Alpha Presentation
Car-Net DriveView Social Competition App
The Capstone Experience
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Project Overview

- Encourage safer driving by scoring users based on how safe they drive
- Scores are calculated based on achievements as well as sensor data from the car such as blinker status, seatbelt status, speed and door locks among others
- By completing daily or weekly achievements, users can improve their driving performance for safer driving
- Rank users on a leaderboard based on these scores
- Users can compare their scores directly with other users as well
System Architecture
Home Screen

Hello, Blake23!

YOUR DRIVING SCORE
96.5 /100

Achievements
Check your driving patterns.

Leaderboard
See how you compare to drivers near you.

Account
Leaderboard Screen
User vs Me Screen
Achievements Screen
What’s left to do?

• Fine tune our algorithm for determining driving score
• Rework the flow of the app in some pages
• Clean up pages and finish functionality for them
• Convert database to real data
Questions?
Algorithm

• Generates a driving score based on sensor data and achievements completed

• Split the data into three categories:
  o Extreme: Speed, seatbelt, doors
  o Ignorance: Blinker status, ACC, brake lights
  o General Safety: Oil and coolant temperature, MPG

• Calculating the score:
  o Mileage Multiplier, Score for each category and Previous driver score
Algorithm

- **Extreme:**
  - Max can be .12
  - \[ \text{extremeScore} = (\text{previousScore} - \text{calculatedExtremeData} - 0.4) \]

- **General Safety:**
  - Max can be .1
  - \[ \text{generalSafetyScore} = (\text{previousScore} - \text{calculatedGeneralData} - 0.2) \]

- **Ignorance:**
  - Max can be .1
  - \[ \text{ignoranceScore} = (\text{previousScore} - \text{calculatedIgnoranceData} - 0.2) \]

- **Driving score:**
  - \[ \text{subtractions} = (\text{mileageMultiplier}) \times (\text{extremeScore} + \text{generalSafetyScore} + \text{ignoranceScore}) \]
  - \[ \text{drivingScore} = \text{previousScore} - \text{subtractions} \]

- If you have been a safe driver, you don’t lose points
Algorithm

• Your score will increase given you have driven safely
  o If your previous score is unchanged:
    » $drivingScore = (previousScore \times 0.01) + previousScore$
  
  o And if you have completed achievements
    » $drivingScore = (previousScore \times 0.025) + previousScore$