Project Plan Presentation
Dealer Experience Dashboard

The Capstone Experience

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Project Sponsor Overview

- Headquartered in Dearborn, MI
- Automotive Industry Leader
- Spans the Globe
- Family Ideals and Innovative Tech.
Project Functional Specifications

• Ford dealerships are moving towards utilizing cloud-based data management system in attempt to modernize current systems which are having issues visualizing and administering large amounts of data.

• Provides a secure react web application for Ford dealerships to monitor quantitative performance data that is powered by Ford’s Data warehouse.

• Our software provides a seamless React UI that will integrate the data pulled from google Big Query into a table format that meets Ford’s standards or better.
Project Design Specifications

• Consists of 3 pages – View Reports, Schedule Reports, Manage Reports
• Displays Vehicle Servicing Data in Multiple Views
• Customizable Interface
Screen Mockup: View Reports
Screen Mockup: Dealer Performance Overview

- Dealer Performance Overview

<table>
<thead>
<tr>
<th>Show</th>
<th>22(4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Show</td>
<td>366(74%)</td>
</tr>
<tr>
<td>Canceled</td>
<td>107(22%)</td>
</tr>
<tr>
<td>Total Set</td>
<td>495(100%)</td>
</tr>
</tbody>
</table>
Screen Mockup: Schedule Reports

Manage View and Data
View appointments data to manage your team

View Reports  Schedule Reports  Manage Reports

Stay up to date with the metrics you want delivered to your inbox.
Add/Remove Recipient(s)
Add Recipient
Frequency
Weekly

Report type (Select all that apply)
- Reservation Metrics
- Dealer Performance Overview
- Employee Performance Details
- Department
- Assigned Service Advisor
- Source
- Appointment Booking Conversion
Screen Mockup: Manage Reports

Manage and View Data
View appointments data to manage your team

View Reports

Schedule Reports

Manage Reports

Your Scheduled Reports
Overview

<table>
<thead>
<tr>
<th>Recipients</th>
<th>Frequency</th>
<th>Report Type</th>
<th>Last Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>Weekly</td>
<td>Reservation Metrics</td>
<td>1/27/24 @ 4:04 PM</td>
</tr>
</tbody>
</table>

Schedule New Report
Project Technical Specifications

• Web Application
• Front-End UI
• Backend JS
• GCP Data Warehouse

• Languages, Frameworks, and Development: HTML, CSS, JavaScript, SQL, React.js, Vite, Node.js, Express.js, Google Cloud Platform
Project System Architecture

Diagram:
- Computer
  - Front-End (React.js)
  - Back-End (Express.js)
  - Cloud Run (us-west1)
  - HTTP

- Cloud Build (us-west1)
- Artifact Registry
- Containers
- BigQuery
  - Data Warehouse
  - REST api
Project System Components

• Hardware Platforms
  ▪ N/A

• Software Platforms / Technologies
  ▪ Google Cloud Platform – Big Query, Cloud Run, Artifact Registry
  ▪ IDE: Visual Studio Code/IntelliJ IDEA
  ▪ Gitlab: Deploy and Develop Software code
Project Risks

• Integration Challenges
  ▪ React front-end cannot directly fetch from GCP BigQuery
  ▪ Utilized Express back-end to interface with BigQuery

• Slow and Expensive Queries
  ▪ Inefficient BigQuery queries and unfit data model
  ▪ Ensuring our queries fit Ford standard, and be optimized with data structures and using a query planner

• Security Concerns
  ▪ Security risks from improper API use or query jacking
  ▪ Secure API endpoints and use HTTPS for data transfer that doesn't interfere with Ford uses and make backend code less susceptible to query jacking

• Better UI experience
  ▪ Make a same dashboard and give a better user experience to employees without directly interacting with the users of the dashboard
  ▪ Visualizing the data, support local saving and email sending and get multiple revisions from our Ford Contacts for clarity
Questions?