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
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
    o Benefits of a Volkswagen ID; user can then choose to create one
    o Prepares for future access to Car-Net features
  ▪ Swipe Through (quick overview)
    o Remote services
    o Vehicle health report
    o Maps – navigation, parking, points of interest
  ▪ Interactive (hands on, in depth)
    o 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

Unlock your car

By clicking this button, you are able to unlock your car.

Honk

Honk your car by the click of this button.

done
Screen Mockup: Walkthrough

- Click to create a boundary alert
- Click and type in a location
- Click to set the location
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

[Diagram showing System Architecture with Firebase Analytics, OAuth, Swift, Kotlin, and Registration Server]
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?