NAU NORTHERN ARIZONA UNIVERSITY
Steve Sanghi College of Engineering

Sponsor: General Dynamics Mission Systems
Client: Benjamin Walker

SLAM-Doors

Site Locking and Alerting Mechanism for Remote Facilities

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Overview

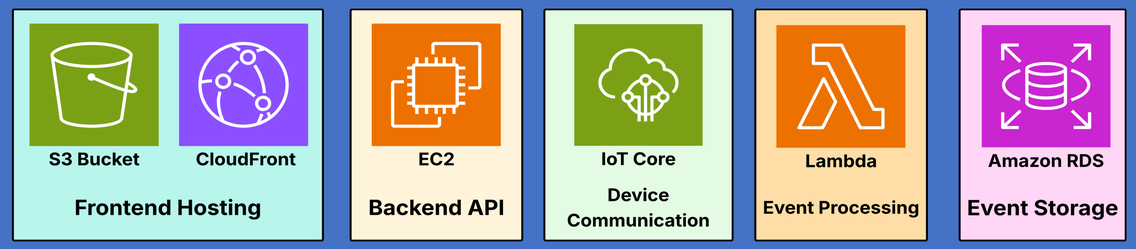
Problem:

The United States Coast Guard needs to update its access control strategy. Current access control systems do not support comprehensive audits, real-time alerting, access control during outages, or automatic rollback to a working state after failure.

Proposed Solution:

- Online system that actively monitors protected doors.
- Supports role-based permissions logs events.
- Resilient to outages through a secure AWS backend.
- Improves reliability, maintainability, and operational awareness for remote government sites

AWS Services



Key Features

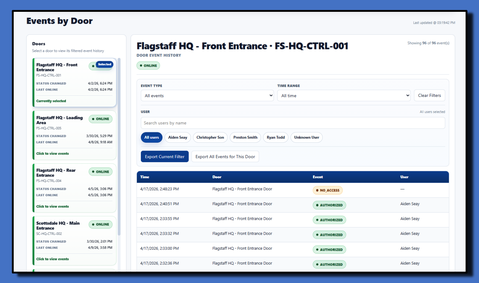
- Web client for Administration
- Centralized monitoring dashboard / status panel
- Real-time alerts and notifications
- Resilience to outages and high-latency networks
- Secure cloud-backed architecture

Persistent log feature for:

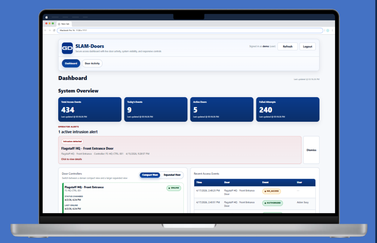
- Controller/Door Activity
- Personnel tracking and authorization
- Activity Auditing

Administrator Web App

Secure Login

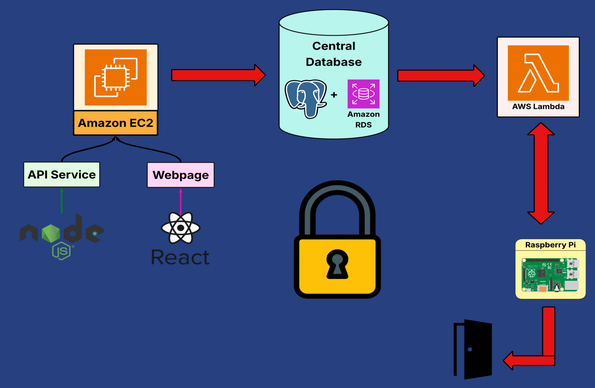


Log Auditing



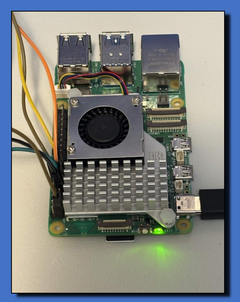
Admin Dashboard

Flow

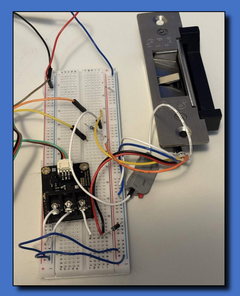


Tech Stack

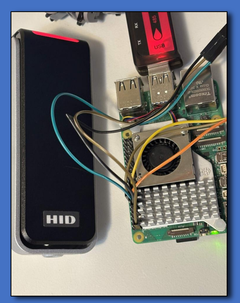
Raspberry Pi Control Unit



Control Unit



Door Strike



Card Reader

PORTCULLIS
TEAM WEBSITE