

MICHIGAN STATE

U N I V E R S I T Y

Project Plan

Augmented Reality Auto Mobile Guide App

The Capstone Experience

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

Project Overview

- iPhone App
- Point phone at car to display make and model
 - Instant augmentation is ideal
- Display price, options, nearest dealer
- Social sharing and posting of findings

Functional Specifications

- Vehicle Detection and Augmentation
- Vehicle Information Display
- Favorites
 - User can save favorites for later viewing
- History/Recents
 - Stores recent detections in local DB
- Social Sharing
 - Can share vehicle capture and information to Facebook, Twitter, etc...

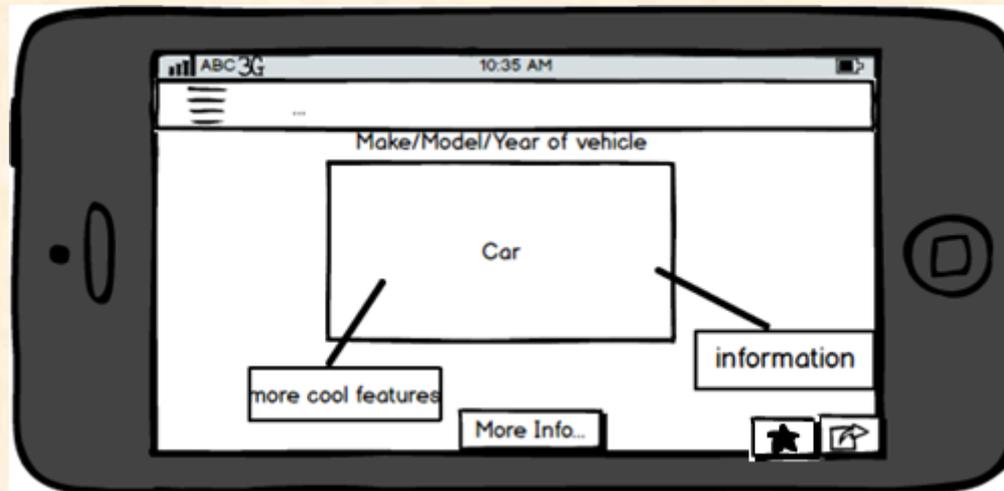


Design Specifications

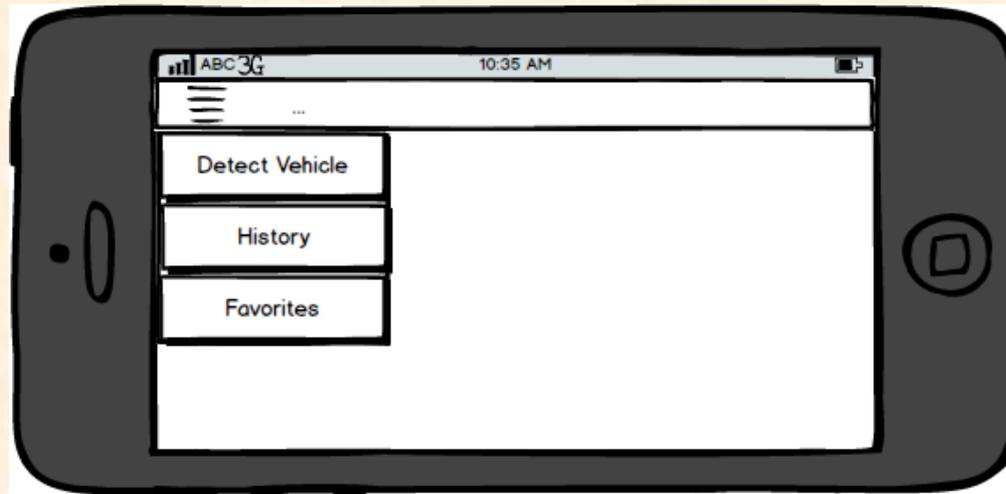
- Vehicle Identification View
- Car Information View
- Side Menu
- Share View
- Favorites View
- Recents/History View



Screen Mockup: Vehicle Identification



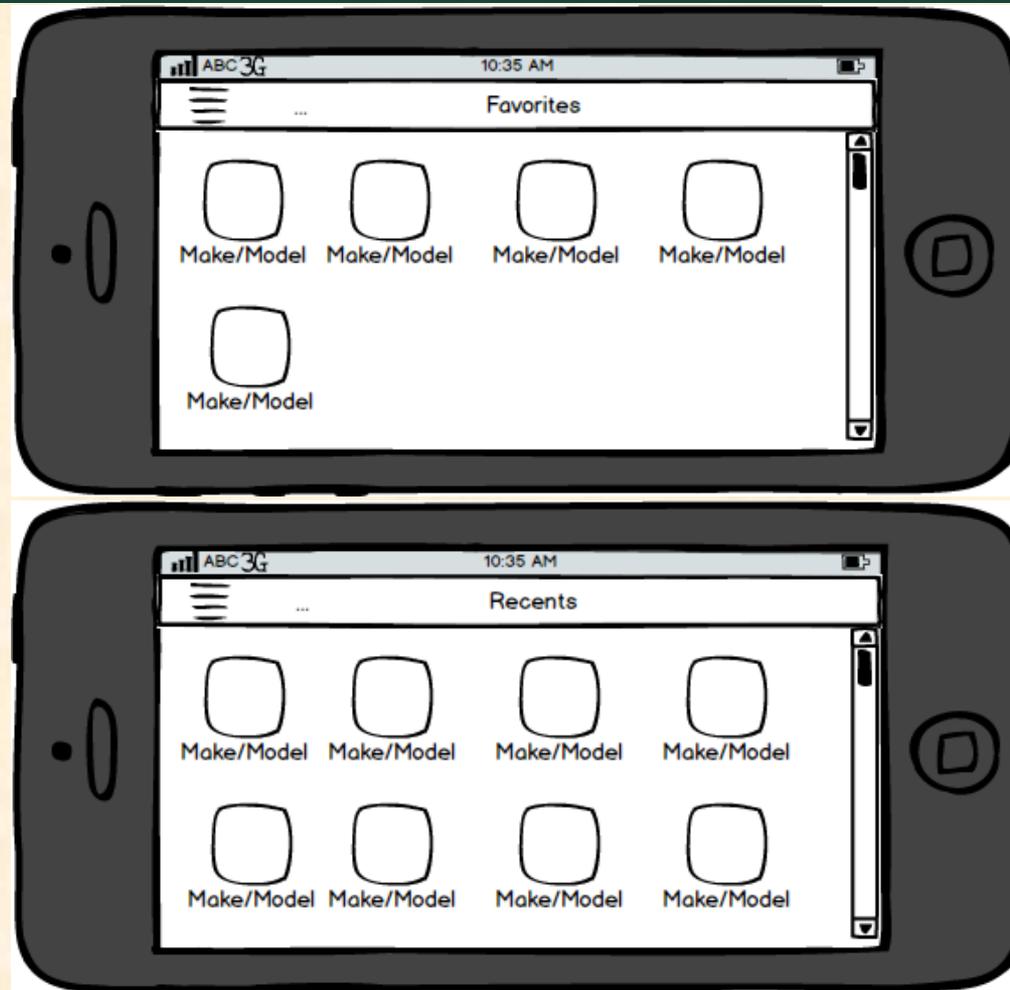
Screen Mockup: Side Menu



Screen Mockup: Share View



Screen Mockup: Favorites/Recents

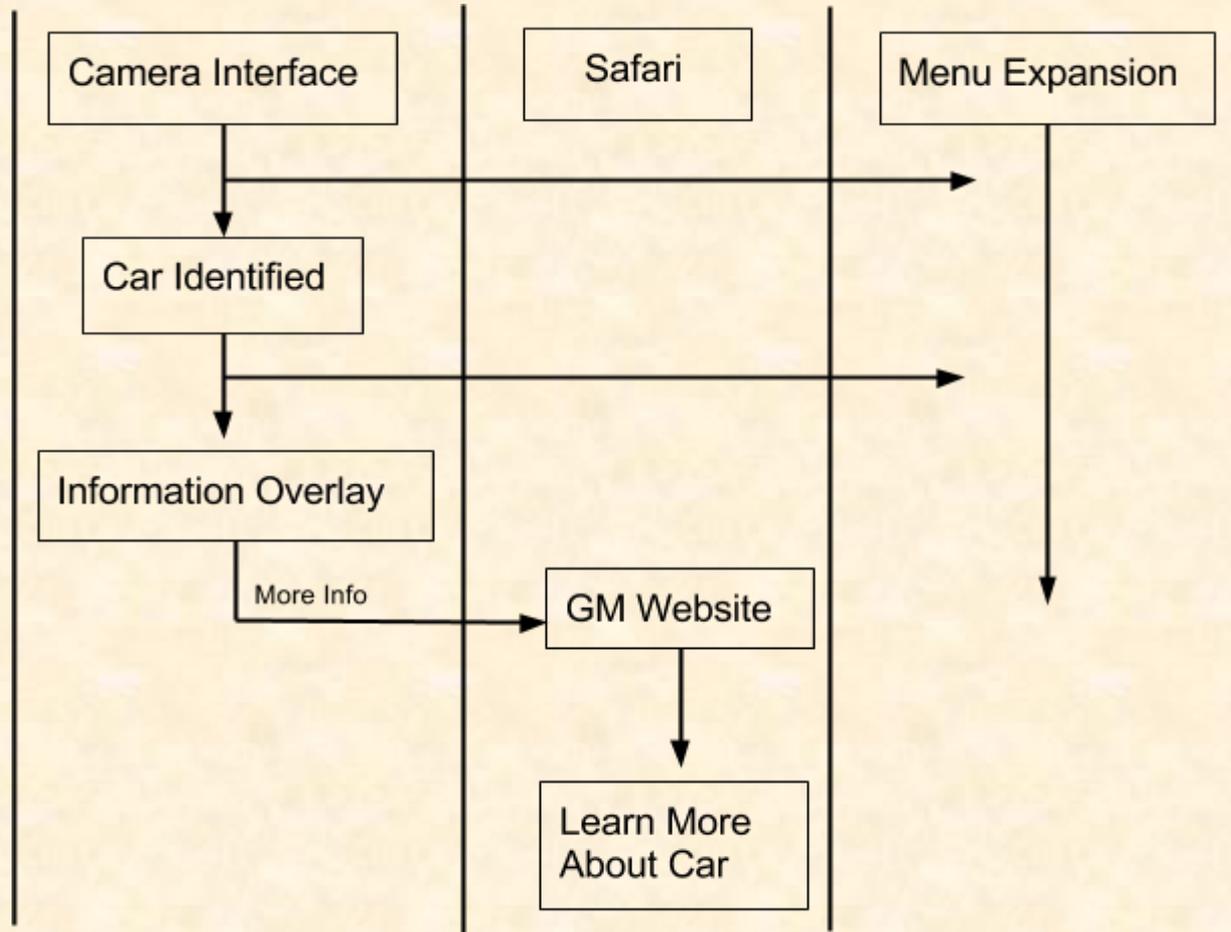


Technical Specifications

- Metaio SDK
 - Used for object recognition
 - Augmented reality
 - Toolbox used for creating point map
- Project Compiled against C++ (required by Metaio SDK)
- Local DB (Core Data framework)



System Architecture



System Components

- Hardware Platforms
 - iPhone 4/4s
 - iPhone 5/5c/5s
- Software Platforms / Technologies
 - iOS 6/7
 - Metaio SDK



Testing

- Majority of testing will be black box
- Test different scenarios of capture
 - Lighting
 - Two cars
 - Colors, etc..
- Test Various Pages
 - Adding removing favorites
 - Sharing from different views, etc...
- Unit Tests for DB interaction



Risks

- Car Identification
 - Difficult with different environments, lighting, shadows
 - Using model cars in controlled environment
- Proper Technology
 - Need specialized software to process image recognition
 - Working with free trial, will get necessary licensing
- App Development
 - Minimal Experience with iOS development
 - Doing tutorials and sample apps to ramp up
- GM API
 - Need an API that when we send a vehicle ID returns vehicle information
 - Using a local DB with sample data for now

