MICHIGAN STATE UNIVERSITY

Beta Presentation

Intelligent Ticketing and Release Management

The Capstone Experience

Team WK Kellogg Co

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From Students…
…to Professionals

Project Overview

- Automate Incident Triage
  - Leverage LLMs to predict an incident's priority based on its perceived business impact and suggest relevant knowledge articles if available.
  - Route incidents to the appropriate responding team.
- Summarize Updates to Application Landscape
  - Routinely scrape release note information from software vendor websites.
  - Summarize key changes and generate installation instructions using LLM analysis.
  - Notify opted-in employees of specific vendor updates.

Team Member's Technical Tasks

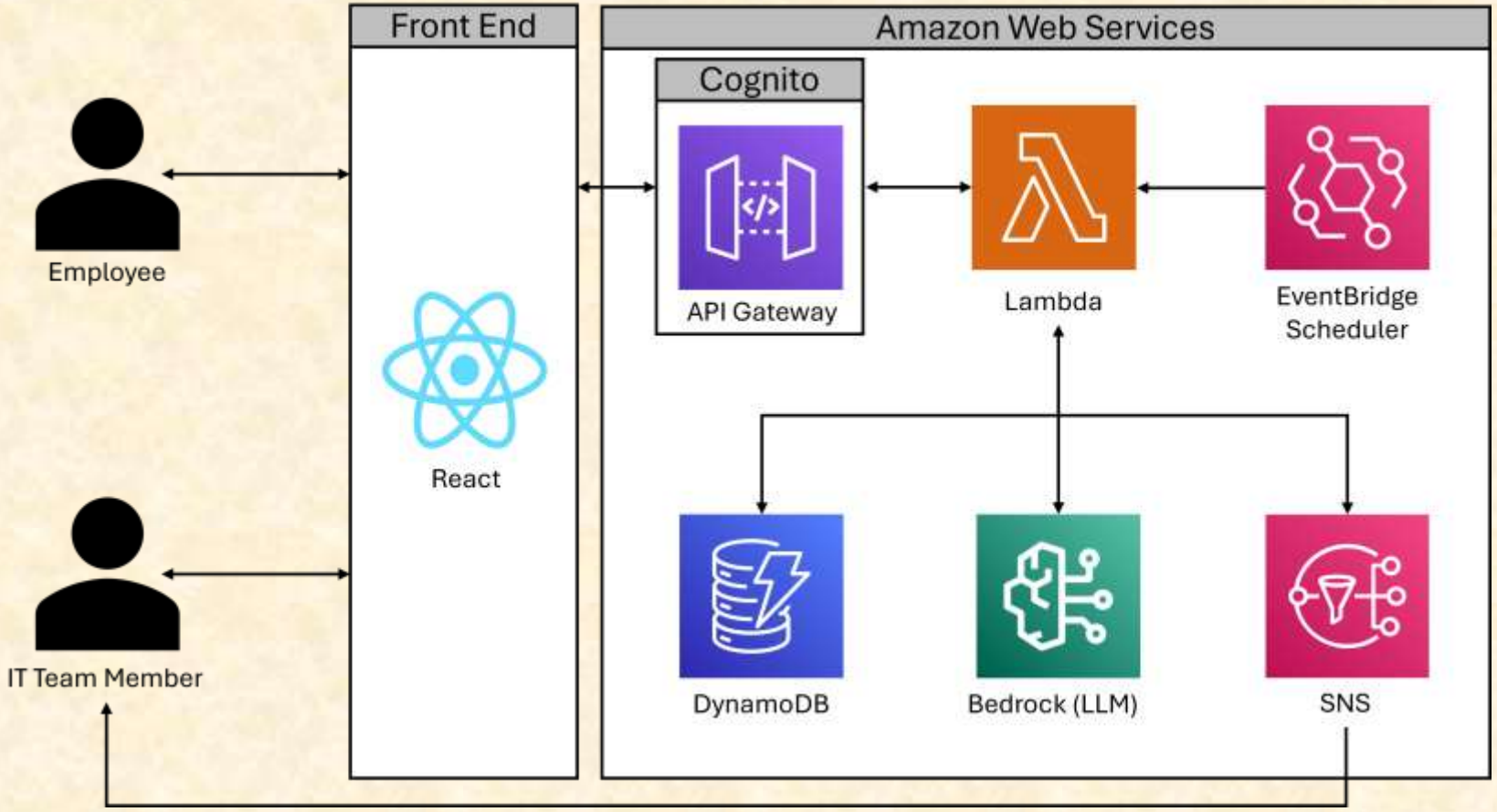
Technical Tasks Assigned

- Shuja Husain
  - Assignment Group Prompt
  - Release Notes Front-End
  - Incident Report Creation Pop-Up
  - Knowledge Article Embed
- Alex Gale
  - Web scrape vendors' release notes
  - Implement lambda functions for web scraping and saving HTML content (all 14 vendors)
  - Implement lambda function for LLM summary and notify (all 14 vendors)
  - Set up automated state machines for HTML pull for all vendors at 12:01am every morning
  - Set up automated state machine for processing and notifying for all vendors at 8:00am every morning
  - Set up state machines for each vendor
- Jennifer Lee
  - Web scrape vendors' release notes
  - Implement lambda functions for extracting vendors' release updates
  - Implement Microsoft 365 lambda function for summarizing updates and notifying SNS
  - Set up state machines for each vendor
- Gavin Heiner
  - System Architecture Design
  - Incident Reports API
  - Data and Application Security
  - Routine Re-Analysis of Open Incidents

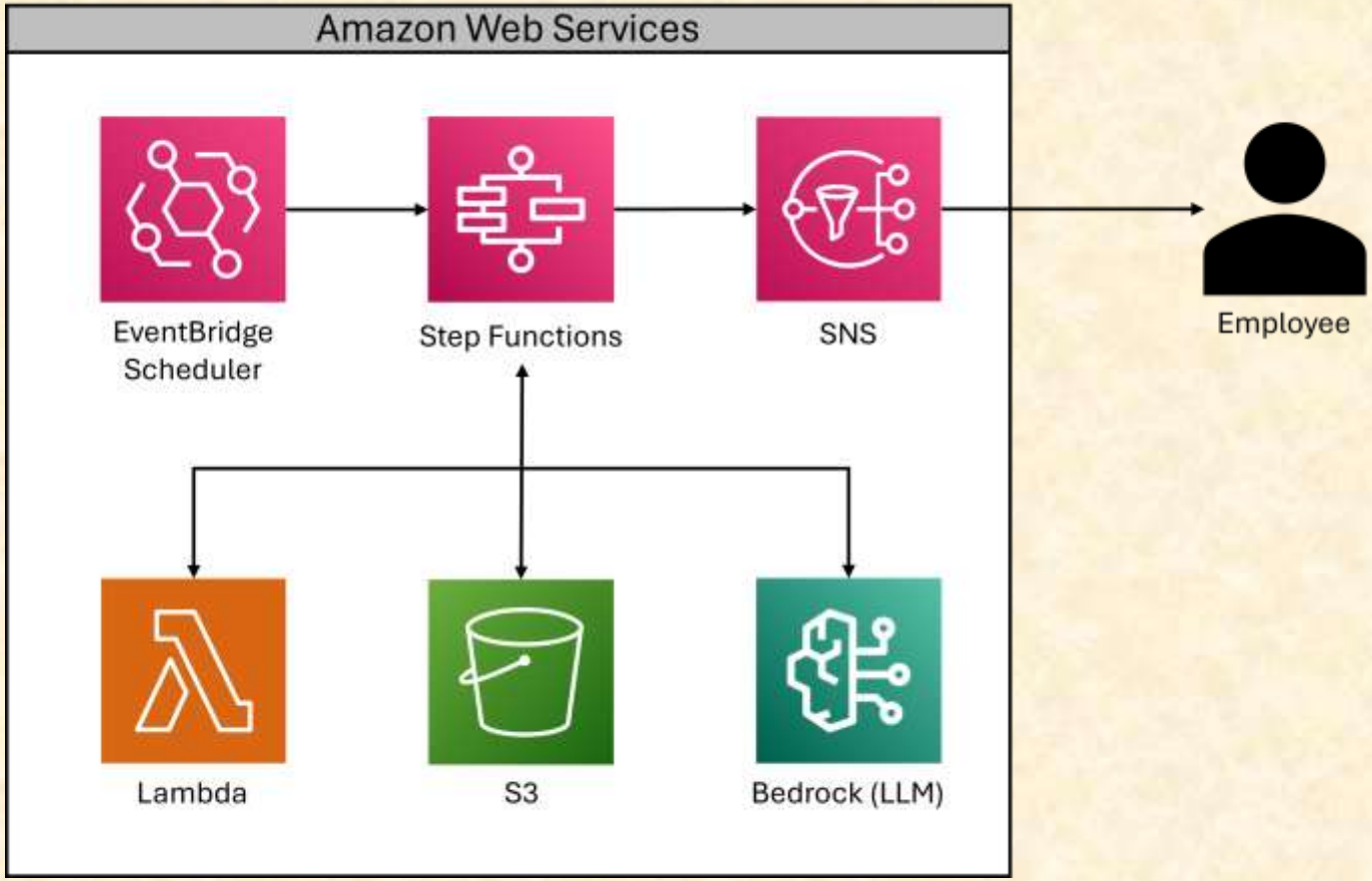
Technical Tasks Completed

- Shuja Husain
  - Release Notes Front-End UI + Incident Report Creation Pop-Up
  - Knowledge Article Embed
- Alex Gale
  - Web scraped AWS Bedrock, AWS Cloudwatch, AWS EC2, AWS Lambda, AWS Q, AWS SageMaker, AWS S3, iOS + PadOS, macOS
  - Completed 15 State Machines (2 for scheduled use) (13 for front end use
  - Completed 14 Lambda functions to make HHTP request and save HTML content to S3 bucket with built in file management
  - Completed 2 Lambda functions for extracting release updates and saving them into JSON files
  - Completed 13 Lambda functions for creating an LLM summary of the release notes with instructions and notifying subscribed employees of the release note
- Jennifer Lee
  - Web scraped Anaplan, Uber Freight, AWS Redshift, Windows, and Microsoft 365
  - Implemented 12 lambda functions for extracting release updates and saving them into JSON files
  - Created state machine for Microsoft 365 and its lambda functions for LLM summary of release notes and notification
- Gavin Heiner
  - System Architecture Design
  - Incident Reports API
  - Secured API endpoints and web application routes.
  - Assignment Group Prompt
  - Front-End Pagination

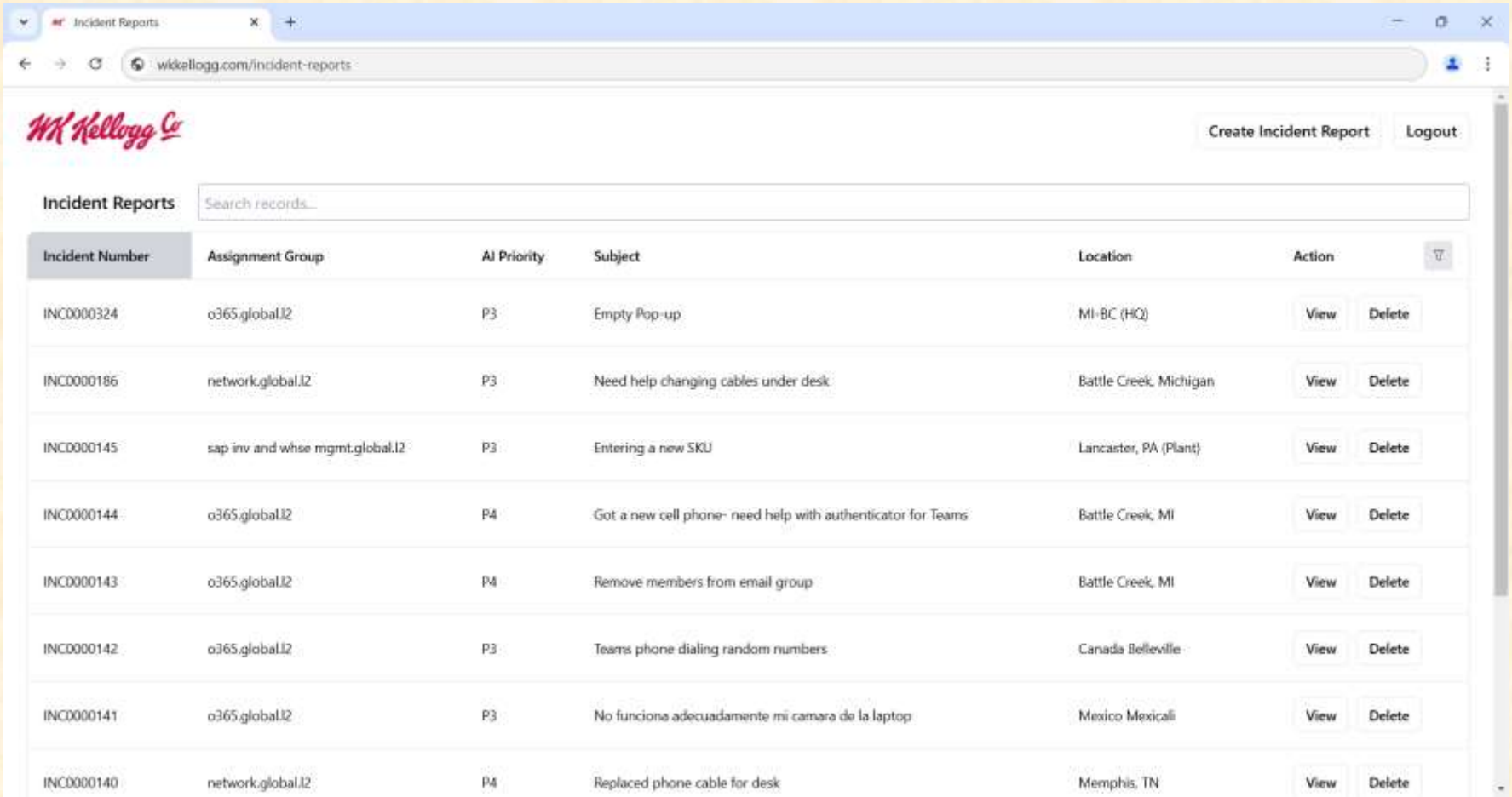
System Architecture



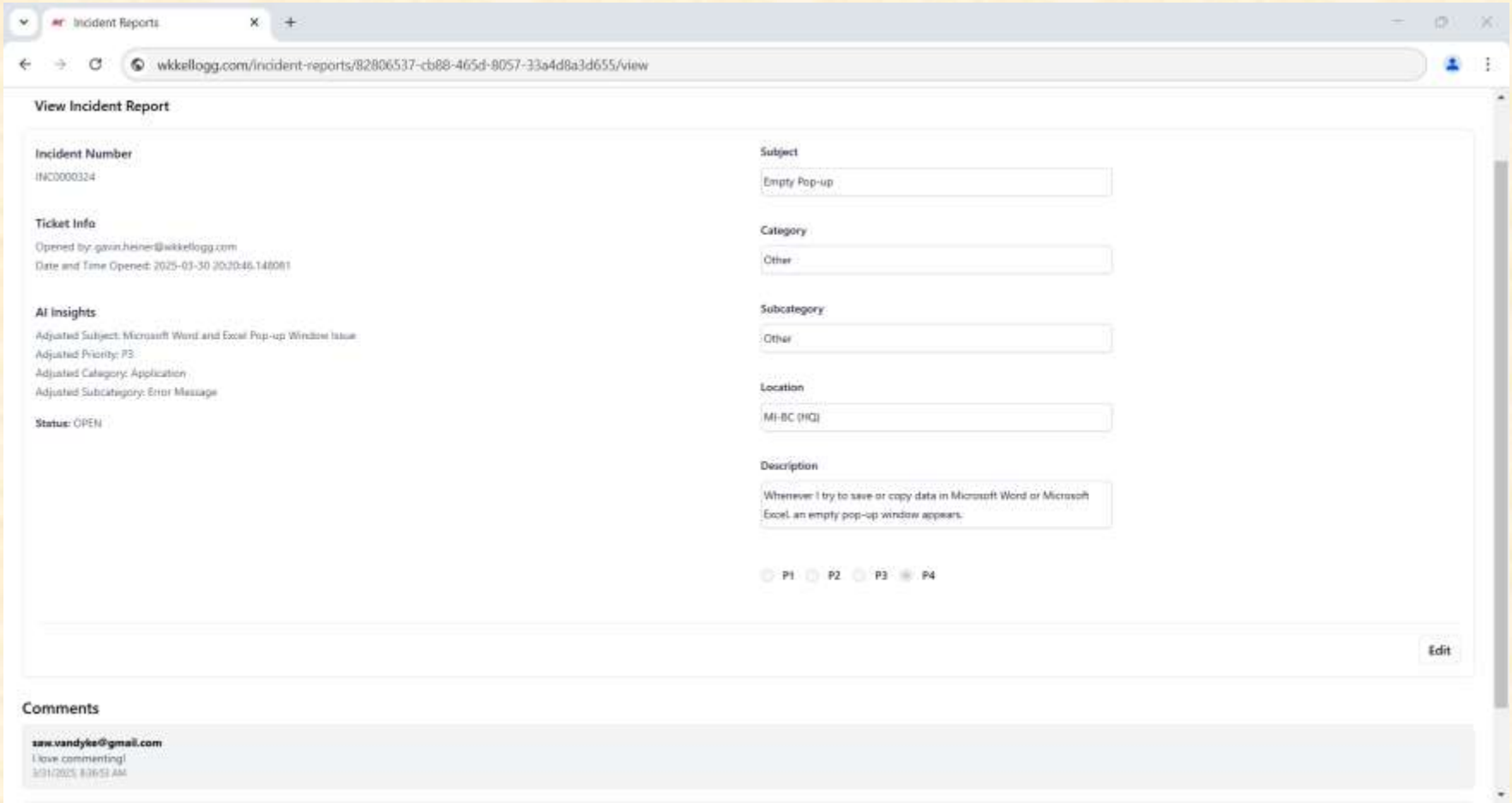
System Architecture



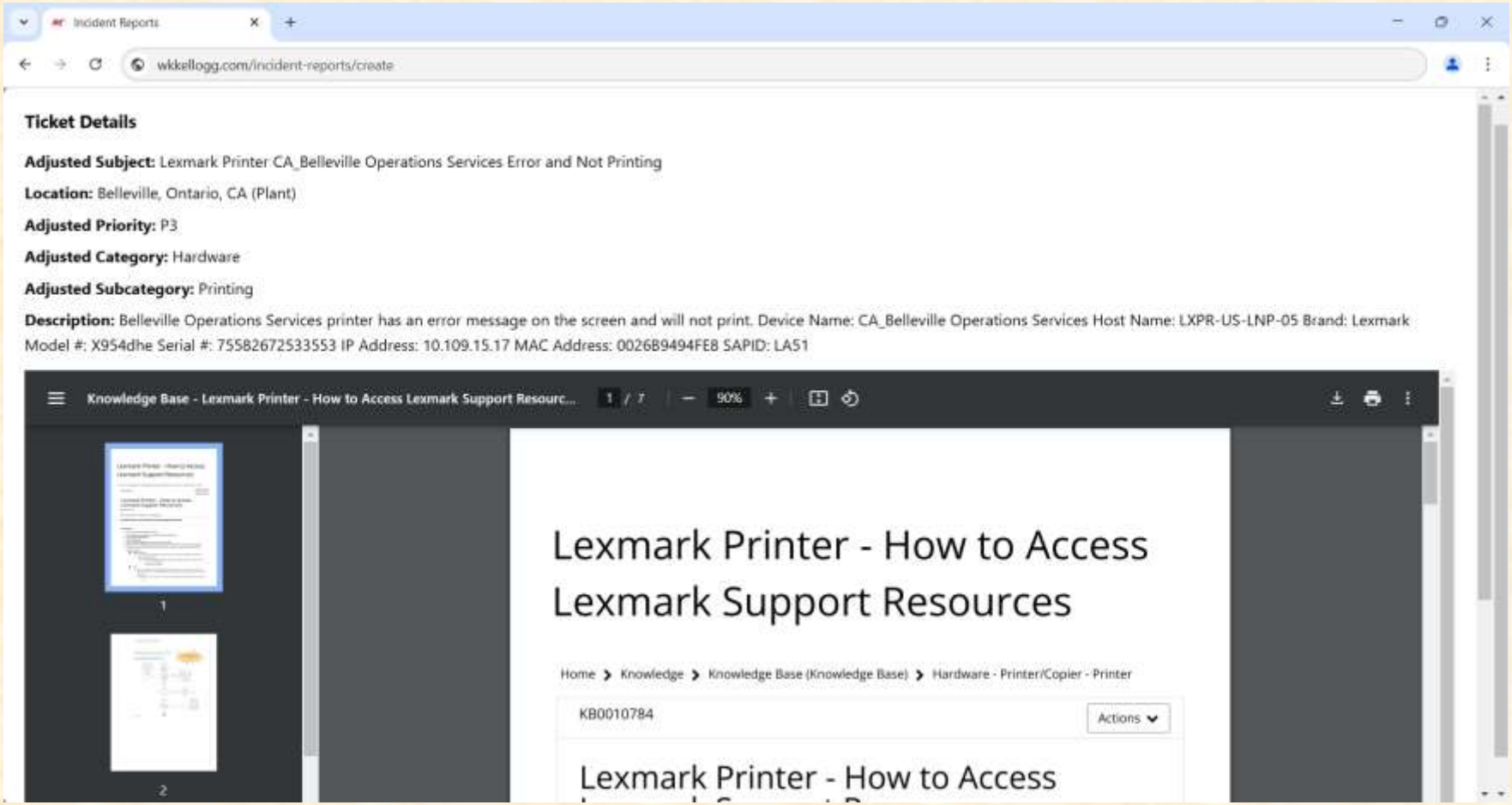
IT Service Desk Dashboard



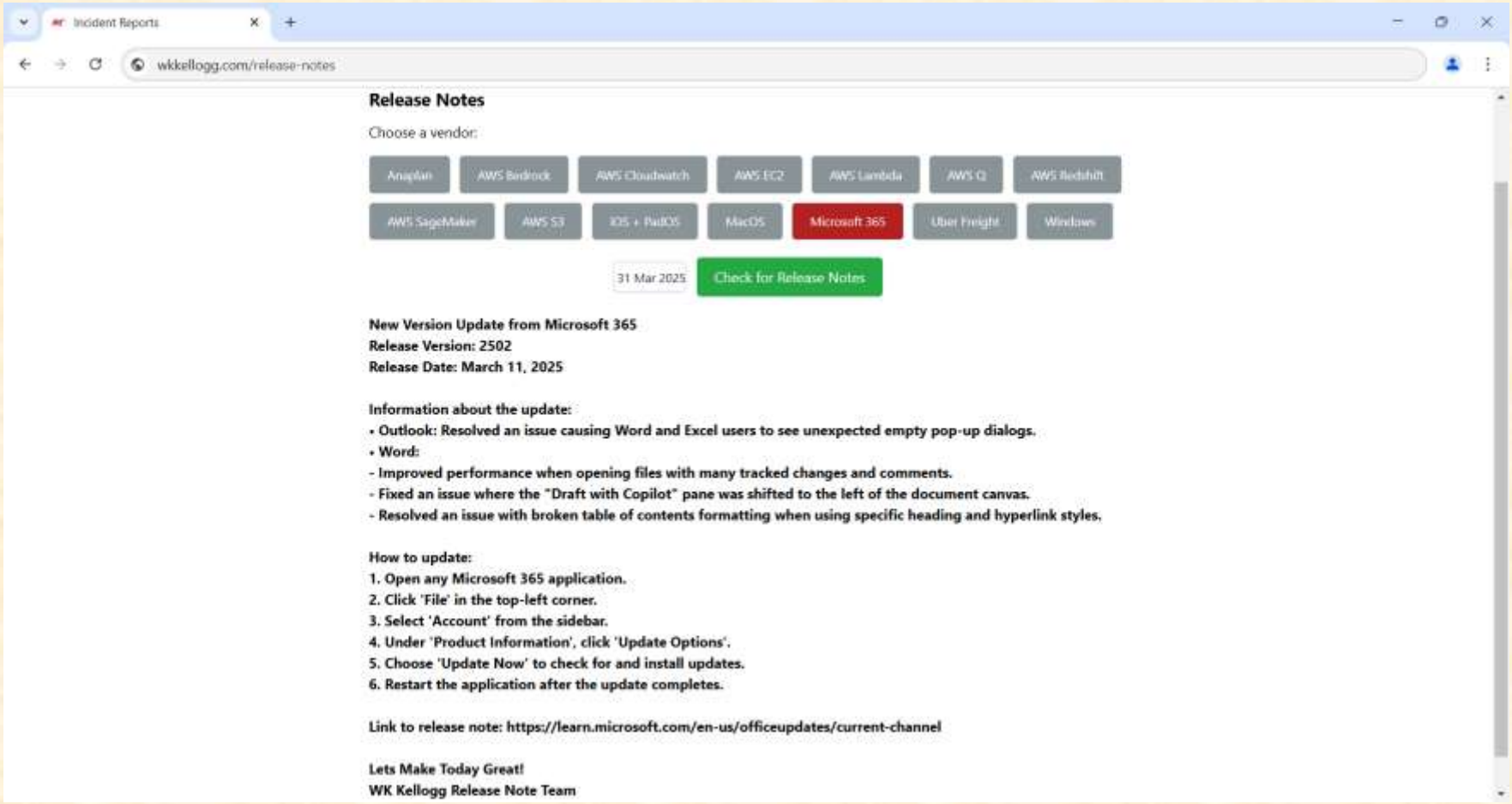
Incident Report Detailed View



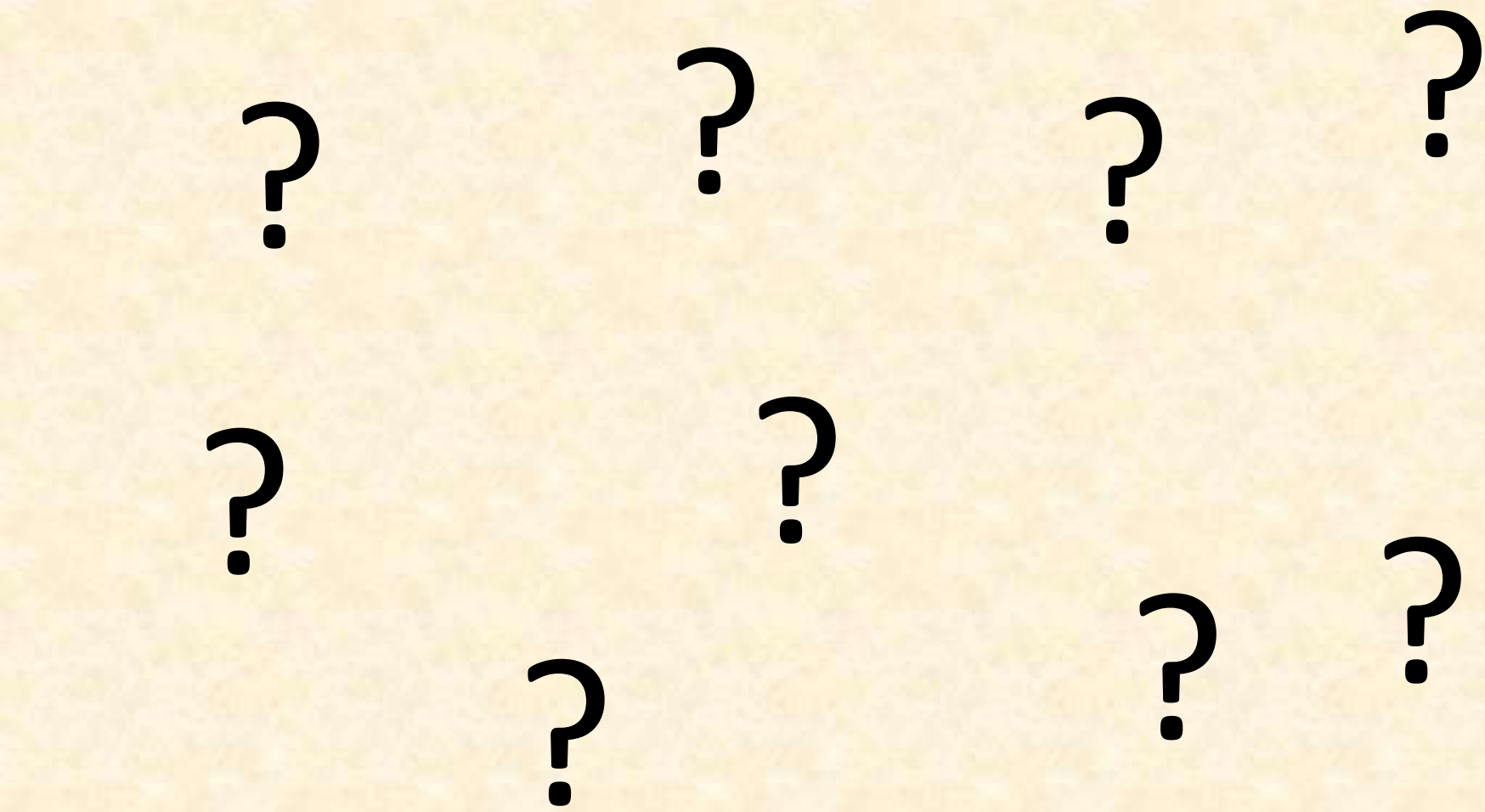
Incident Report Creation Pop-Up



Software Vendor Release Notes History



What's left to do?

- Stretch Goals
  - Terraform (Infrastructure as Code)
- Other Tasks
  - UI Improvements
  - Shorten Prompts
  - Documentation
  - Bug Fixes

Questions?