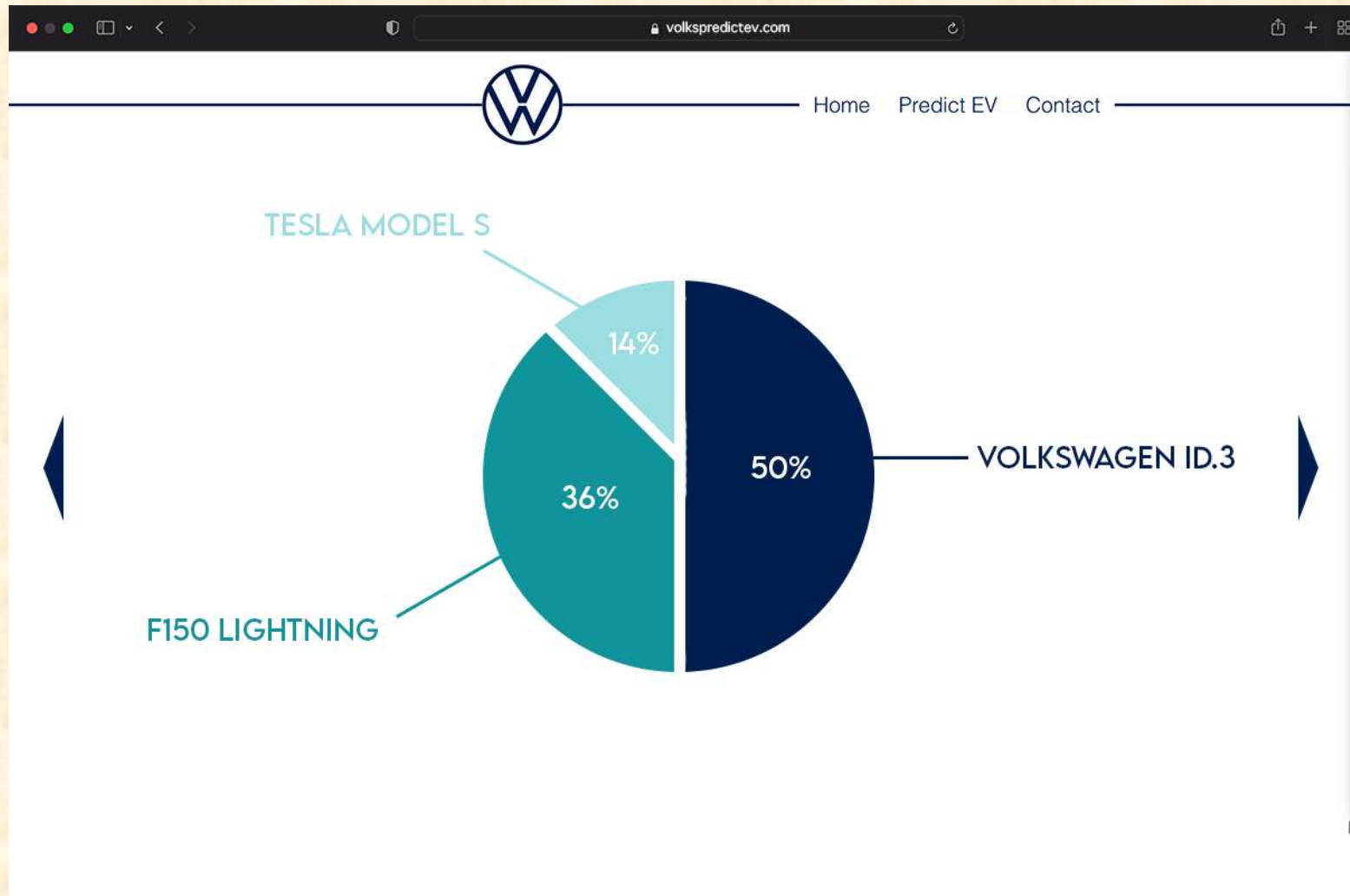
Screen Mockup: Desktop Match Page



Screen Mockup: Algorithm Analysis



Screen Mockup: Match Analysis

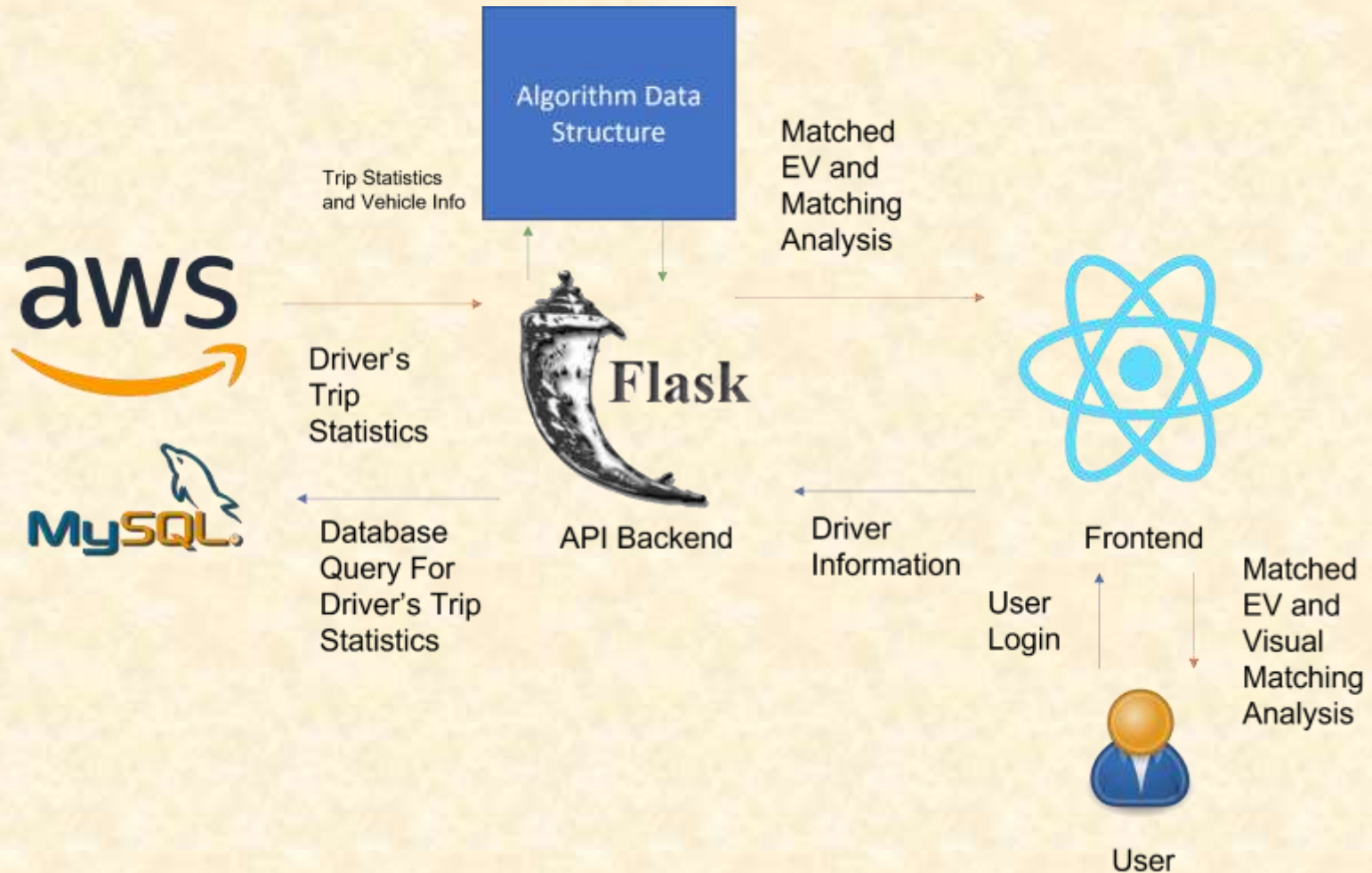


Project Technical Specifications

- Complex Algorithm That Uses Driver's Habits as Factors To Adjust Vehicle Needs
- Complex Data Structure Used For Algorithm
- Flask API Backend To Interface Algorithm and Database To Frontend
- Visual Algorithm Analysis and Vehicle Match Metrics Displayed On Frontend



Project System Architecture



Project System Components

- Hardware Platforms
 - Amazon AWS
 - MySQL Database
- Software Platforms / Technologies
 - React Frontend
 - Flask API Backend
 - MySQL Connector



Project Risks

- Frontend and Backend Interface
 - Troubles Setting Up Development Environment On Some Hardware
 - Configure Proper Environments For Development Universally Utilizing Python Virtual Environments
- Algorithm Data Structure
 - Map Data Structure May Not Be Best For Matching
 - Probe With Multiple Data Structures Such as Trees
- Generating Datapoints
 - Must Generate Own Data For Current and Future Users
 - Add Complexity For Data Generation That Generates Real and Consistent Data
- Displaying Visual Algorithm Analysis
 - Must Determine Metrics For Analyzing Algorithm
 - Collect Data In Containers Along Each Step For Matching and Use It For Analysis



Questions?

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