From Students…
...to Professionals

Beta Presentation
Data-Driven Mechanic: Applications and Infrastructure
The Capstone Experience
Team Michigan State University CSE

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Project Overview

• Develop iOS and Android apps to collect audio and accelerometer data of vehicles for collection of data and classification
• Ability to annotate the collected data for training of algorithms
• Ability to classify the data using previous trained algorithms and display the results to users
System Architecture

Platforms
- iOS
- Android

Mobile Application Front End
- React Native
- Expo

Backend/Server
- Flask
- MySQL
- MAMP

Builds Into Native Applications
Http Requests and Responses
Home Screen
Recording Screen
Annotate Screen
Annotate Submitted Screen

- **Screen 1**: Recording Annotated!
  - **Button**: Start Over

- **Screen 2**: Recording Annotated!
  - **Button**: Start Over
Classify Screen
Help Screen

What is the Annotate?
You become a citizen scientist helping us collect and label data that we can use to train advanced AI algorithms to diagnose vehicles and other physical systems.

How to Annotate?
Start recording by pressing the Green button. Record audio and accelerometer data for at least 45 seconds (recommended). Next, annotate the data with the correct information and submit.

What is the Classify function?
Classify function lets the user record data that is used by DeepTech Lab’s algorithms to produce results outlining the details and detected faults in the vehicles.

How to Classify?
Start recording by pressing the Green button. Record audio and accelerometer data for at least 45 seconds (recommended). Press Classify for the results of your recording.

Start Over
What’s left to do?

• Stretch Goals
  • Added security for database and server

• Other Tasks
  • Bug fixes for form validation visuals
  • Finish migrating back end from local to remote
  • Refactor code and integrated testing
  • Create documentation
Questions?