

IDS 706

Final Project

Team Reflection

Team Dynamics

- The overall dynamics is very friendly and easy to work with. Everyone feels free to contribute and share their own ideas without too many concerns. Everyone is great at communicating and collaborating with each other as well.

Team Accomplishment

- The team success in technical implementation and utilization of the microservices and serverless platform.
- Both data exploration, extraction, and query pipeline, as well as a Flask App are generated and produced for this project.
- Clear user guides and preparation are demonstrated in the Readme file.

Challenges Overcome

- Development Environment: One of the significant challenges we encounter in our development environment is Docker container conflicts. As our application relies on containerization for deployment and scalability, conflicts can arise when multiple containers attempt to use the same resources or ports simultaneously. This challenge can result in performance issues, unexpected behavior, or even deployment failures. To address the challenge of Docker container conflicts, we've implemented a solution that involves trying different ports and reconfiguring resource groups. By dynamically assigning ports to each container, we minimize the risk of conflicts when multiple containers are deployed simultaneously. Addressing these conflicts not only enhances the reliability of our application but also streamlines the development and deployment processes.
- Different time zones: All members are located in a different time zone at the last stage of the project. This created challenges for easy communication and meetings. We had to communicate everything remotely and explain our work through texting. This was overcome pretty well by the group as everyone was paying attention and effort in the project building on Github Repository.
- Complex and Large Dataset: In addressing the complexities of Spotify's large dataset, we successfully navigated the ETL process to maintain strict data consistency. We tackled the high volume and swift updates of the data by implementing robust, scalable storage and processing solutions. The dataset's diverse content required tailored processing approaches, which we managed through advanced data handling and quality assurance techniques. Anomalies and discrepancies were managed to ensure accurate data exploration and analysis.

Team Limitations and Potential Improvement

- Better Time Management: A more detailed timeline can be set at the beginning of

the project to ensure consistent and even time commitment throughout the project. More tasks are delayed to the last few days during the busy final week which caused some challenges for us.

- Setting better and well-recognized common goals: The team can set better smaller goals to ensure the project are well-recognized by every team member.
- Creativity and More Functionality: More creative queries and Flask App functions could be implemented with more time commitment. Functions such as music features and suggestion for music can be added to the app to improve user experience.