Project Plan
Ford Augmented Reality Owner's Manual

The Capstone Experience

Team Ford

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From Students…
…to Professionals

Functional Specifications

- The Ford AR Owner's Manual app provides information about a Ford vehicle
  - The app has an augmented reality or a text-based view of the resources
- A web portal allows Ford employees to upload new information for vehicles
  - Information for a vehicle includes the owner's manual, FAQs, links to videos, and other relevant media
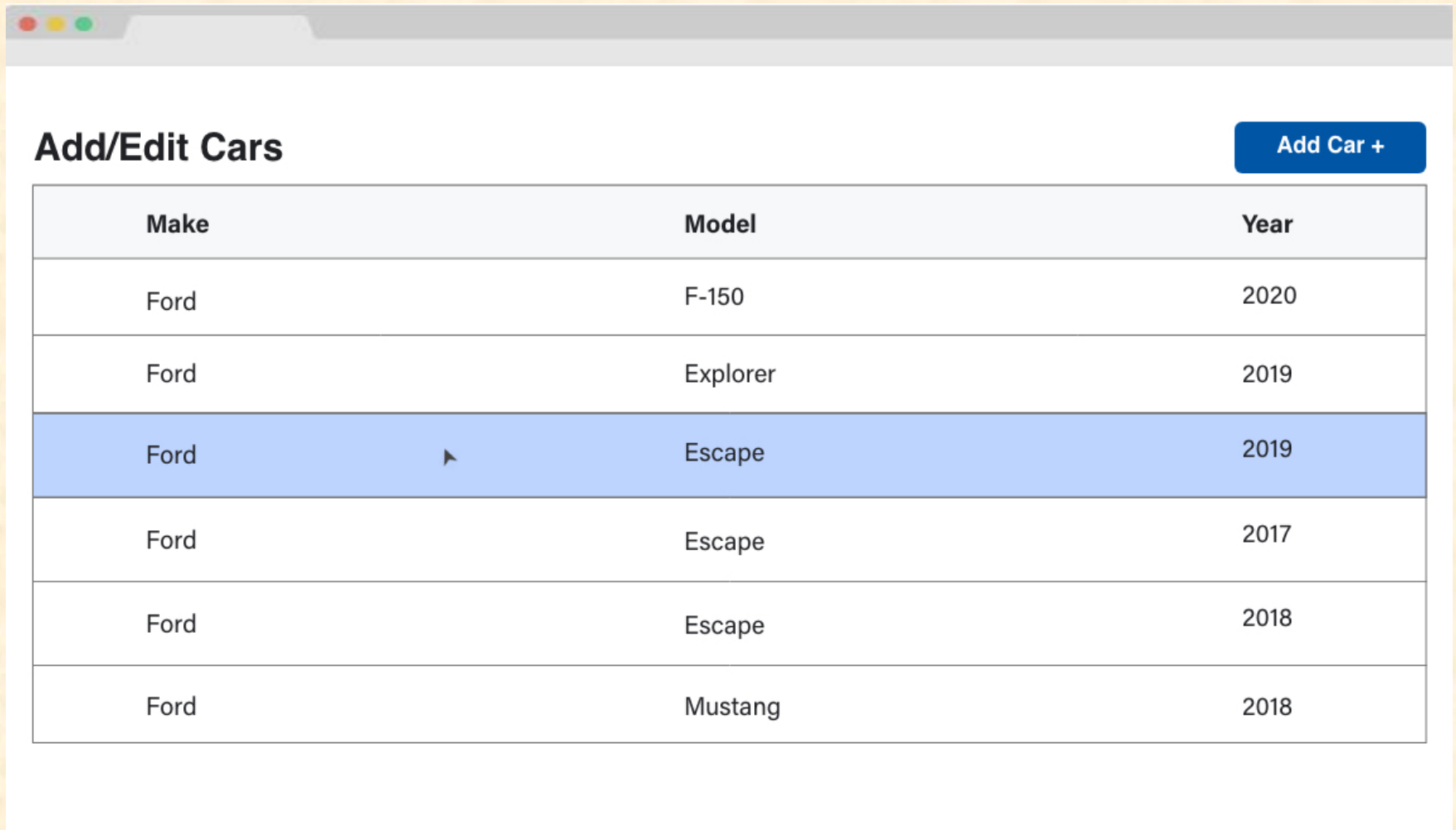
Design Specifications

- iOS
  - Digital Search view to locate owner's manual references, media, or other related documents
  - AR search view to locate vehicle features using iPhone camera

- Web application
  - Home page listing current vehicles
  - Vehicle page displaying uploaded media
  - Upload page to add new media for a vehicle
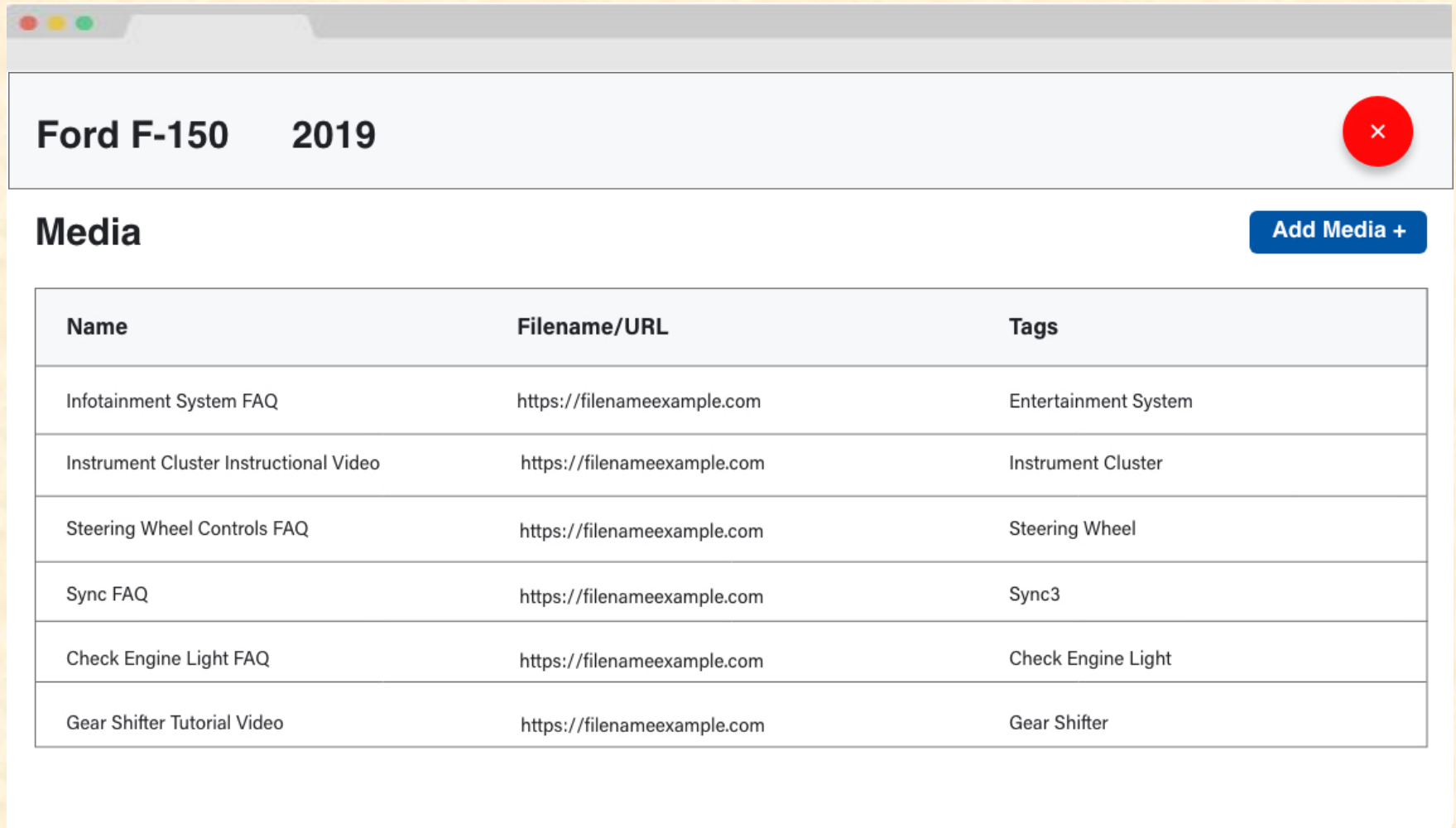
Screen Mockups: Web Interface

Add/Edit Cars   Add Car +

Make	Model	Year
Ford	F-150	2020
Ford	Explorer	2019
Ford	Escape	2019
Ford	Escape	2017
Ford	Escape	2018
Ford	Mustang	2018

Screen Mockups: Web Interface

Screen Mockups: Web Interface

Screen Mockups: Web Interface

Screen Mockup: iOS Application
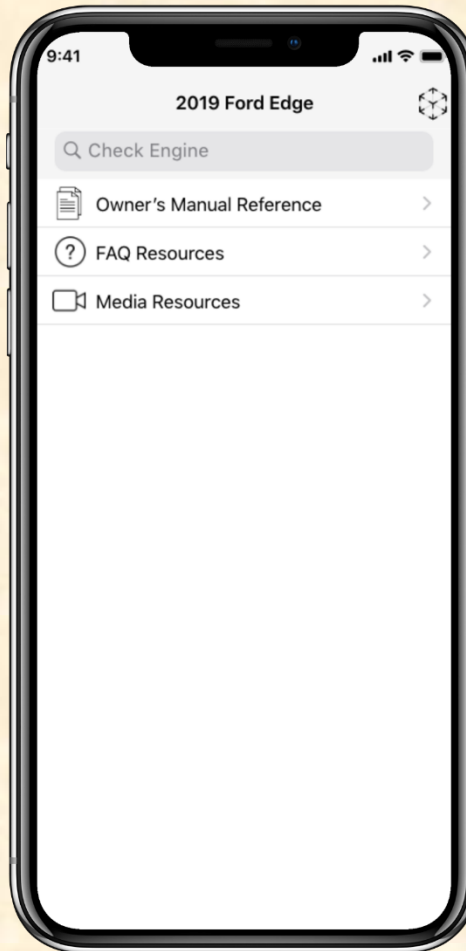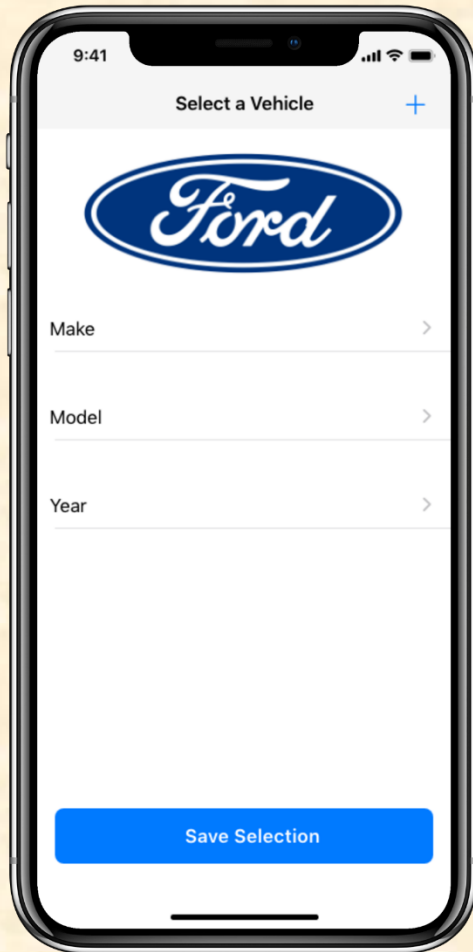
Technical Specifications

- AWS RDS provides a PostgreSQL database to store vehicle information

- AWS Lambda and API Gateway combine to create a RESTful API

- AWS Cognito provides user authentication for the web app

- Swift and ARKit are used to create a native iOS application with augmented reality capabilities

- React used to create web app user interface

System Architecture

iOS Application

AWS

Web Application

Swift

ARKit

API Gateway

S3 Bucket

Cognito

Lambda

Relational Database Service (RDS)
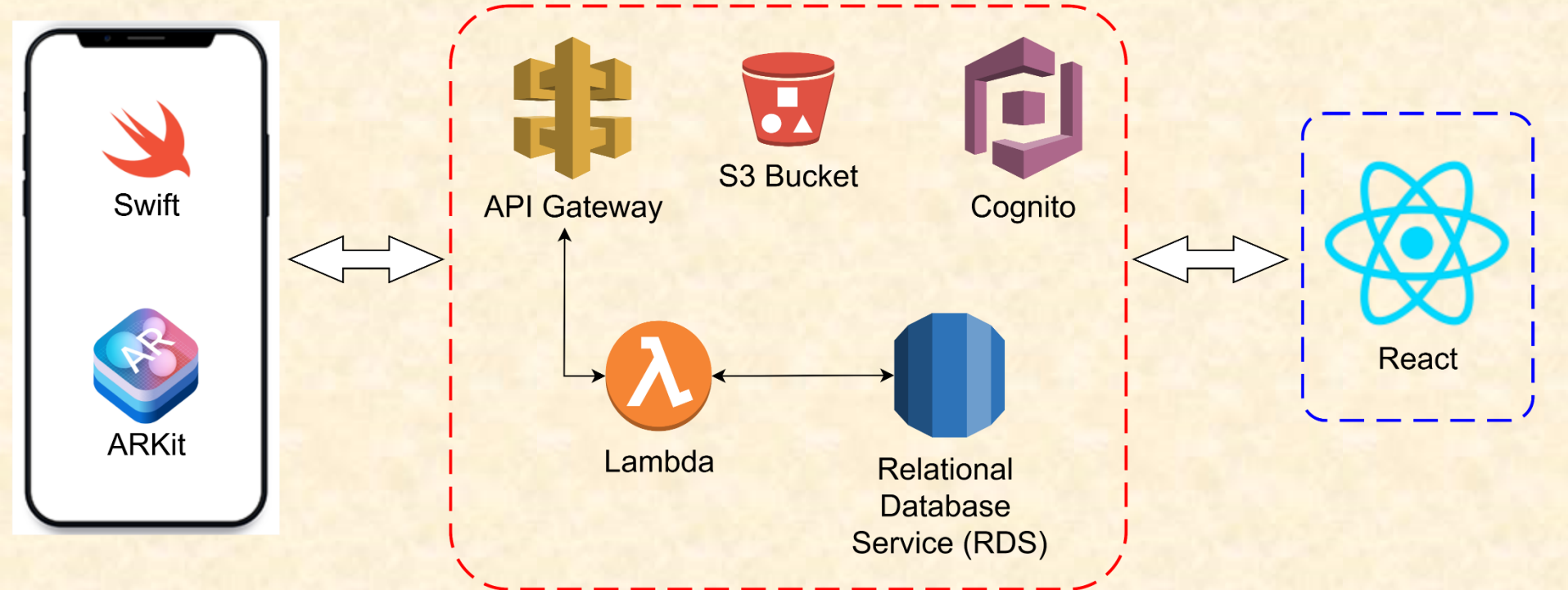
React

System Components

- Hardware Platforms
  - iOS
- Software Platforms / Technologies
  - Amazon Web Services
    - RDS
    - Lambda
    - API Gateway
    - S3
    - Cognito
  - Swift
  - ARKit 3
  - React

Risks

- AR Detection
(Difficulty: Hard | Importance: High)
  - Accurate data for AR mapping of vehicle targets
  - Use mapped data from client of 1 specific vehicle as a baseline
- App is less convenient than physical copy
(Difficulty: Medium | Importance: Medium)
  - Using the physical owner's manual is more efficient than the app
  - Execute user experience testing amongst a diverse group
- Loss of access from loss of connectivity
(Difficulty: Easy | Importance: Low)
  - Access to owner's manual is lost because there is poor or no internet connectivity
  - User will identify the vehicle(s) they interact with, app will locally store respective owner's manual data

Questions?

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