

**MICHIGAN STATE**  

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**UNIVERSITY**

# Project Plan

## VW Car-Net Demo App

The Capstone Experience

Team Volkswagen

Cyprian Blunt

Emily Brent

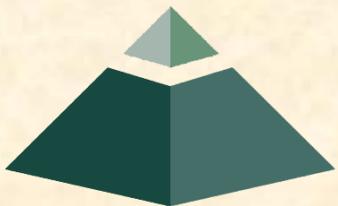
Kira Chan

Timothy Guertin

Zebin Liang

Department of Computer Science and Engineering  
Michigan State University

Fall 2018



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

# Functional Specifications

- Inform dealers and potential buyers about the value of Car-Net
  - Tutorial app mimics the Car-Net UI
  - Allow user to learn about & experience Car-Net features
  - Instruction via brief overviews or longer walkthroughs
- Engage customers with the Volkswagen brand
  - Allow option for the user to create a VW ID
  - User receives VW sticker pack for completing all the material

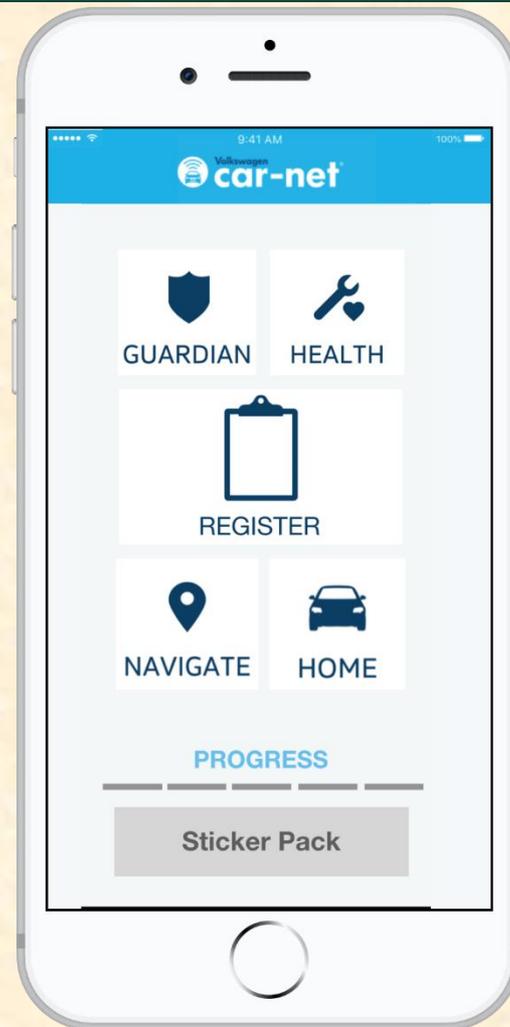


# Design Specifications

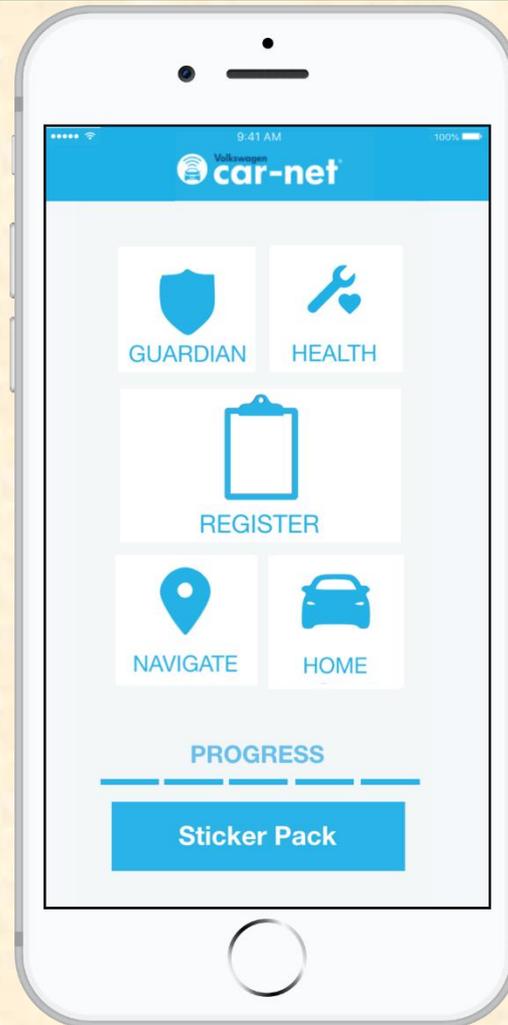
- App is broken into 3 categories (5 modules total)
  - Learn about/create Volkswagen ID
    - Benefits of a Volkswagen ID; user can then choose to create one
    - Prepares for future access to Car-Net features
  - Swipe Through (quick overview)
    - Remote services
    - Vehicle health report
    - Maps – navigation, parking, points of interest
  - Interactive (hands on, in depth)
    - Guardian services (boundary alerts only)
- User unlocks sticker pack upon tutorial completion



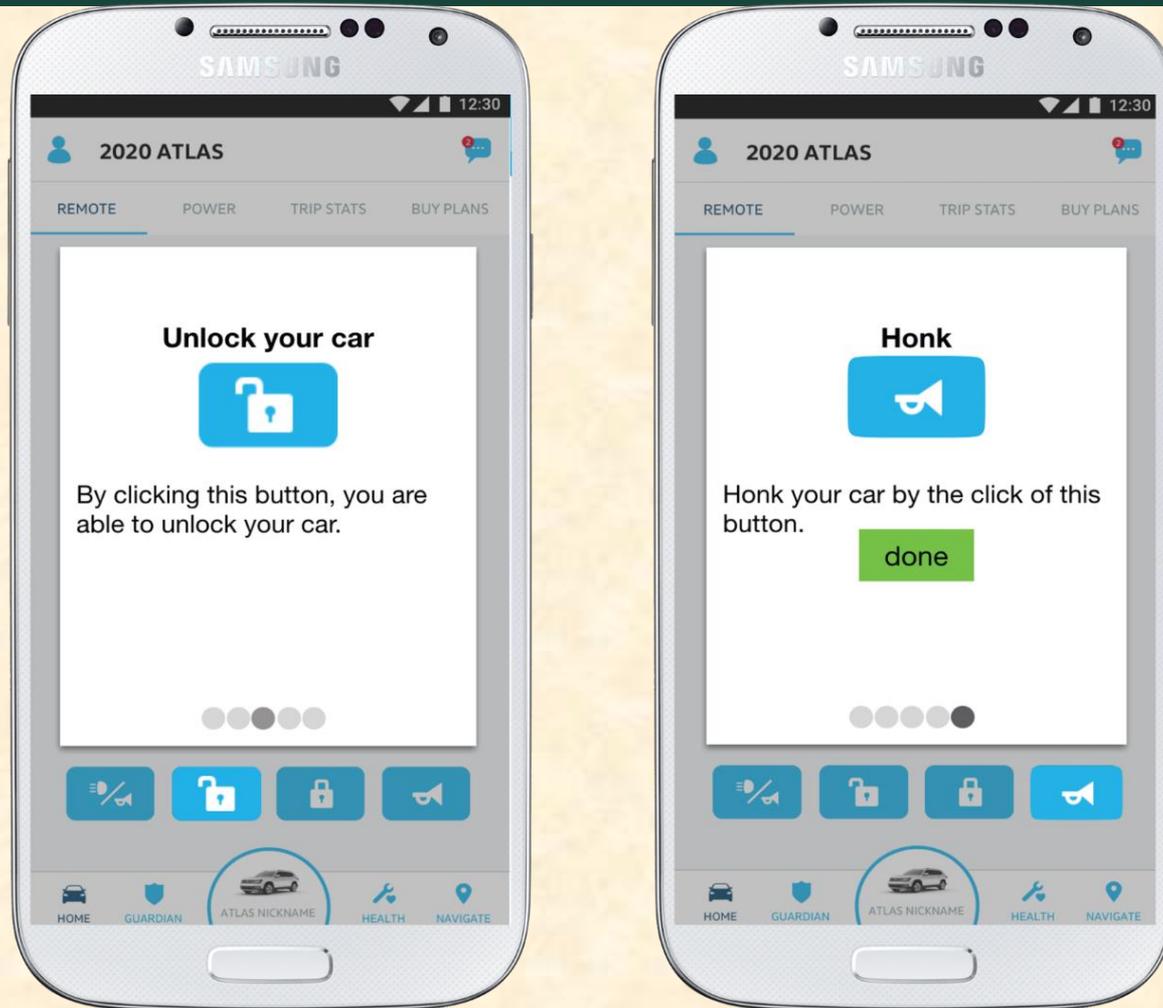
# Screen Mockup: Home Screen (Modules Incomplete)



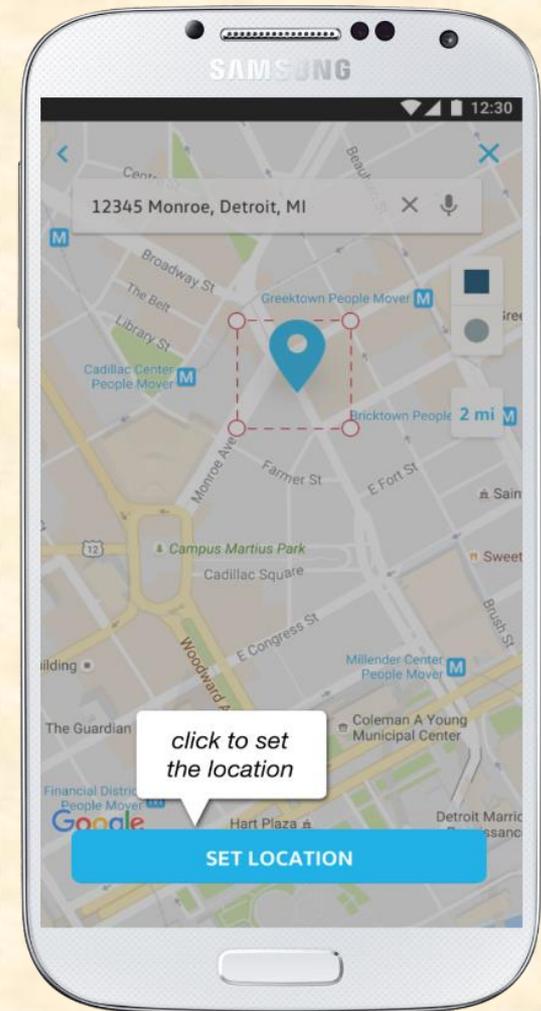
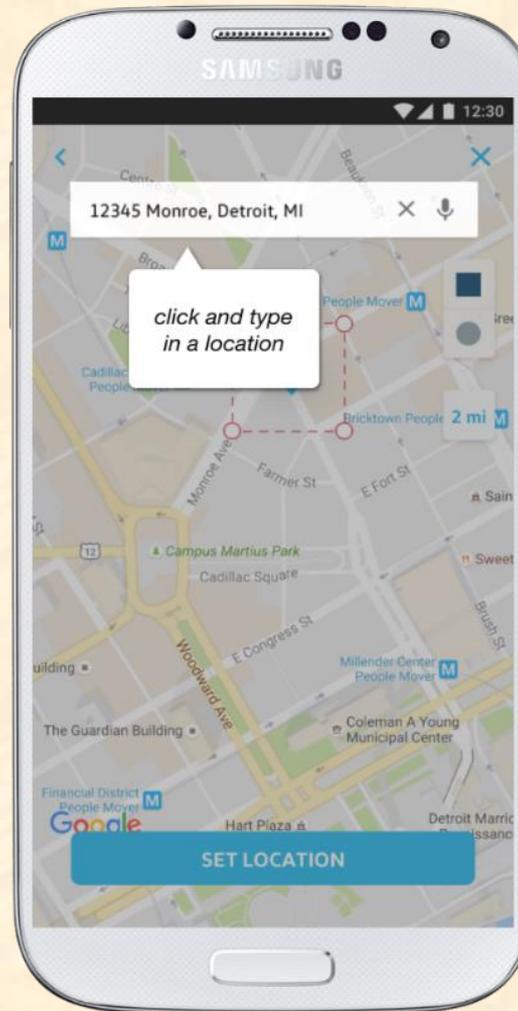
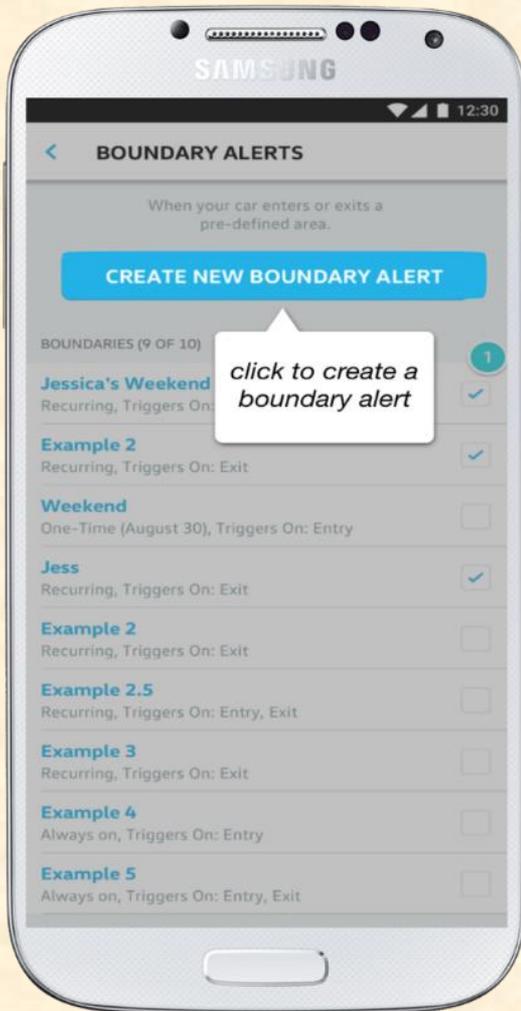
# Screen Mockup: Home Screen (Modules Complete)



# Screen Mockup: Swipe Through



# Screen Mockup: Walkthrough

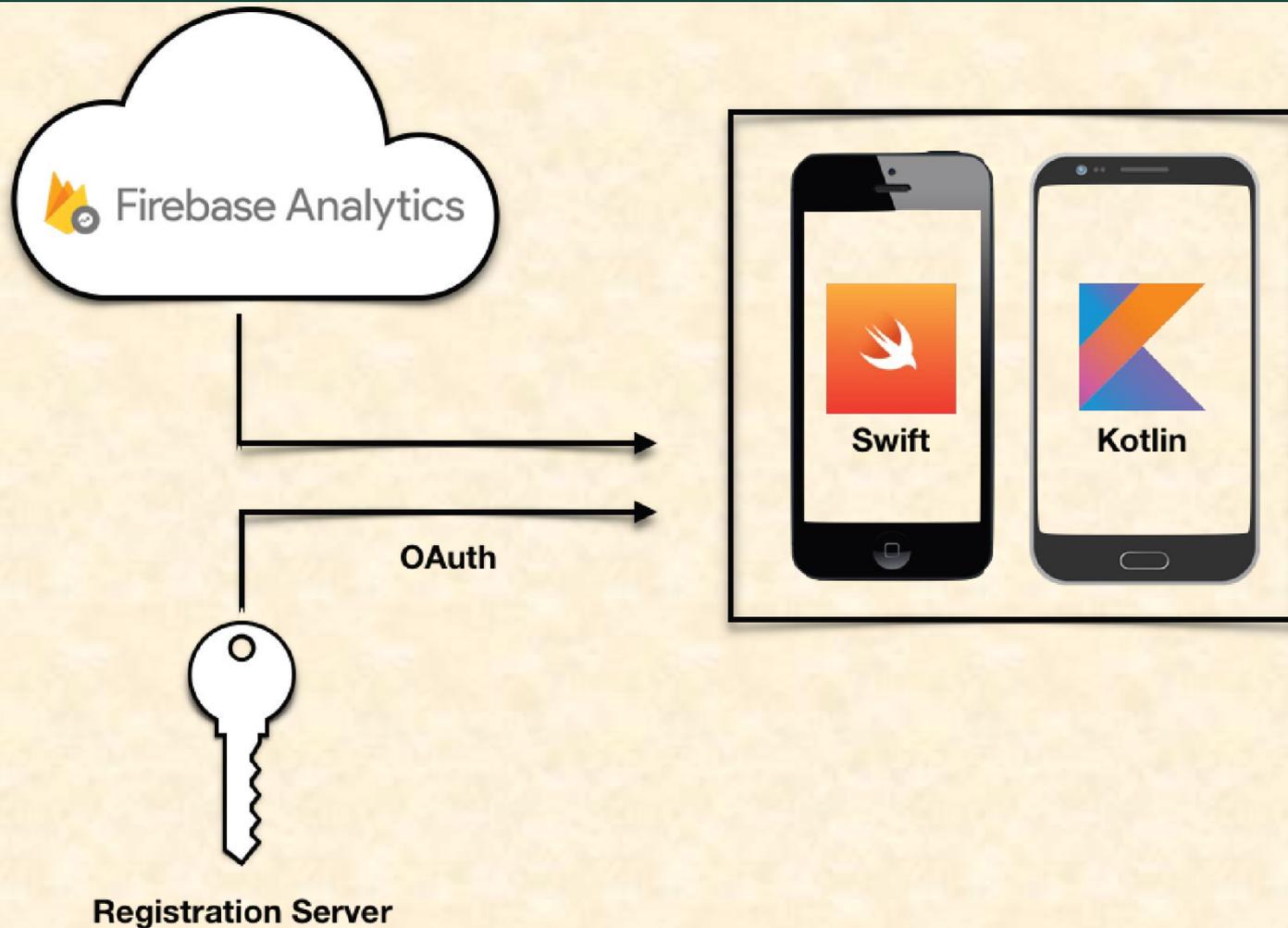


# Technical Specifications

- Front End Mobile Application
  - iOS, Android
  - Primarily a self-contained application
  - User/Shared Preferences (iOS/Android) store user progress
- VW Registration Server
  - Interfaces with app to allow user to create Volkswagen ID
  - OAuth will be used for server/app interaction
- Firebase Analytics
  - Captures application usage statistics, e.g., how many users have completed all tutorial modules



# System Architecture



# System Components

- Hardware Platforms
  - None
- Software Platforms / Technologies
  - Android/Kotlin → OKHttp, Retrofit, EventBus
  - iOS/Swift → URLSession, Codable, NSNotification, SnapKit
  - Firebase Analytics (user statistics)
  - OAuth (user registration)



# Risks

- OAuth
  - Need to authorize app to communicate with registration server
  - Need to determine how VW implements OAuth into their existing apps; working with VW to gain access to test server
- EventBus/NSNotification
  - Publish-subscribe patterns are integral to modern mobile application development
  - Developed prototype to outline app architecture
- Firebase Analytics
  - Firebase Analytics will be used to gather app statistics
  - Set up test applications to interact with Firebase Analytics



# Questions?

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