



Alpha Presentation

Audit Management System

The Capstone Experience

Team United Airlines Quality Assurance

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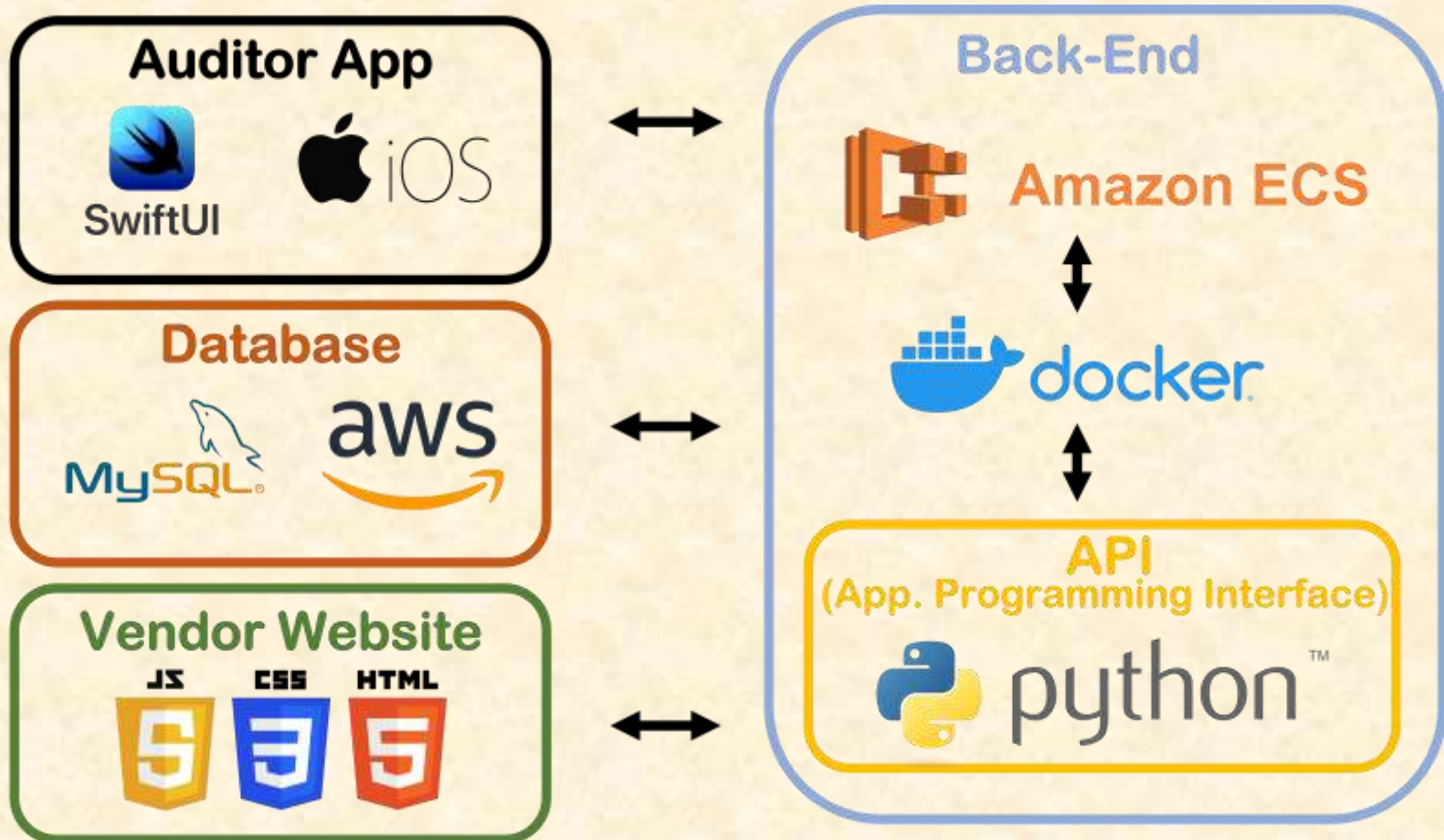
*From Students...
...to Professionals*

Project Overview

- Assist United Airlines to audit the companies that maintain and repair its airplanes more efficiently
- iOS App
 - Improvements on last semester's iOS app capabilities
 - Created new roles
- Website
 - Vendors of United Airlines can respond to audits
 - United Airlines admins can monitor / review audits



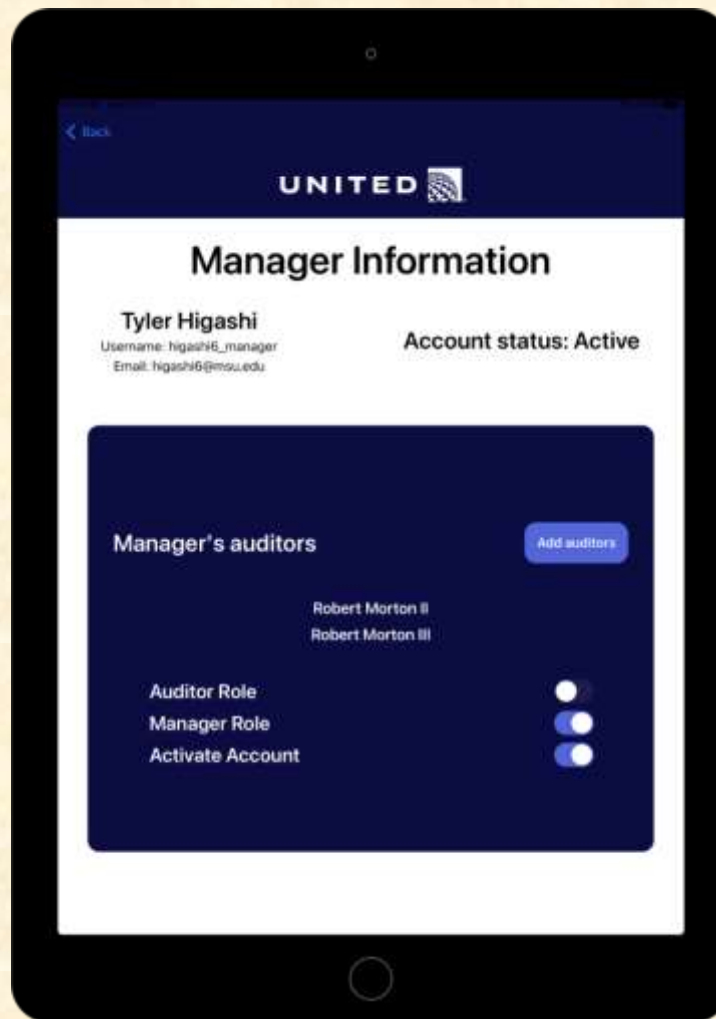
System Architecture



Admin view of an auditor



Admin view of a manager



Checklist

Engine Repair-Overhaul Checklist 011 Rev 55.xlsx

1: Policy / Certifications (*****Record the observed contributing Human Factors at time of finding*****)

(HF1) Lack of Communication (HF2) Complacency (HF3) Lack of Knowledge (HF4) Distractions (HF5) Lack of Teamwork (HF6) Fatigue (HF7) Lack of Resources (HF8) Pressure (HF9) Lack of Assertiveness (HF10) Stress (HF11) Lack of Awareness (HF12) Norms

1: Obtain and review a copy of the current FAA Air Agency, or Transport Canada AMO certificate, and Operations Specifications (if applicable). Are they accurate? [49 CFR 180.205(c)] [145.1] [2A]

☐ Yes ☐ No ☐ N/A

Comment:

2: If the repair station has Limited Ratings, does the vendor have a capabilities listing that satisfies the standard (Housing, Facility, Tool & Test, Material, Equipment, Tech Data, Processes, & trained Personnel)? **Obtain** [145.61] [145.215] [2C]

☐ Yes ☐ No ☐ N/A

Comment:

3: Does the vendor only perform work authorized on its Operations Specifications? [2A]

☐ Yes ☐ No ☐ N/A

Comment:

4: Does the vendor have an FAA approved and active anti-drug and alcohol misuse prevention program [A449 and/or Registration]? [20, E] 14CFR120

☐ Yes ☐ No ☐ N/A

Comment:

5: Does the vendor have a process to ensure that they are in compliance with the following requirements?

☐ Generate PDF ☐ Upload to Database

☒ Audit 0/10 ☒ Checked ☐ In Progress ☐ Done



Table Data - "In Process" Sheets

4:12 PM Sun Oct 9

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In-Process Upload to Database Save Progress

PRELIMINARY INFORMATION

Employee Number(2)

Part Number

Serial Number

Signatures

TASK

Include Customer Name

TECHNICAL SPECIFICATIONS

Record type of spec, revision date and revision level per box

TOOLING

Record items and due dates if any, per box

WELD LIFE

Record items and due dates if any, per box

TRADE-BUFF

Outside of Boxes

REQUIRED TRACKING

Required Tracking

Date Qualified Oct 9, 2022

Audit Info Checklist In-Process Table Data



4:25 PM Mon Oct 10

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In Process Add Entry

In Process Sheet #1

Employee Name ID

Employee ID

Additional Comments

Audit Info Checklist In-Process Table Data



Table Data – Technical Data

4:13 PM Sun Oct 9 100%

< Back

Technical Data [Upload to Database](#) [Save Progress](#)

TECHNICAL DATA #1

Part Number/Aircraft/Eng Effectively Num.

Manufacturer

ATA/Document ID

Rev. Level

Rev. Date

Comments

TECHNICAL DATA #2

Part Number/Aircraft/Eng Effectively Num.

Manufacturer

ATA/Document ID

Rev. Level

Rev. Date

Comments

TECHNICAL DATA #3

Part Number/Aircraft/Eng Effectively Num.

Manufacturer

ATA/Document ID

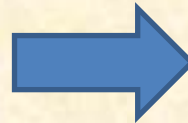
Rev. Level

Rev. Date

Comments

☒ Technical Data ☒ Part ☒ Configuration ☒ Training ☒ Traceability ☒ Shelf Life

☒ Audit only ☒ Checklist ☒ In-Process ☒ Take Data



4:26 PM Mon Oct 10 100%

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Technical Data [Add Entry](#)

Technical Data #1 [Delete Entry](#)

Part Number / Aircraft / Eng Effectively Num.

Manufacturer

ATA / Document ID

Rev. Level

Rev. Date

Additional Comments

Technical Data #2 [Delete Entry](#)

Part Number / Aircraft / Eng Effectively Num.

Manufacturer

ATA / Document ID

Rev. Level

Rev. Date

Additional Comments

☒ Technical Data ☒ Part ☒ Configuration ☒ Training ☒ Traceability ☒ Shelf Life

☒ Audit only ☒ Checklist ☒ In-Process ☒ Take Data



Vendor Website

Vendors - United Airlines Audits - x +

UnitedAirlines/checklists/issuesonly

Guest

UNITED

Logged in as General Electric

Home SelectAudit Checklists Login Logout

Show whole checklist

Section 2

2.1: Are ATA 103 forms or equivalent being used? If not, are all checks documented as being compiled with at the intervals outlined in ATA 103, e.g., daily, weekly, monthly, quarterly and annual inspections? GFM 01-09-01

☒ Yes ☐ No ☐ N/E

Risk Category: 2B (limited) Auditee Name: Randy Foster

Finding:

The daily, weekly, monthly, and annual inspections are not being compiled with as required. GFM 01-09-01, ATA 103 Objective Evidence: United aircraft #4054 (A319), Fueling Platform #A028376: *Daily inspections were not completed in December 2021 and January 2022. Monthly inspections were not completed at all in 2021/2022; including Nozzle Screens, Hose inspection, Bonding cable continuity (recard ohms), Leaks, Thermo Accumulators and placards. *Nozzle Pressure Gauge Annual Calibration was not completed in 2021/2022. NOTE: Fueling Platform #A028376 was immediately removed from service and not to be used to fuel United aircraft.

Immediate Corrective Action:

DC Power Supplies will be labeled correctly based on the application they are used on. Action is in progress with an estimated completion date of 5/27

Root Cause Analysis:

Contributing Cause: QMS 3-11-023 P5 par. 5.3, which requires routing of all newly received equipment to the Cal lab for labelling, was not followed.
Root Cause: The Renton Site had distributed (line)

Action Taken to Prevent Recurrence:

Due Date: 10/11/20
Extended Due Date: 10/28/20
Completed Date: 10/26/20

Root Cause Classification (Select up to 4)

<input checked="" type="checkbox"/> h1	<input type="checkbox"/> h4	<input type="checkbox"/> h7	<input checked="" type="checkbox"/> h10
<input type="checkbox"/> h2	<input type="checkbox"/> h5	<input checked="" type="checkbox"/> h8	<input type="checkbox"/> h11
<input type="checkbox"/> h3	<input type="checkbox"/> h6	<input type="checkbox"/> h9	<input type="checkbox"/> h12

Due Date: 10/22/2020



What's left to do?

- AWS EC2 Secure Connection
- iOS App:
 - All views need to be synced after admin change roles or the account status of users
 - Store data locally on the iPad in addition to the cloud
 - Fix cached views on Table Data not updating when mutated
- Website:
 - Vendors responding to issue findings on the website
 - Add ability for United Admins to create audits via website
- Admins:
 - Ability to view audits on the website
 - Ability to assign audits on iOS app



Questions?

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