

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation

## Audit Automation Tool

The Capstone Experience

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

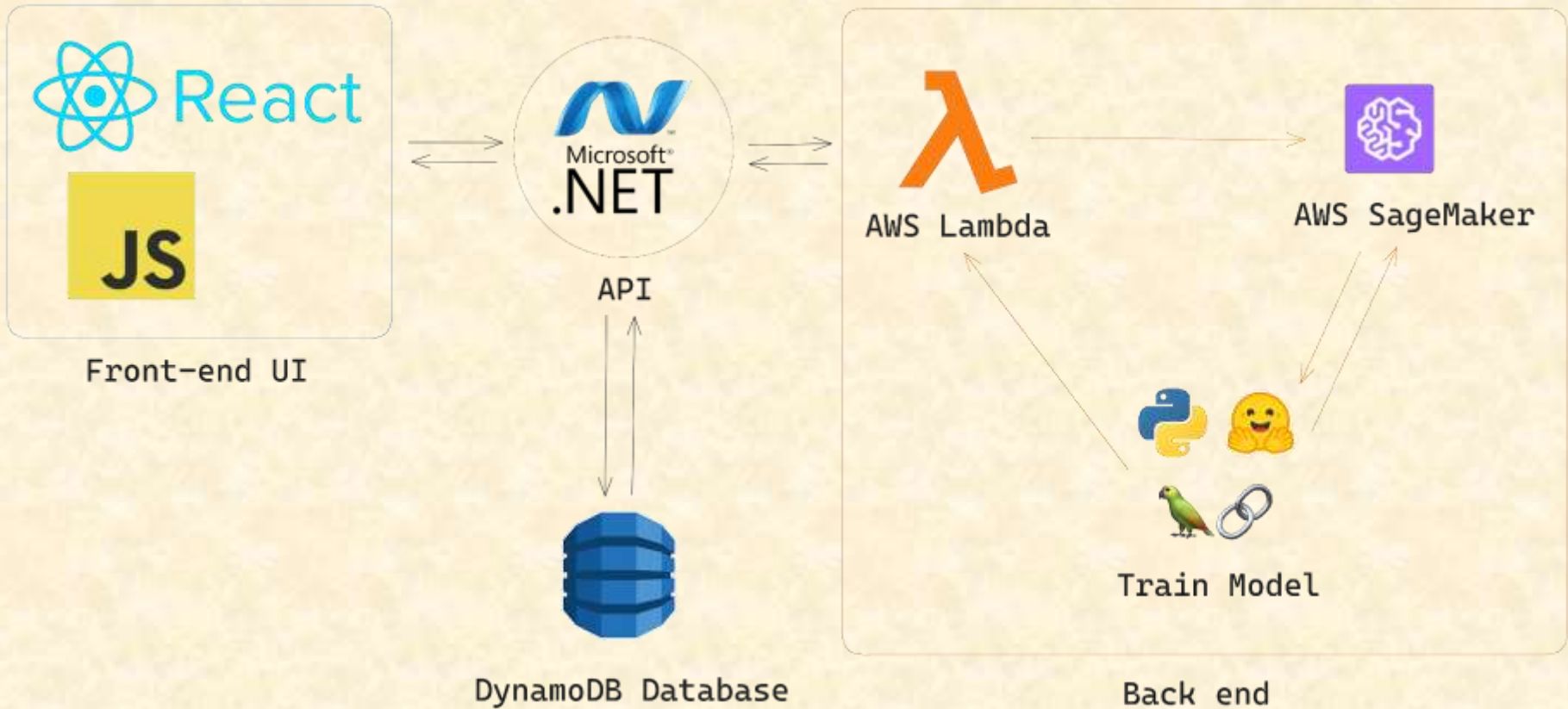
# Project Overview

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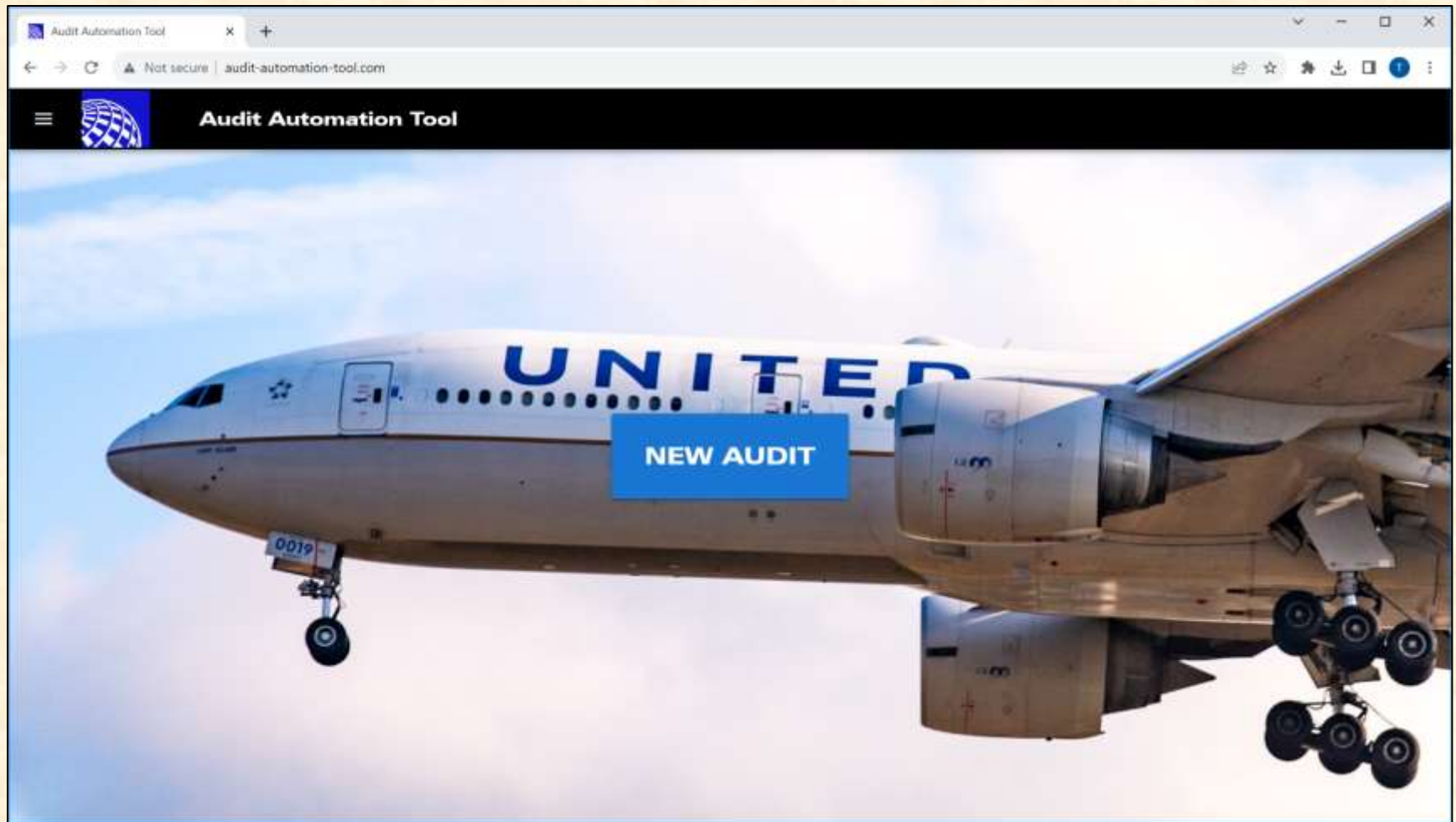
- Leverage AI to make auditing process automated for United Airlines
- By creating a web application to compare FAA and United Airlines regulations to vendor servicing manuals
- Showcase missing standards not found in the vendor manuals to streamline auditing process – reducing manpower required for auditing as well as the elongated auditing process time – bringing capacity back to the team



# System Architecture



# Home Page



# Upload Page

Audit Automation Tool

## Request an audit

Upload a vendor manual and fill out the form below to get an AI-generated audit.

### Create New Audit

Engine Components Other Components

Upload United Airline and FAA requirements

Choose Files No file chosen

Upload Vendor Manuals

Choose Files No file chosen

Submit



# Results Page

The screenshot shows a web browser window with the URL `audit-automation-tool.com/result`. The page header includes the logo and name "Audit Automation Tool". The main content is a table with 6 columns. The first column contains "Yes" dropdown menus. The second column contains numbered audit items with detailed descriptions and comments. The third and fourth columns contain "None". The fifth and sixth columns contain "None".

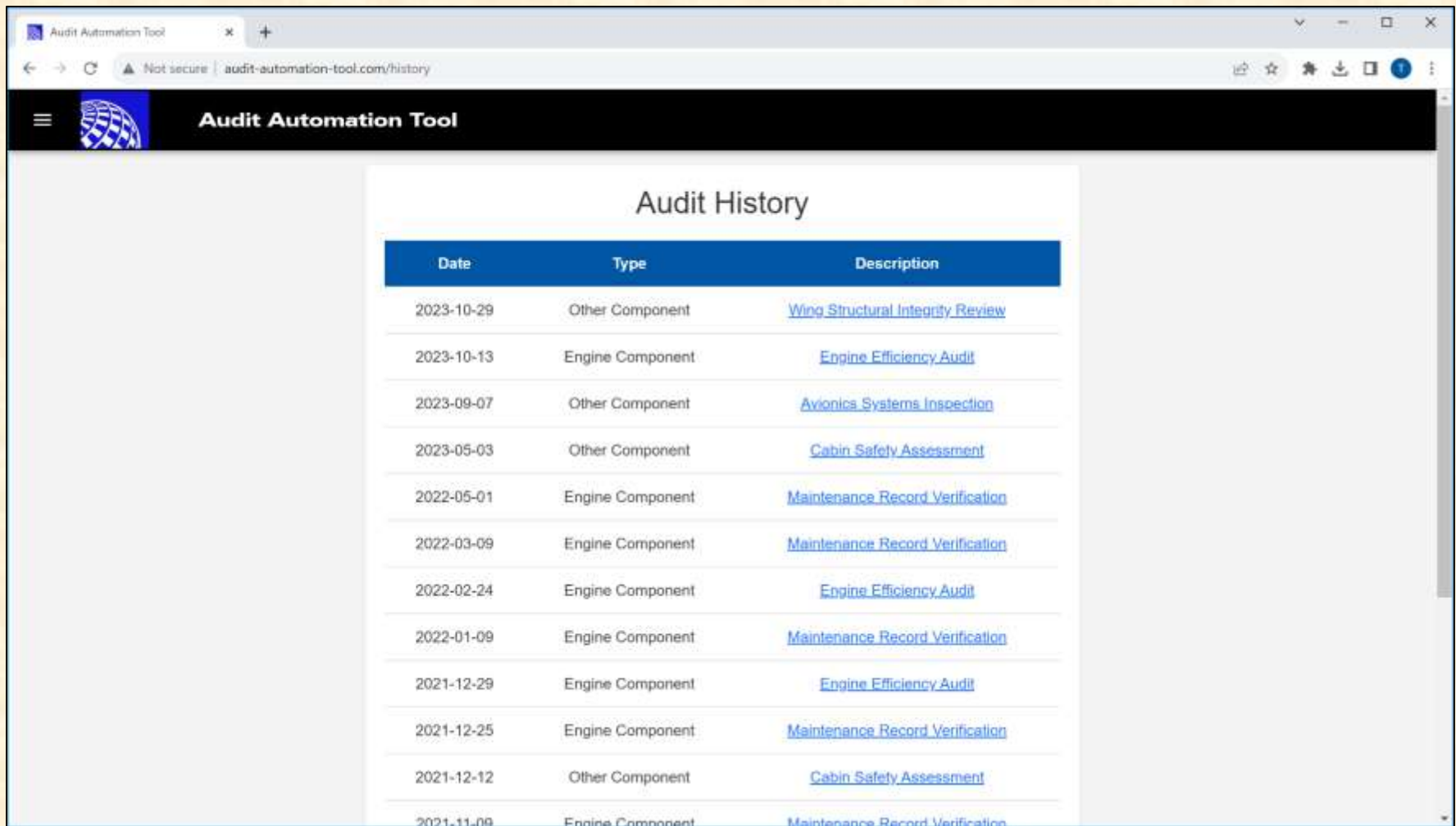
Yes	3. Review the support functions that are available such as oxygen servicing, sheet metal, composites, aircraft wash, IFE, fuel tank entry and repair, towbarless towing, etc. scQAEC and MTiSe <b>Comments:</b> Reviewed.	None	None		
Yes	4. Determine if any additional checklists are required for this station: 058-Line MRD / 019-Stores / 066-GSE / . GMM 04-15-15, <b>Comments:</b> Completed 007, 019, and 031 audits this visit.	None	None		
Yes	5. Determine station special training qualifications (Taxi/Engine Run, Respirator, CAT, ETOPS, fuel tank entry, oxygen servicing, etc.). GMMs Chapters 10 and 11. <b>Comments:</b> Engine run, Respirator, CAT, ETOPS, Fuel Tank Entry, and Oxygen Servicing at Terminal.	None	None		
Yes	6. Review assigned tooling inventory and calibration in eTIPS. <b>Comments:</b> Reviewed.	None	None		
Yes	7. Review previous audit and investigation findings and verify the effectiveness of the corrective action during this audit. QAAS <b>Comments:</b> Reviewed.	None	None		
Yes	8. Conduct a review of the published station Organizational Charts. Are the charts and job descriptions current and accurate? Any deficiencies noted during the audit will be brought to the attention of the organization leader for resolution. GMM 01	01-40-10	None		

**Summary of your Audit:**

In a recent United Airlines Boeing 777 audit, a comprehensive evaluation of aviation safety and operational standards was conducted. The audit covered various critical aspects of aircraft maintenance, crew proficiency, and regulatory compliance. The audit revealed that United Airlines demonstrated a strong commitment to safety with well-maintained Boeing 777 aircraft and a highly trained crew. Maintenance records for the Boeing 777 fleet were meticulously maintained, ensuring the airworthiness of each aircraft. Additionally, the airline had effective safety protocols in place, including robust emergency response plans tailored to the Boeing 777.



# History Page



The screenshot shows a web browser window with the URL `audit-automation-tool.com/history`. The page title is "Audit History". The table below lists the audit history entries.

Date	Type	Description
2023-10-29	Other Component	<a href="#">Wing Structural Integrity Review</a>
2023-10-13	Engine Component	<a href="#">Engine Efficiency Audit</a>
2023-09-07	Other Component	<a href="#">Avionics Systems Inspection</a>
2023-05-03	Other Component	<a href="#">Cabin Safety Assessment</a>
2022-05-01	Engine Component	<a href="#">Maintenance Record Verification</a>
2022-03-09	Engine Component	<a href="#">Maintenance Record Verification</a>
2022-02-24	Engine Component	<a href="#">Engine Efficiency Audit</a>
2022-01-09	Engine Component	<a href="#">Maintenance Record Verification</a>
2021-12-29	Engine Component	<a href="#">Engine Efficiency Audit</a>
2021-12-25	Engine Component	<a href="#">Maintenance Record Verification</a>
2021-12-12	Other Component	<a href="#">Cabin Safety Assessment</a>
2021-11-09	Engine Component	<a href="#">Maintenance Record Verification</a>



# What's left to do?

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- Basic Log-in Page
- Capability to upload multiple checklist files
- Use results to auto-complete checklist pdf
- Make model more accurate
- Increase efficiency of generating results





# Questions?

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