

Ambient Studio



Stella Kim

Senior Associate of Data Analysis & BI Development
July 2023 - Current

Overview

LA Metro Data Importing Project

CAS Paginated Reports

CAS App & Reporting Engine

WC Power BI Dashboards

AS_01

project overview

JULY 2023 - MARCH 2024

The client is conducting a state-issued compliance audit for Union Station. Data is collected by multiple compliance regulation inspection vendors. This data must be compiled, manipulated, and imported into the existing database, and match the schema of the data from previously surveyed train stations.

#: data cleanup Microsoft Excel Microsoft Access JetSQL

LA Metro
Client

Joseph Kwon
Managing Partner

Bob Massey
Software Engineer,
Knowledge Transfer

Stella Kim
Data Analyst

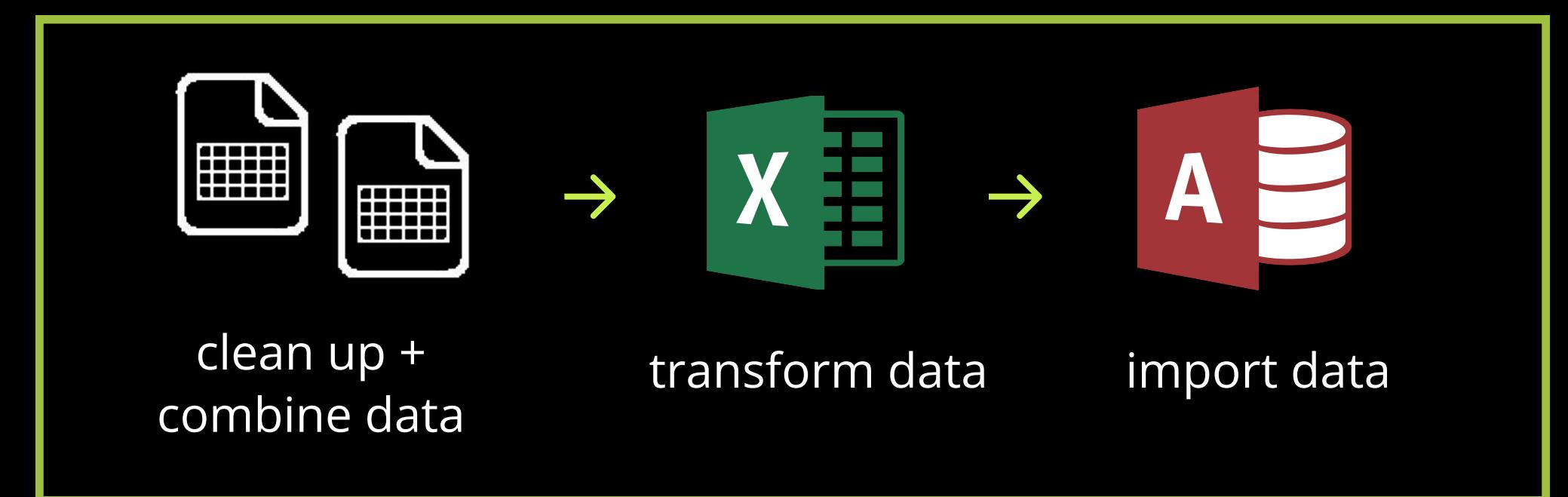


role

My role in this project was to collect the data from the various vendors and prepare the data for import. As the project progressed, I was brought in to assist in updating queries and oversee the import process. I also updated the documentation as requirements and processes changed.

process

1. Gather raw data from clients (and ensure required fields are captured)
2. Clean up & compile datasets into single spreadsheet (e.g. remove images, set data types)
3. Prepare spreadsheet for import (e.g. data mapping, column consolidation, review nulls)
4. Import data from spreadsheet into Access file
5. Run import queries in Access to populate table & image database



AS_01

challenges / solutions

different schema

The client contracted multiple new vendors for this project, meaning the raw survey data would not match each other or the existing schema for previously audited train stations.



I wrote automation scripts in Excel to take in the new vendor schemas and consolidate datasets. Then I worked directly with the client to ensure accurate data mapping.

size of train station

Union Station is larger and more complex (more facilities, etc) than the previously surveyed train stations, meaning the datapoints collected will comprise of more fields and columns



Some fields had to be joined or split apart. For example, the vendor provided multiple columns of details that were merged to a single 'Additional Comments' column.

legacy database

The current documentation outlining instructions on importing new data into the existing Access database are outdated and/or inaccurate. Many of the import queries do not work as intended.



The import queries had to be rewritten and documentation had to be updated. This increase in scope had to be communicated to the client for a deadline revision.
A cloud-based solution was also recommended to the client for future efficiency and room to scale.

results

Successful import of images and facility / audit data into client's database.



AS_02

project overview

AUGUST 2023 - OCTOBER 2023

The client needs a versatile reporting solution that will generate reports by facility and status based on the user's specified parameters. This report will allow the user the option to automate a PDF to be generated and emailed out to relevant stakeholders.

#: Procore API Power BI Report Builder SQL Server Management Studio Python

Glenn Dea
Client

Joseph Kwon
Managing Partner

Scott Nagy
Software Engineer

Stella Kim
BI Analyst,
Project Manager

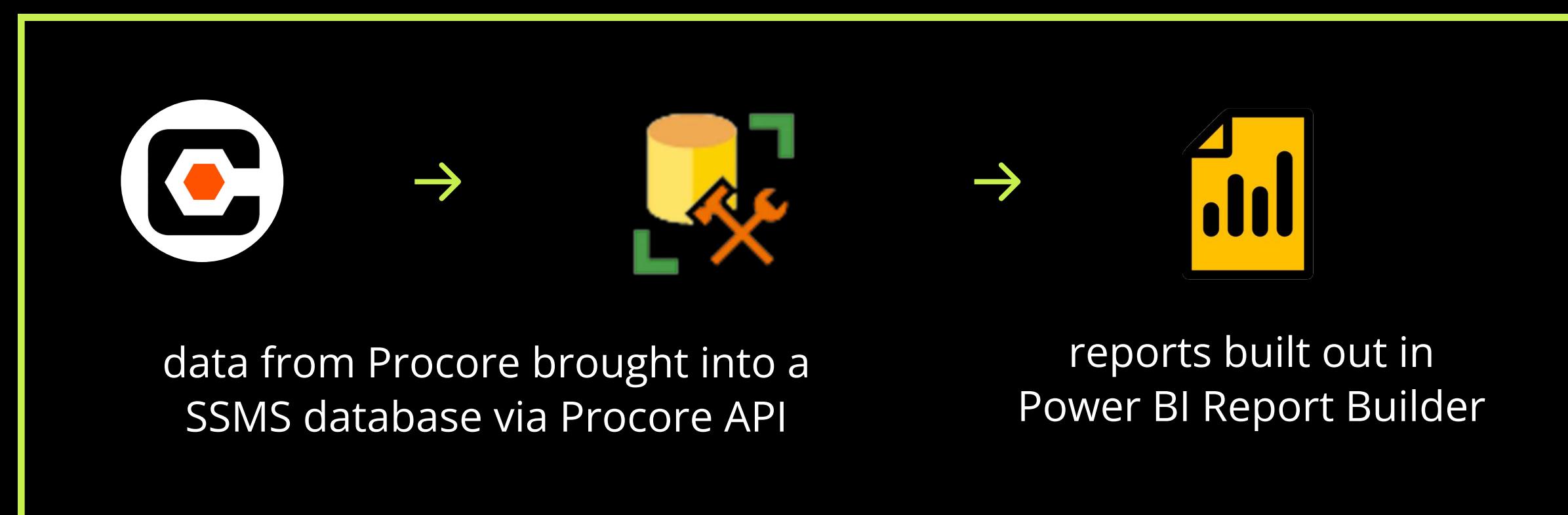


role

In addition to assisting the developer with API and database troubleshooting, my role in this project was to collect client requirements, connect the database into the reporting tool, and build out the report to match the mockup provided by the client.

process

1. Gather requirements & align with team
2. Import Procore data into a database
3. Build report



challenges / solutions

data entry

The team was developing from a brand new QA account in Procore, meaning that none of the 10,000+ entries in production were available to use for testing.



I wrote a script with Python that scraped the data from production into a spreadsheet and another script to create entries and populate data from that spreadsheet into QA.

Power BI limitations

The client originally requested the report be built out in Power BI, but the software did not have the capabilities to display multiple images per entry as outlined in the requirements.



I suggested using paginated reports using Power BI Report Builder (Microsoft's SSRS reporting tool) instead, which would align better with the client requirements.

results

Successful creation of paginated reports with automated report emailing and proper report formatting per the client's requirements.



AS_03

project overview

OCTOBER 2023 - MARCH 2024

The client wants to optimize the way they record survey data when conducting compliance inspections and audits through the development of a new application. This app/tool will allow surveyors to record data in real time, easily see which areas need review, and generate reports for shareholders.

#: Python | HTML/CSS | Azure DevOps Server | ASP.NET | SQL Server Management Studio

Glenn Dea
Client

Joseph Kwon
Managing Partner

Scott Nagy
Software Engineer

Stella Kim
BI Analyst,
Project Manager

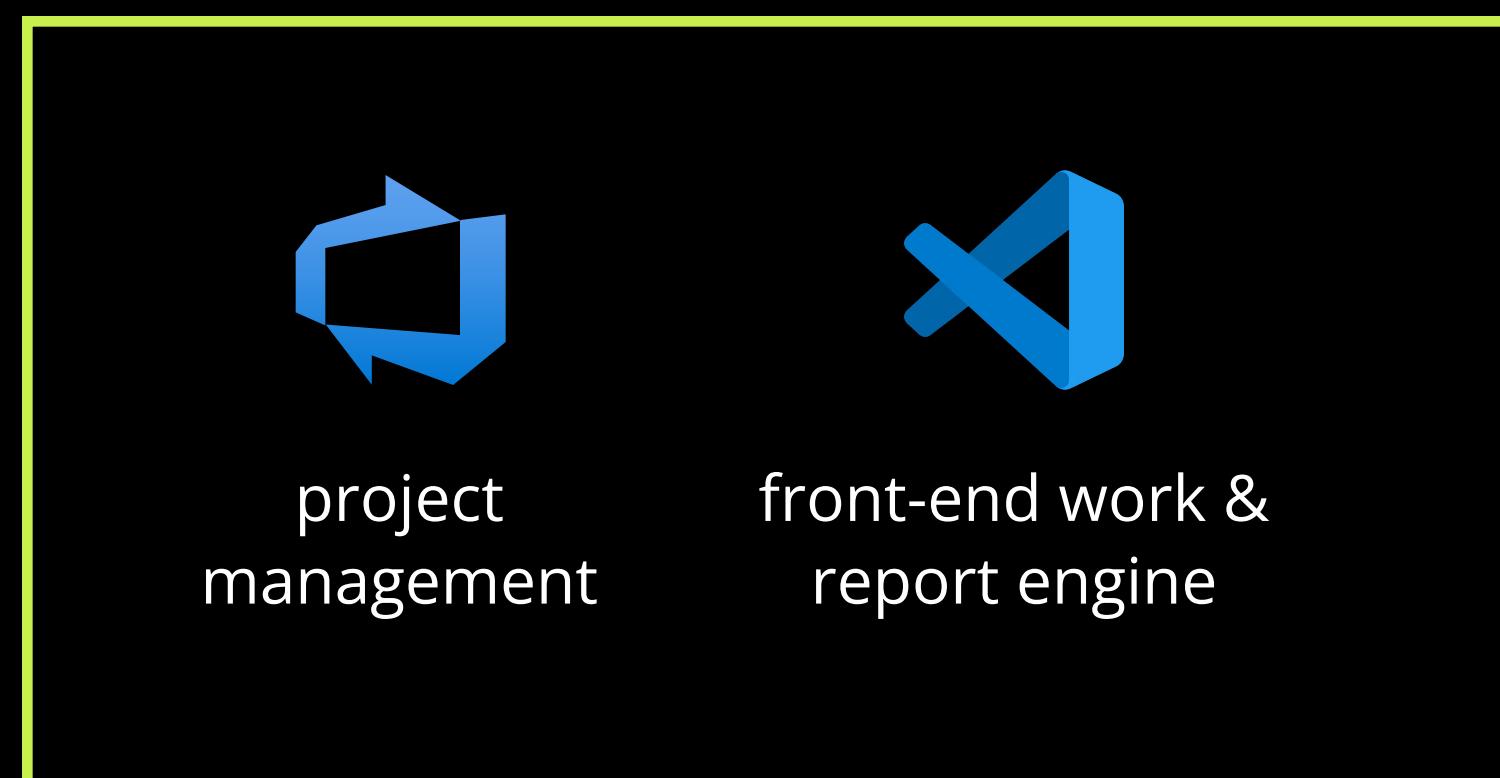


role

My role was originally to oversee the project and to translate client requests to the developer in a technical context. By the end, I took over the project management aspects and recorded all tasks in Azure DevOps Server. Additionally, I built out the reporting component for the application within a short timeframe to meet last minute client needs.

process

1. Gather requirements & align with team
2. Track project in Azure DevOps
3. Build front-end elements
4. Develop report engine



challenges / solutions

scope creep

Because of a lack of documentation and proper project tracking, the scope of the application kept growing beyond the originally agreed upon requirements.



Project tracking was moved to Azure DevOps. I led project management by creating tickets, leading grooming sessions, and updating tickets.

small team

The organization had recently gone through staff restructuring and had multiple concurrent apps in development, which limited the resources available for this particular project.



I contributed to front-end enhancements using HTML and Bootstrap to allow the main engineer to focus on the back-end development.

time restraints

The client needed the ability to create reports for a pending federal-level lawsuit before the app was scheduled for deployment.



I built out a bespoke reporting engine with Python within a 2-week timespan that took tabular data and transformed it into PDFs to be printed and used for the court date.

results

Successful delivery of last-minute client request for time-sensitive project. Completed development of CASSIA app for testing.



AS_04

project overview

APRIL 2024 - JULY 2024

The client has a list of business requirements and KPIs they would like to track along the operations and sales pipelines. They want to develop a Power BI dashboard that will provide comprehensive insights into performance across various categories to enable identification of trends and improvement of decision-making processes.

#: Power BI | SQL Server Management Studio | T-SQL

Andrew Brown
Client

Joseph Kwon
Managing Partner

Scott Nagy
Software Engineer

Stella Kim
BI Analyst,
Project Manager

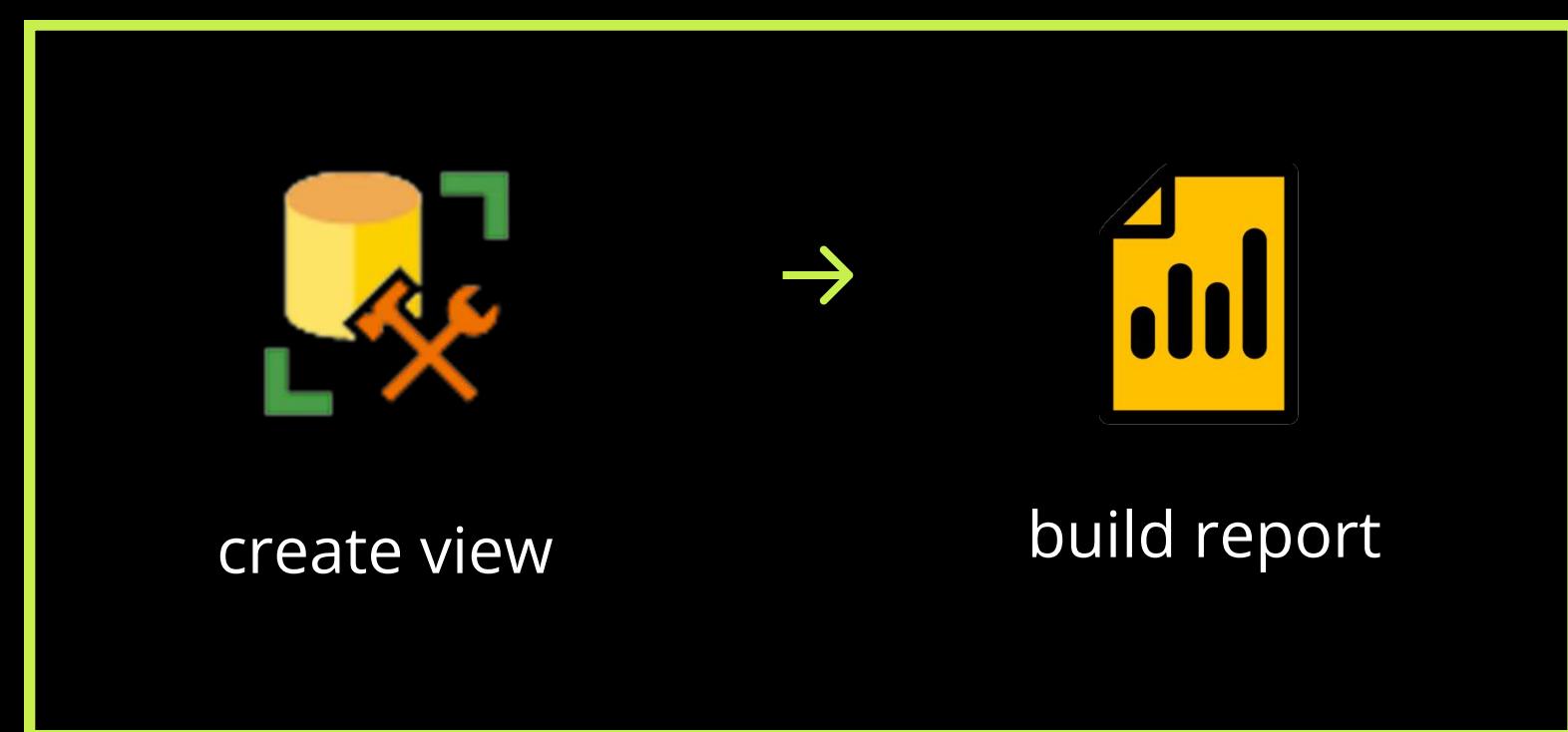


role

My role in this project was to gather requirements, create views in SSMS, and build out dashboards in Power BI. This required extensive communication with the client to understand the relationships between the 30+ tables of manufacturing data.

process

1. Gather requirements & align with team
2. Write new SQL views that contain the relevant data points
3. Build report



challenges / solutions

database changes

The client implemented a major change to their HR database tables which affected the existing views and broke some of the visualizations in Power BI in the middle of development.



I scheduled 1-on-1 working sessions with the client's data team to understand which changes were made, giving me the necessary information to rewrite the views

budget

Ambient Studio was a subcontractor for this project, and the upcharge of the contracting partner exceeded the client's desired budget.



I facilitated frequent communication, scheduled feedback sessions, and provided an explanation of hours to give the clients the confidence in ROI and increase the budget.

client expectations

The original requirements outlined by the client were quite extensive and were either impossible with the available data points or would exceed the allotted hours for each dashboard.



Clear communication and explanation of the work involved allowed the client and contracting partner to realign, and requirements were redefined to be more realistic.

results

Completed development and delivery of Operations dashboard in Power BI.



references

Joseph Kwon

ask for contact info

Founder / Managing Partner @ Ambient Studio