VinVin Design Document

Problem Statement

Obtaining vehicle information is often difficult, time consuming, inaccessible and potentially expensive. Currently, decoding the VIN online of a vehicle requires users to type in long strings and there is no efficient way to export the retrieved information.

Objectives

The primary objective of the VIN lookup app is to provide users with detailed and accurate information about vehicles based on their unique VIN. This information includes critical data such as the vehicle's make, model, year, and various specifications. The aim is to aid users in making informed decisions when buying, selling, or maintaining vehicles using a simple and user-friendly UI that will quickly output the necessary information to the user.

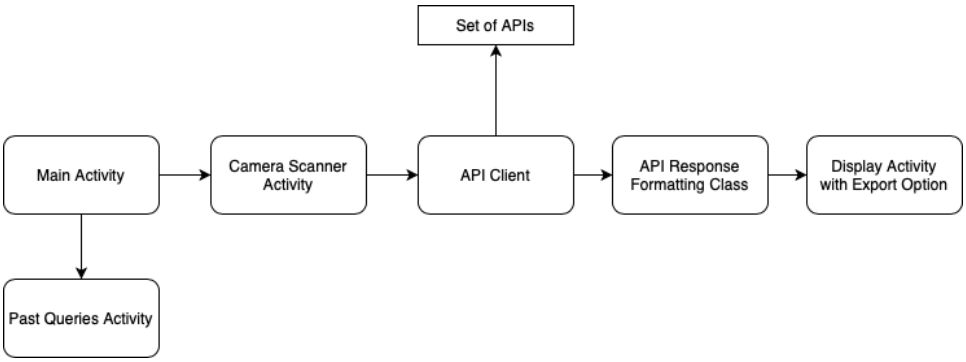
Use Cases

1. Car dealers and salespersons: Car dealers and salespersons can retrieve details of their current inventory, information about cars they would like to buy, and send information to customers. It will be particularly useful in time sensitive situations such as trade-ins during a sale.
2. **Enthusiasts:** For those who have a passion for cars, they can quickly scan a car's VIN and get information about it.
3. **Private buyers:** The average consumer tends to steer away from buying used cars from places like Facebook Marketplace and Kijiji because of the lack of reliable information about the car. This tool would offer details that are necessary when making a purchase.

User Workflow

1. User takes a picture of the VIN from within the app and presses scan
2. VIN information is retrieved using APIs, and displayed within app. User can view the information.
3. User can export the information in CSV format and share the CSV to other apps (Gmail, Google Drive) and contacts.

High Level Design



App

- Startup screen
- Main activity
    - Button to display past queries.
    - Scan button.
- Scanner activity
    - Camera to take picture of the VIN.
    - The image is converted into text.
- API Client
    - Uses the VIN from the scanned image and makes an API call using the selected API or a combination of APIs.
    - The API response will be formatted and passed to the table display component.
- Table display component
    - Displays at least the following information:
        - Make
        - Model
        - Year
        - Engine Info
        - Cylinders
        - Size
        - Transmission
    - Export and share button: this will create a CSV file and open up a pop up to export.

Potential APIs

1. https://vpic.nhtsa.dot.gov/api/
2. https://www.carmd.com/api/
    a. Displays essential information (make, model, year, engine, trim, manufacturer)
3. https://www.auto.dev/
    a. Displays essential information as well as additional information