Interview Presentation: Project Overview

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PowerBI Report Suite & Interactive Dashboards

- Situation Task Action Result? Development Lifecycle?
- Situation - Lack of business metrics, inefficient and basic reporting system integrated into the ERP. Initial question from MD was how to measure profitability of products & customer categorical analysis.
- Task – Generate a method of communicating business insights to key stakeholders.
- Action – Build a PowerBI Dashboard with data connectors into our company data sources.
- Result – Business stakeholders able to adjust processes, allowing optimisation for profitability or informed targeting of marketing communications.

Development Lifecycle

- Development of an efficient Datamodel using Star/Snowflake schema. Using query folding to optimize CPU/Memory load by pushing the computation back to the source, allowing for fast, efficient queries.
- Use of different connectors such as ODBC to access company data, perform several standard tasks such as SQL joins, filters, custom columns.
- Design of measures and calculations to finalise data model, including calculations such as margin, margin% and various time intelligence measures such as MTD, YTD, YOY, YOY%
- Construction of visuals, graphs, matricies etc. to which the end user can apply filter context.
- Configuration of cloud gateway to allow access to our on-premises data sources, enabling distribution & report refresh through the PowerBI Service.
- Continual design of reports, fine tuning of existing reports.

Transferable skills acquired

- Comprehensive understanding of data modelling, dimension/fact tables, Star/Snowflake Schema, RDBMS
- Strong understanding of how to efficiently develop bespoke solutions based on the needs of stakeholders
- How to effectively learn new programming languages and their different styles
- Advanced understanding of the Power Query engine and it's language – M
- Data visualization, calculations/measures
- The ability to take something complex and refine it

Application of Learned Skills

- Confluence of multiple data streams such as from API or cloud services into a single data model for analysis, bringing together .json data from a CRM API extracted via python, data from a MS Access Database,

Additional Things to Mention

- Using VBA to iterate through rental records to extrapolate them over time, forecasting rental income allowing for budgeting.
- Python script to pull .json from API, use this data to allow staff to autofill forms from the cloud CRM, VBA to export .pdf, auto-name and save in custom directory on FPS
- Use of Jupyter notebooks to fetch stock exchange data, generate candlestick chart & publish to server.
- Use of R/Python to webscrape data using multiple different methods (Selenium, HTTPX, Requests/BeautifulSoup4. Creation of a Pandas dataframe, generation of CSV from said dataframe for further analysis.
- The use of .git and GitHub for versioning.
- Management of a Microsoft Access database, writing SQL queries. Building database schema which unfortunately got shelved. Working with .xml files to import/export data over http to and from a mobile app.
- Multiple complex excel documents, such as 'Sanitisation Analysis Tool' which queries multiple data sources to allow management to schedule engineers workload a month ahead.