MICHIGAN STATE
U N I V E R S I T Y

Project Plan

Ground Safety Action Program and QC Audit Center

The Capstone Experience

Team United Airlines Airport Operations

Allison Lollo
Camille Emig
Tudor Robaciu
Josh Jarvis
Ivan Zhang

Department of Computer Science and Engineering
Michigan State University

Spring 2020

From Students…
…to Professionals

Functional Specifications

- The current system requires users to be at a computer to fill out the forms.

- This process is very inconvenient.

- Our team will create an iOS mobile application to be able to submit, manage, and track GSAP and QC Audit forms
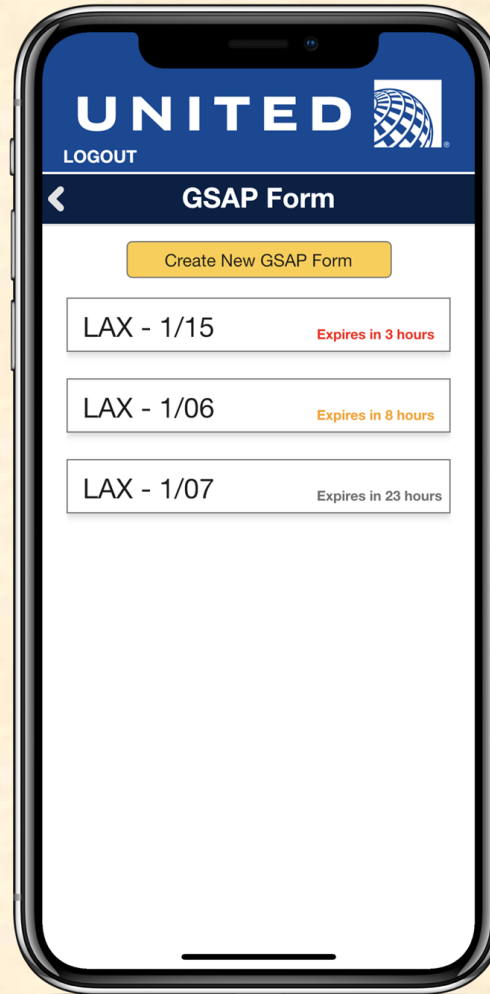
Design Specifications

- Modern User Interface
- Location based file catering
- Editing permissions for assigned audits
- Autocomplete dropdown fields
- Save form with time expiration
- Image upload

Screen Mockup: GSAP Selector

Screen Mockup: GSAP Form

Screen Mockup: QC Form Selector
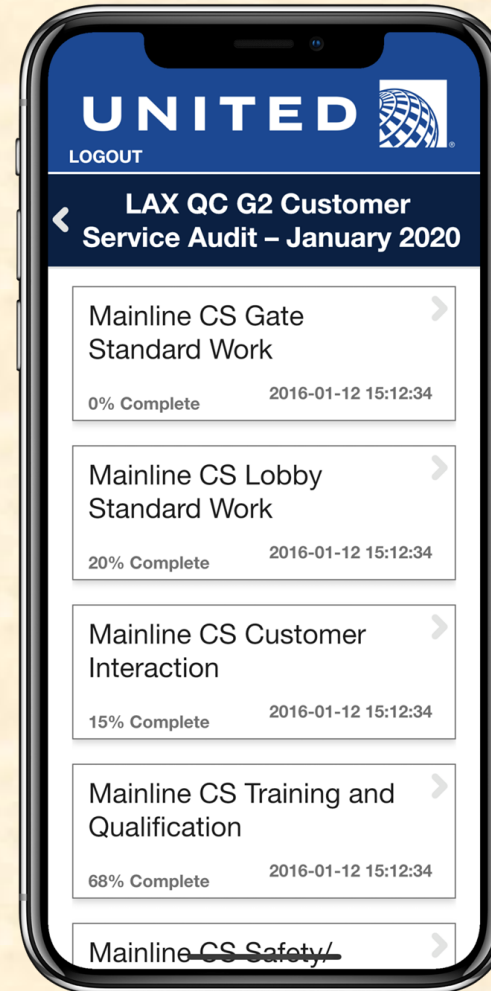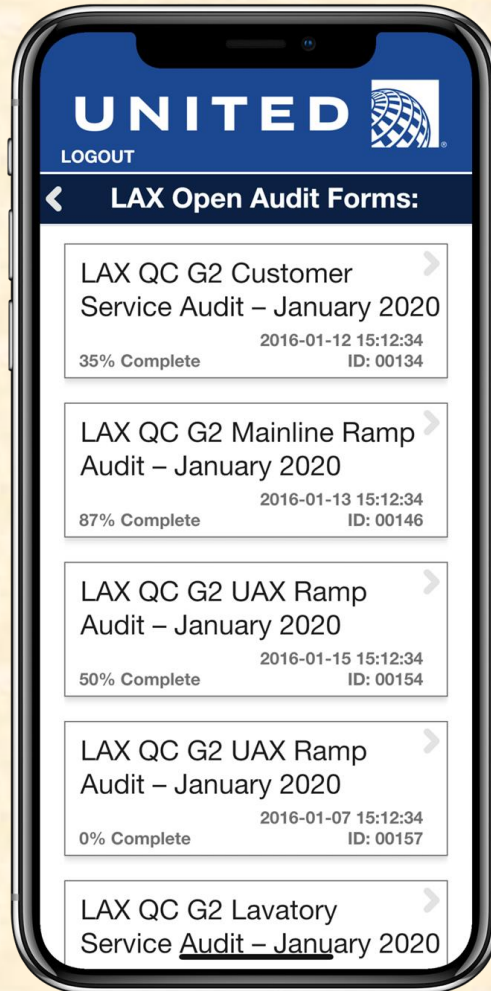
Screen Mockup: QC Audit Form

Technical Specifications

- Mobile Application
  - Swift native application for iPhone and iPad
- Backend API
  - Connection from the iOS app to the database
- Microsoft SQL Server Database
  - Test data from the client will be stored and used during development

System Architecture
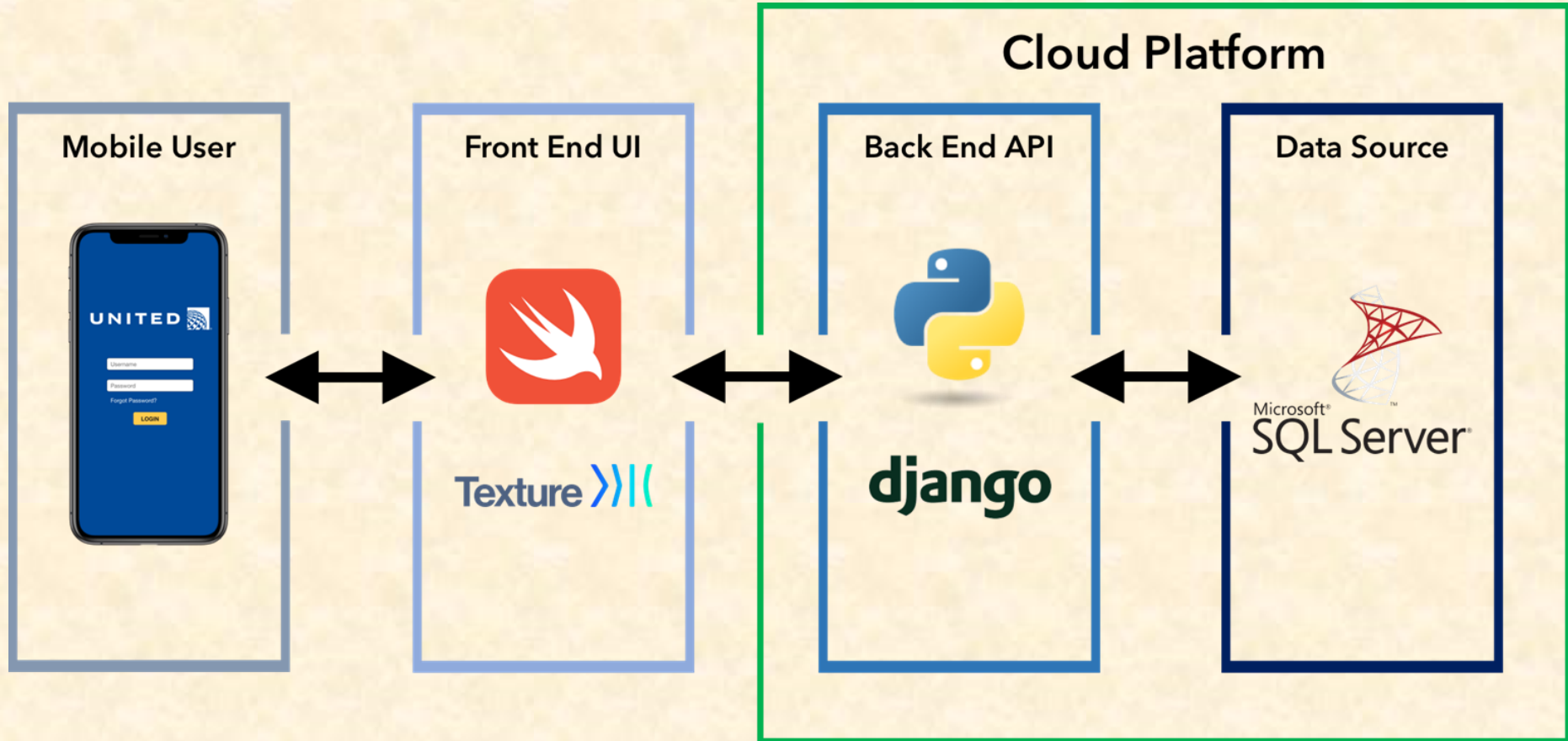
System Components

- Hardware Platforms
  - Microsoft SQL Server
- Software Platforms / Technologies
  - Python
  - django
  - Swift
  - Texture
  - XCode
  - PyCharm

Risks

- Lack of API for EtQ
    - No available API for EtQ.
    - Build an EtQ-like database as a placeholder.
- Integrating with Oracle Access Manager(OAM)
    - No extensive documentation for OAM iOS SDK.
    - Research SDK and previous use of OAM in iOS apps.
- Application Management Portal for Editing Audit Checklist Fields
    - Admins must be able to edit questions.
    - Add columns to existing tables or create new tables.
- Easy Integration of Final Product for Client
    - Transfer app from mock back-end to United's EtQ system.
    - Use United technologies, thoroughly document back-end.

Questions?