

What went well

- Transitioned the entire application from a local Docker environment to a live Google Cloud Run deployment with a functional CI/CD pipeline triggered by GitHub.
- Successfully implemented Microsoft OAuth using a development tenant and established the groundwork for integrating the firm's production Active Directory.
- Integrated Google Secret Manager and Cloud SQL. Made sure that sensitive credentials like API keys and database URLs are handled securely in production.
- Resolved critical rendering issues where autofilled PDF fields were not visible in Adobe Acrobat.
- Successfully moved all Monday.com GraphQL logic to the backend, eliminating a major risk where API keys and PII were initially exposed on the client side.

What didn't go well

- The unexpected disabling of the Microsoft 365 Developer program for students created significant delays in setting up the initial OAuth and Graph API testing environments.
- Encountered recurring IAM privilege errors and build crashes during the Cloud Build process due to missing default environment variables in the base configuration.
- Scrum meetings often exceeded their scheduled time because critical technical updates were not shared between team members outside of formal meetings.
- Creating a universal email template proved difficult due to the inconsistent way different email clients render HTML code.

What could be improved

- Future deployments require earlier investigation into IAM roles and permissions to prevent build bottlenecks.
- More time should be allocated to researching the limitations of third-party APIs (like the Microsoft Graph API) to anticipate email sending limits or blocked tenants earlier in the cycle.
- Establishing more frequent technical meetings with the Insighters IT department would streamline the transition from dev to production environments.
- Utilizing Jira to break down large tasks into smaller, testable subtasks would improve time estimation and team visibility.

Challenges

- Adapting to an accelerated timeline that required a full cloud deployment within a 2.5-day window for the Sprint 2 demo.
- Identifying correct field names and handling complex elements like checkboxes in fillable PDF templates proved to be a high-effort task.
- Navigating inconsistencies between multiple Monday.com boards used by the sponsor, which featured duplicate information but different column mappings.
- Translating complex backend requirements into terms that non-technical project sponsors can approve.