TOUCH IOT WITH SAP LEONARDO PROTOTYPE CHALLENGE

AIRCRAFT FLEET MAINTENANCE PROTOTYPE.
Story

We have come to an era where there are hundreds of aircrafts flying over our heads every moment and this is something we are aware about, what we are unaware about is the condition in which these aircrafts are flying or are maintained in.

As sensor technology is growing and becoming cheaper over time, Bon Voyage Airlines are attempting to implement a tool to monitor all aircrafts in their fleet to improve maintenance which also works as an advance warning tool that can notify system failures.
Joe
The Thinker

“I like to get things done quickly since I am on the move all the time, dealing with a million things.”

About

• 35, married, 7 years Aircraft Maintenance Experience.
• Being a person who leads a team of engineers to maintain aircrafts for Bon Voyage Airlines.
• Technically strong and fun to be with.

Responsibilities

• Leads a team of 12 Engineers.
• I am responsible for maintaining aircrafts, make sure that they are in their best shape when used by the airlines.
• I spend a lot of time analyzing and resolving snags in the Aircrafts.

Needs

• It is hard to locate the issue causing snag.
• I need a tool which is responsive and gives me data about the performance of the aircraft while under operation.
• I need maximum information about variations in performance of aircrafts as this may help us avert aircraft disasters.

Main Goals

• Ensure Maximum Aircrafts are operable at any given point of time.
• Analyze and take decisions on replacing parts and repairing breakdowns.

Pain Points

• Not enough data present other than the FDR to analyze performance.
• No tool currently available which consolidates the issues and warnings in of the aircraft and sends it to the ground.
• Needs to maintain and a proper maintenance book.
Point of View

As a __________Aircraft__ Maintenance manager________________

I need a way to __get as much data as possible to rectify the Problems

so that __________me and my team can resolve problems________________

_____________________________________________________

_____________________________________________________

_____________________________________________________.
<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Pilots describe the issue and register the snag.</th>
<th>Analyze and search for the fault based on the pilot’s experience.</th>
<th>Refer to the Aircraft manual to identify possible snags.</th>
<th>Collect the tools and equipment required to perform tests.</th>
<th>Recreate scenarios to get the warnings and alerts.</th>
<th>Perform a fix to the snag.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINDSET</td>
<td>Ok boys, we have work to do.</td>
<td>Need to get more information</td>
<td>Let’s try to identify the possible issues in the technical diagram</td>
<td>Could be due to ....? Testing.</td>
<td>Found it.</td>
<td>Let’s apply a solution.</td>
</tr>
<tr>
<td>FEELING</td>
<td>😊</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>TOUCH POINTS</td>
<td>Aircraft register</td>
<td>Aircraft data</td>
<td>Aircraft Manual</td>
<td>Tools and Equipment’s</td>
<td>Equipmen t’s</td>
<td>Tools and machinery</td>
</tr>
</tbody>
</table>
Prototype

The below Build prototype shows the GUI which will be used by the maintenance engineers where they will have the freedom to go through either all aircrafts or the one’s which have alerts with them.

If the decide to view all aircrafts, they will be allowed to view a row wise selection of all aircraft present in their fleet otherwise, they can click on the Notifications if the pilot has added an alert which he wants to bring in notice. For Eg, the below screen shot represents that the pilot has notified that the left engine needs attention.
Once the maintenance team has received this notification, they can go on the help the pilot either in real-time or once the aircraft is in the hanger. They can capture the conditions which the aircraft was in when the alert was raised.

And go through the data to identify the issue. The user manual is digitally present here as well also, the contacts of the manufacturer if any concerns have to be raised to him.

This prototype can be expanded and improved in multiple ways with time and requirement.

Link: [Build Link](#)