Project Plan Presentation
VW Car-Net EV Match Based Technology

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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

ELECTRIC VOLKSWAGEN ID.3

Intelligent, innovative and sustainable. With the ID.3 a new era of mobility at Volkswagen has started – intelligent, innovative and sustainable. The radically new design involves pioneering technologies. The ID.3 combines all the strengths of the modular electric drive matrix in a vehicle length of just 4.26 meters – it offers plenty of space in the vehicle interior and the operating concept is intuitively simple. The high-voltage battery has been installed low down in the underbody, ensuring agile and nimble handling.

The interior is also revolutionary. The long wheelbase of the modular electric drive matrix layout and the very short overhangs result in a strikingly large vehicle interior – the Open Space sets new benchmarks in the compact vehicle category. Digital displays and controls make it easy to get your bearings behind the wheel. The ID. Light – an LED strip in the cockpit – visually communicates with passengers. The ID.3 is almost exclusively operated using touch-sensitive buttons and surfaces or the intelligent Natural Voice control.

OVERALL MATCH - 87%

- CHARGING MATCH: 93%
- DRIVING RANGE MATCH: 87%
- ENVIRONMENT MATCH: 100%
- FEATURE MATCH: 68%

EDIT CHOICES

VIEW OVERALL DETAILS
Screen Mockup: Algorithm Analysis
Screen Mockup: Match Analysis

- TESLA MODEL S: 14%
- VOLKSWAGEN ID.3: 50%
- F150 LIGHTNING: 36%
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?