



Bottling Sanitation Hub

The Gallos (CSE-310)

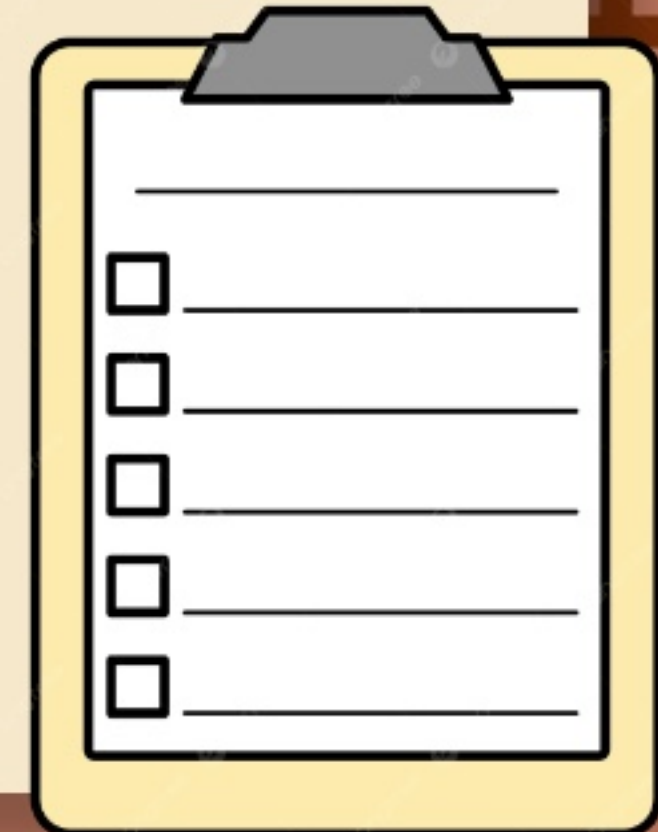
Project Partner

E. & J. Gallo Winery is a global leader in wine production with large-scale manufacturing and bottling operations. Maintaining sanitation, quality control, and compliance across facilities is critical, making efficient tracking and monitoring systems essential.



Problem

Gallo's operators perform sanitation procedures and document their work with paper checklists. This limits visibility and traceability across operations, increases the risk of lost records, and makes the process of data uploads for audits inefficient.



Solution

- We developed a centralized sanitation management system that:
- Digitizes checklist workflows and submissions
 - Captures timestamps and photo verification
 - Stores data in a centralized database
 - Enables real-time monitoring and audit access

Software Stack

Frontend	Backend	Cloud Services		
VITE	FastAPI	AWS DynamoDB	AWS Cognito	AWS S3
React		AWS Amplify	AWS ECS	

Key Features

Checklist

Digital checklists with real-time Socket.IO syncing and secure photo uploads stored directly in AWS S3.

Handoff

The handoff system lets operators transfer unfinished checklists across shifts, ensuring task continuity.

Operator View

Operator Panel: Dashboard, New checklist, My checklists, Handoff

Operator Dashboard: Operator: Kyle Lai, Start a checklist, My checklists

Admin View

Admin Panel: Dashboard, Analytics, Inspections Analytics, AI Assistant, Facilities & lines, Checklists, Inspections, Notifications, Create user

Admin Dashboard: Total Submissions: 35, Completed: 10, Partial: 15, In progress: 10

Checklist Logs: Table with columns: CHECKLIST, USER, DATE, TIME, STATUS, SCORE, ACTIONS

Analytics

Checklist Analytics provide daily, weekly, and monthly inspection insights, including completion scores, submission times, and checklist statistics.

AI Assistant

The AI assistant uses Amazon Bedrock Nova to answer questions with dynamic database queries for accurate, contextual responses.

Notifications

Notifications target specific facilities, production lines, or individual users.

The Team



Deb Ray Full-Stack Developer Data Engineer Team Lead	Andrea Azul Back-End Developer Data Engineer	Kabir Malik Full-Stack Developer Devops Engineer Team Moderator	Nicholas Pinto UX Designer Frontend Developer	Kyle Lai Back-End Developer Data Engineer
--	---	---	--	--

Mentors



Bhupinder Gill	Marcos Solorzano
-----------------------	-------------------------



Connect with us!