

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation

Data-Driven Mechanic: Applications and  
Infrastructure

The Capstone Experience

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*From Students...  
...to Professionals*

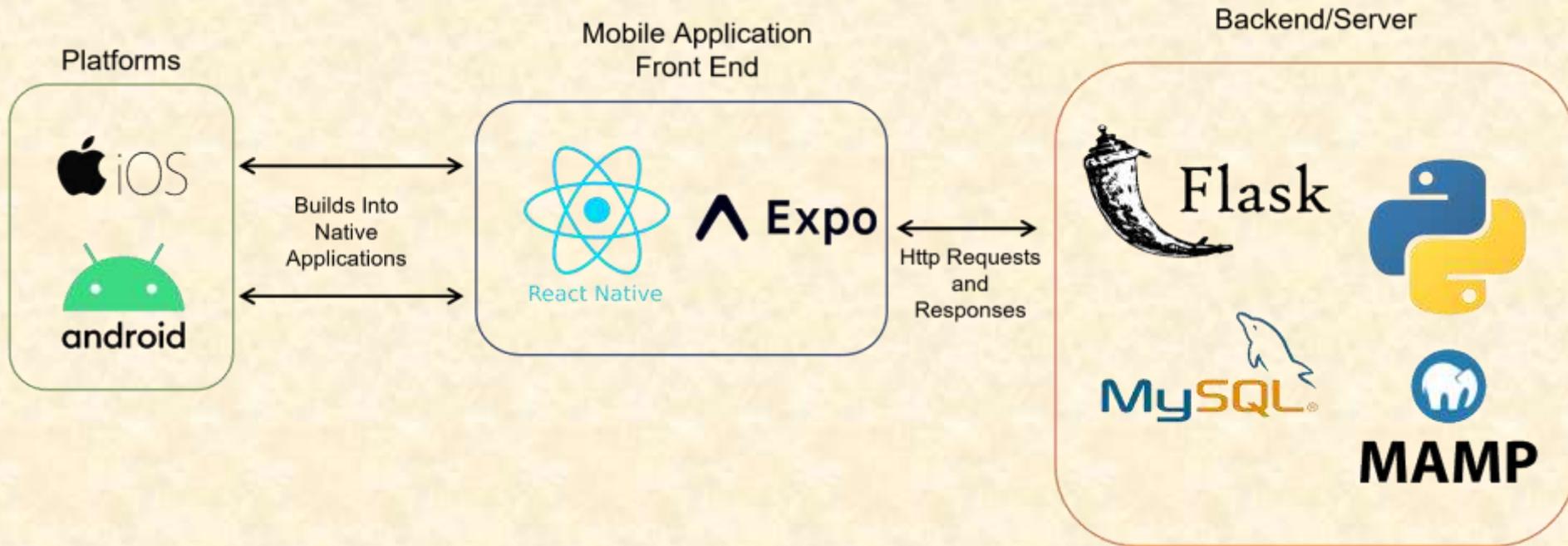
# Project Overview

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- 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



# Home Screen



iOS



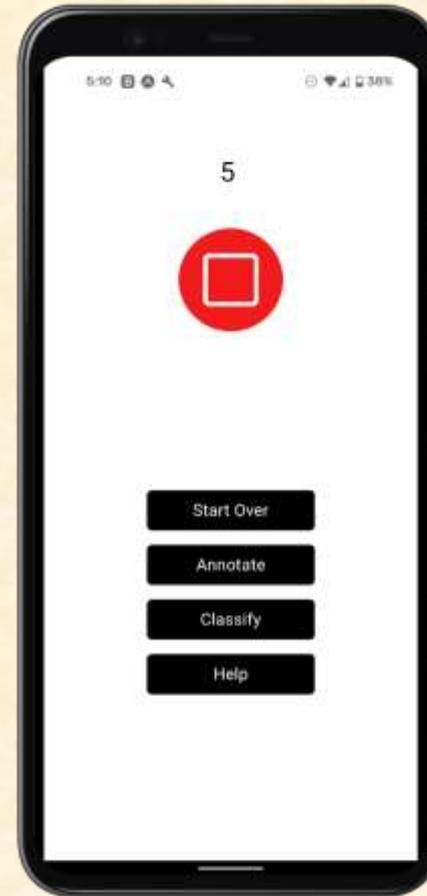
Android



# Recording Screen



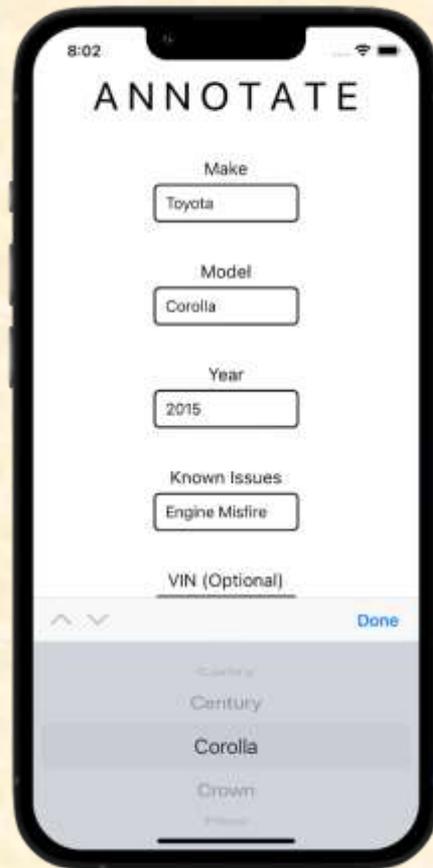
iOS



Android



# Annotate Screen



iOS



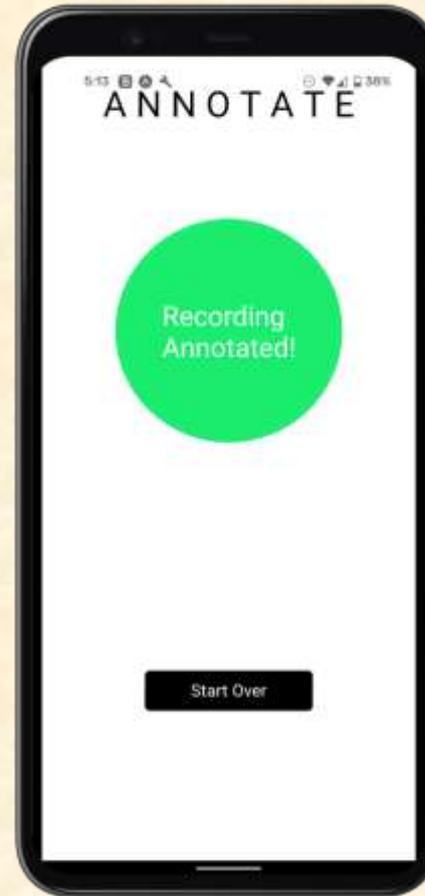
Android



# Annotate Submitted Screen



iOS



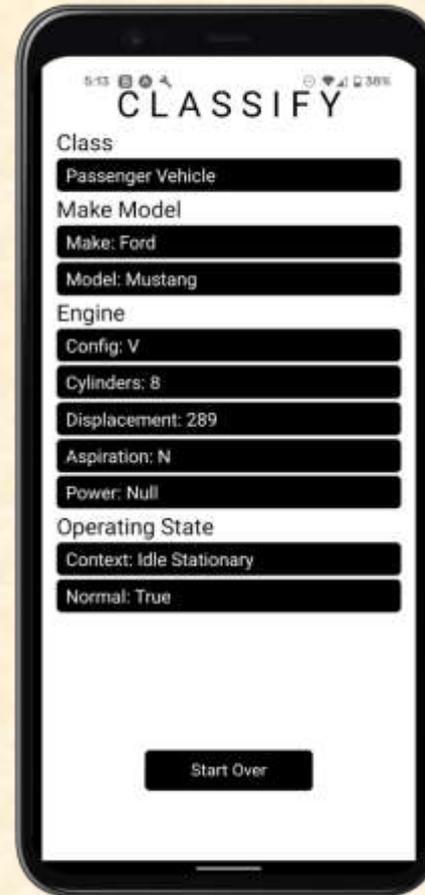
Android



# Classify Screen



iOS



Android



# What's left to do?

- Consistent UI across platforms
- Integrate classification model to the app
- Form validation
- Same-page dynamic dropdown options
- Send the following to back end
  - Acceleration File
  - Annotation Labels
  - Device Unique ID
- Pausing recording
- Token authentication of HTTP requests to back end
- Migrate back end from local to remote



# Questions?

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End of slide show, click to exit.

# Device Unique Identifier

- Client requested a tool to be used in the future to aid in identifying malicious data
- Team Risk
  - Description: Finding a unique identifier to send to the back end without a login
  - Mitigation: Expo has many modules and APIs to gather information about the current device

