Beta Presentation
Audit Management System

The Capstone Experience
Team United Airlines Quality Assurance

Tyler Higashi
Jay Ho
Sam Hus
Robert Morton
Michael Schester

Department of Computer Science and Engineering
Michigan State University
Fall 2022
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
Audit Checklist

019 Materials and Storage Checklist Review LG

1. Oxygen Generator Area

1.0: Storage of Hazardous Material: Where segregation or separation of hazardous materials is required, were Non-compatible items stored apart? [GAMM 07-15-05] [SCDOP 03-01-02]

☐ Yes ☐ No ☐ N/A

Comment:

2.0: Storage of Oxygen Generators: Are oxygen generator bins painted red and have the prescribed warning labels and placards affixed? [GAMM 07-15-05] [SCDOP 03-01-02]

☐ Yes ☐ No ☐ N/A

Risk Category: Observation

Vendor Response

Immediate Corrective Action

- ✔️ emergency exit door
- ✔️ “Emergency exit door cannot be opened”

Preventative Action

- ✔️ Check new emergency exit door every day
- ✔️ Determine Other Areas Affected Action

Comment:

3.0: Shipments cleared through hot line. If shipment is forwarded directly to an aircraft, are shipments cleared with United Airlines Dangerous Goods Hotline? [GAMM 07-15-05]

☐ Yes ☐ No ☐ N/A

Comment:

4.0: Documentation Retention: Does Dangerous Goods shipment file include the required copies of the Dangerous Goods Checklist, Shipper****’s Declaration, Air Waybill, Pilot Notification and acceptance message from Hotline? [GAMM 07-15-05] [SCDOP 03-01-02] [DGPM 05-06-01]

☐ Yes ☐ No ☐ N/A

Risk Priority: ☐ Prevention ☐ Detection ☐ N/A
Audit’s Calibration Data Table

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Calibrated By</th>
<th>Date:</th>
<th>Due:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Elevator</td>
<td>Jay H</td>
<td>November 8</td>
<td>November 14</td>
</tr>
<tr>
<td>Vertical Stabilizer</td>
<td>Jay H</td>
<td>November 8</td>
<td>November 26</td>
</tr>
<tr>
<td>747 Tire #4 Pressure</td>
<td>Jay H</td>
<td>November 8</td>
<td>November 24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>November 8</td>
<td>November 8</td>
</tr>
</tbody>
</table>
Vendor Response to Issued Question

019 Materials and Storage Checklist Review LG

Question 2: Storage of Oxygen Generators: Are oxygen generator bins painted red and have the prescribed warning labels and placards affixed? [GMM 07-15-05] [SCDOP 03-01-02]

Auditor Comments:

Immediate Corrective Action:

"Fix emergency exit door"

Action to Determine If Other Areas Were Affected:

Root Cause Analysis:

"Emergency exit door cannot be opened"

Root Cause Classification (Select up to 4):

- Lack of Communication
- Stress
- Distractions
- Complacency
- Lack of Resources
- Lack of Teamwork
- Pressure
- Awareness
- Lack of Knowledge
- Fatigue
- Lack of Assertiveness
- Norms

Action Taken to Prevent Recurrence:

"Check new emergency exit door every day"

Save Response:

Save
United Airlines side on the website
What’s left to do?

• Stretch Goals
  ▪ Additional Data (Website United Airlines side)
  ▪ Sign Up User Interface improvement on iOS app

• Other Tasks
  ▪ Improve showing the whole checklist (Website Vendor Side)
  ▪ Update after saving so you do not need to select audit again (Website United Airlines side)
Questions?