Project Plan
VIN-Verse

The Capstone Experience

Team Urban Science
Rachel Grunder
Aakash Bhargava
Gabriel Heikes
Jacob Lawler

Department of Computer Science and Engineering
Michigan State University
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Functional Specifications

• Managing a vehicle’s service history is a painful experience that requires too much paperwork.
• VIN-Verse digitizes your service history, and makes it easily manageable.
• VIN-Verse is a platform that centralizes vehicle data for users across the industry.
• Utilizes an existing data-set of repair orders to flesh out vehicle histories and provide analytics
Design Specifications

• Role-Based interface
  ▪ Consumers
  ▪ Service Facilities
  ▪ Manufacturers

• Creating dashboards for each role that display pertinent information

• Integration engine designed to allow for the consumption of data from various outlets
Screen Mockup: Consumer – VIN History

<table>
<thead>
<tr>
<th>VIN</th>
<th>Access By</th>
<th>Date</th>
<th>Repair Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1C4BJWFXDL531773</td>
<td>Belle Tîre</td>
<td>9/13/18</td>
<td>Oxygen Sensor Replacements</td>
</tr>
<tr>
<td>1C4BJWFXDL531773</td>
<td>Outshiner</td>
<td>9/13/18</td>
<td>Ignition Coil and Spark Plug Replace...</td>
</tr>
</tbody>
</table>
Screen Mockup: Self Repair Form

Self Repair

VIN #
Model
Parts Repaired
Date of Repair
Repair Details
Submit Repair
## Screen Mockup: Service-Facility Repair History

<table>
<thead>
<tr>
<th>VIN</th>
<th>Owner</th>
<th>Date</th>
<th>Repair Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1C4BJWFGXDL531773</td>
<td>John Doe</td>
<td>9/13/18</td>
<td>Oxygen Sensor Replacements</td>
</tr>
<tr>
<td>JTMWF40V8C5047998</td>
<td>Richard Smith</td>
<td>9/13/18</td>
<td>Ignition Coil Replacements</td>
</tr>
<tr>
<td>JH4DB1650NS00627</td>
<td>Dianne Adams</td>
<td>9/12/18</td>
<td>Catalytic Converter Replacements</td>
</tr>
<tr>
<td>4JGAB54E81A277648</td>
<td>Melissa Sator</td>
<td>9/11/18</td>
<td>Break Replacement</td>
</tr>
<tr>
<td>3B7HF13Z11M269883</td>
<td>Steven Phillips</td>
<td>9/10/18</td>
<td>Tire Rotation and Oil Change</td>
</tr>
<tr>
<td>JHMZE2H73AS009608</td>
<td>Daren Williams...</td>
<td>9/9/18</td>
<td>Catalytic Converter Replacements</td>
</tr>
</tbody>
</table>
Screen Mockup: OEM - Analytics Dashboard
Technical Specifications

• Microsoft SQL Server 2017
  ▪ Utilizes stored procedures

• Web Application
  ▪ Built with C#/ASP.NET and wrapped in Angular

• Integration Engine
  ▪ Implemented with C#
System Architecture

Data Feeds
- Manufacturer
- Service Repair Facility
- Consumers
- Potential Buyers

Service Records
- Repair orders and service history
- Self-reported repairs and service history
- View vehicle history

Front-End
- Open-source web browsers

FTP Service

Back-End
- Microsoft SQL Server
- ASP.NET
- C#
System Components

• Hardware Platforms
  ▪ Microsoft Server 2016 located in the Capstone Lab

• Software Platforms / Technologies
  ▪ C#/ASP.NET
  ▪ Angular
  ▪ SQL
Risks

• Risk 1
  ▪ Confidentiality of User information
  ▪ Salt and hash passwords, limit user input to prevent SQL injection

• Risk 2
  ▪ Decreased Manpower
  ▪ Set clearly defined goals and avoid feature creep

• Risk 3
  ▪ Cross-Platform Friendly Web App
  ▪ Use of System.Web.Mobile ASP.NET library that have mobile compatibility in mind

• Risk 4
  ▪ Verification of Self-Reported Repairs and Ownership
  ▪ Having users upload proof of purchase as well as including old part’s serial number, and use of the registration as a verifying document

• Risk 5
  ▪ Integration of Unique Service Order Schemas
  ▪ Categorizing fields and searching for key words, as well as validating data types for specific fields
Questions?