

MICHIGAN STATE
UNIVERSITY
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

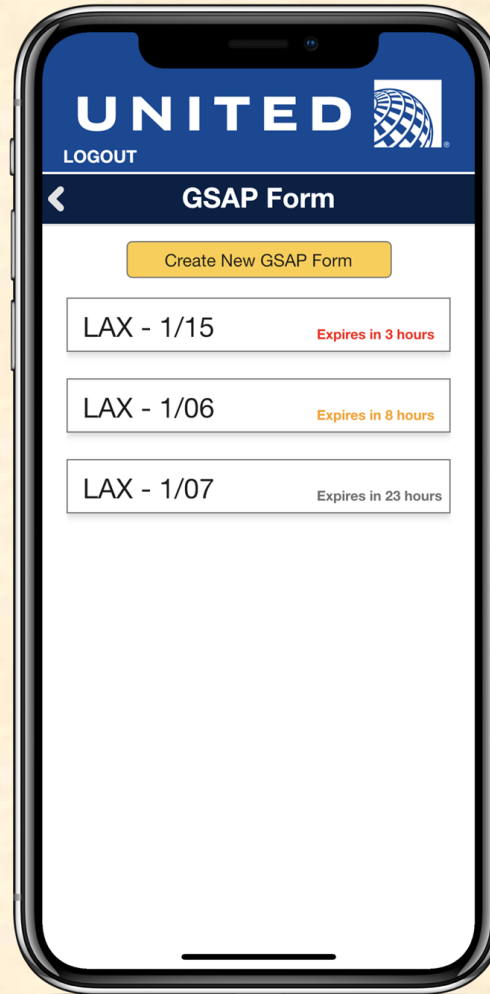


Design Specifications


- 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

UNited 

LOGOUT

< 19:59 Remaining Refresh Timer

Flight Information 

Not Applicable *Indicates required field

Aircraft Type*

Aircraft Number*


Carrier Code*

Form Type*

Flight Number*


GMT Scheduled Date*

Departure Airport*

UNited 

LOGOUT

< 19:59 Remaining Refresh Timer

Flight Information 

Not Applicable

Aircraft Type

Aircraft Number

Carrier Code

Form Type

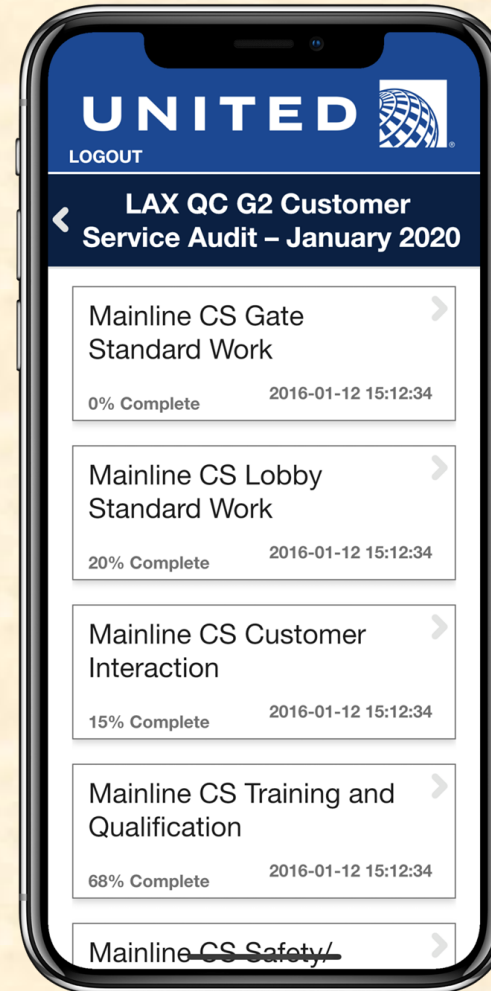
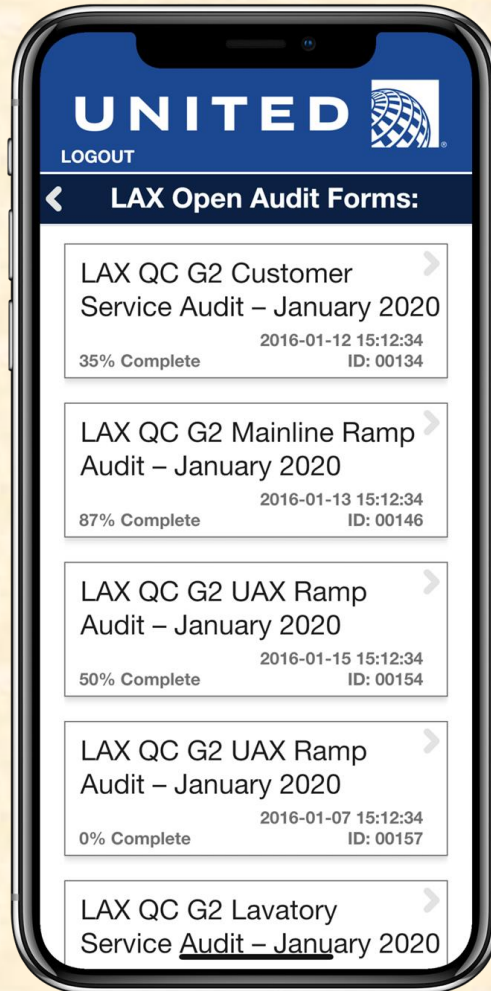
Flight Number

GMT Scheduled Date


Departure Airport



Screen Mockup: QC Form Selector



Screen Mockup: QC Audit Form


UNITED 
LOGOUT

LAX QC G2 Customer Service Audit – January 2020

Mainline CS Gate Standard Work 

Agent used Welcome Announcement. 


Not Applicable
Comment


Score: out of


Agent asked the customer if they had any hazardous materials such as lithium-ion batteries, e-cigarettes and smart bags. 


Not Applicable
Comment

Score: out of



Agent used Upgrade and Standby List 


UNITED 
LOGOUT

LAX QC G2 Customer Service Audit – January 2020


Agent asked the customer if they had any hazardous materials such as lithium-ion batteries, e-cigarettes and smart bags. 



Not Applicable
Comment

Score: out of


Agent used Upgrade and Standby List Clearance announcements. 

Not Applicable
Comment

Score: out of


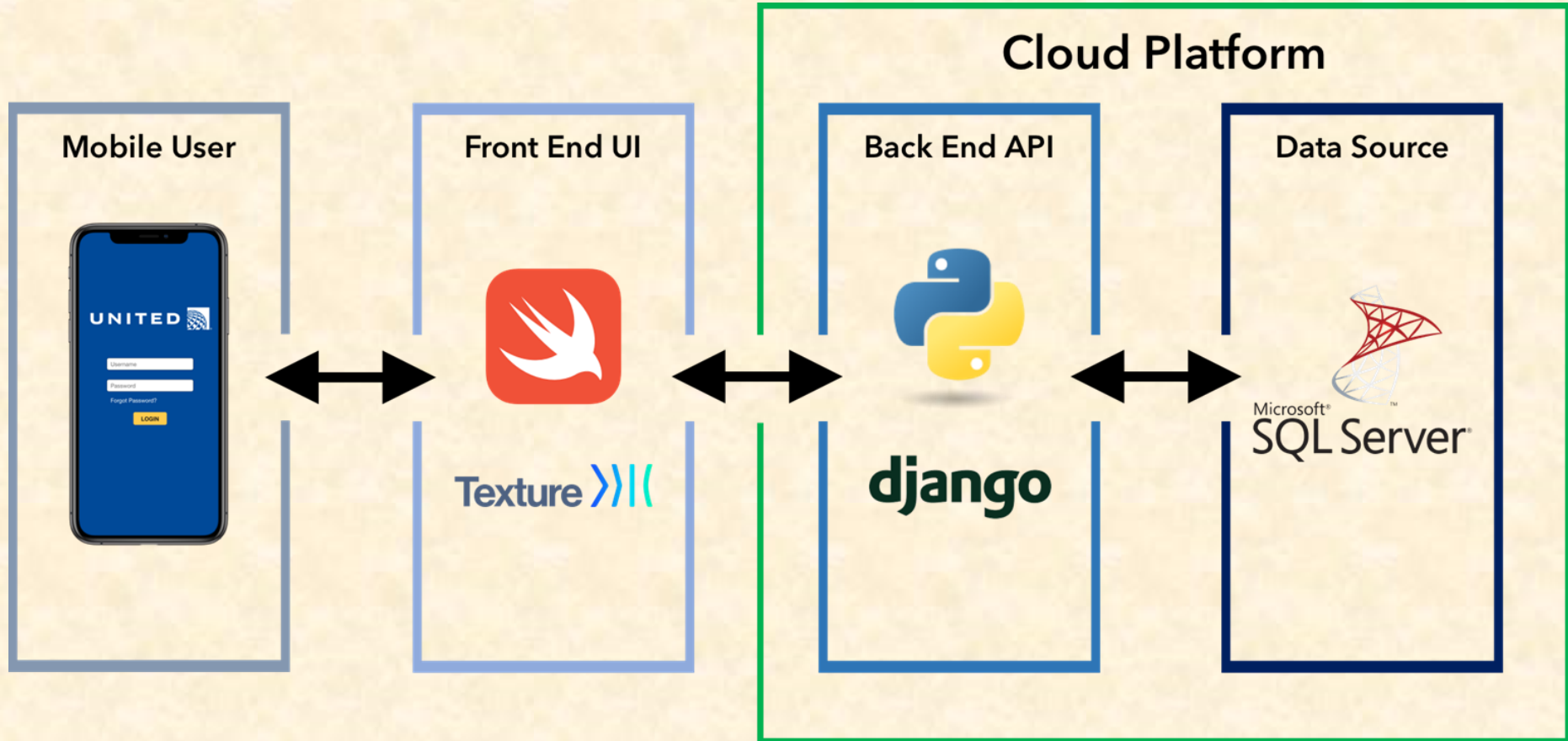


Technical Specifications

- 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?

?

?

?

?

?

?

?

?

?

