Project Name: Is my time on YouTube a waste or a learning experience

Project Description: Personal analysis of the type of content I consume on YouTube

Creation Date: 07 January 2024

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Networking/Connections:

1. Project Brief

With the vast array of content on YouTube, understanding personal viewing habits can provide insightful revelations about interests and preferences. This project aims to conduct a personal analysis of the type of content consumed on YouTube, leveraging the capabilities of YouTube API v3 and Python for data extraction and analysis.

2. Technology Stack

- **Language:** Python
- **API:** YouTube Data API v3
- **Libraries:** `Pandas` for data manipulation, `Matplotlib/Seaborn` for visualisation, `Requests` for API interaction
- **Dashboard Tool:** `Google Colab` Notebook or a web-based framework like Dash or `Streamlit` (v1.29.0, Release: Nov 30, 2023)

3. Objectives

1. **Data Collection:** Utilize YouTube API v3 to collect comprehensive data on videos watched, including titles, channels, categories, duration, and engagement metrics (likes, views, comments).
2. **Personal Viewing Profile:** Analyse the collected data to create a profile of personal YouTube consumption, identifying the most-watched categories, favourite channels, and prevalent themes.
3. **Trends and Patterns:** Investigate viewing patterns over time, such as preferred days for watching, average watch duration, and changes in content preferences.
4. **Interactive Dashboard:** Develop an interactive Python-based dashboard to visualise the analysis, allowing for dynamic filtering and exploration of the data.

5. **Insights and Recommendations:** Generate insights on personal content preferences and suggest potential new areas or channels of interest based on consumption patterns.

Expected Outcomes:

- A comprehensive understanding of personal YouTube content consumption patterns.
- Identification of potential new content areas based on existing preferences.
- Enhanced Python and data analysis skills through practical application.

4. Methodology

- **API Setup and Authentication**: Register the project in Google Cloud Console, enable YouTube Data API v3, and set up OAuth 2.0 credentials.
- **Data Extraction**: Write Python scripts using the Requests library to query the API and retrieve data on personal YouTube activity.
- **Data Processing**: Use Pandas for cleaning, transforming, and structuring the data into a suitable format for analysis.
- **Data Analysis**: Perform statistical and exploratory analysis to uncover patterns and trends in the viewing data.
- **Visualisation**: Create graphs, charts, and interactive elements to visually represent the findings.
- **Dashboard Development**: Assemble the visualizations into an interactive dashboard for easy exploration and analysis.
- **Insights Generation**: Interpret the data to offer insights into personal viewing habits and suggest new content areas.

5. Post (WhatsApp, LinkedIn)

Project Selection Criteria

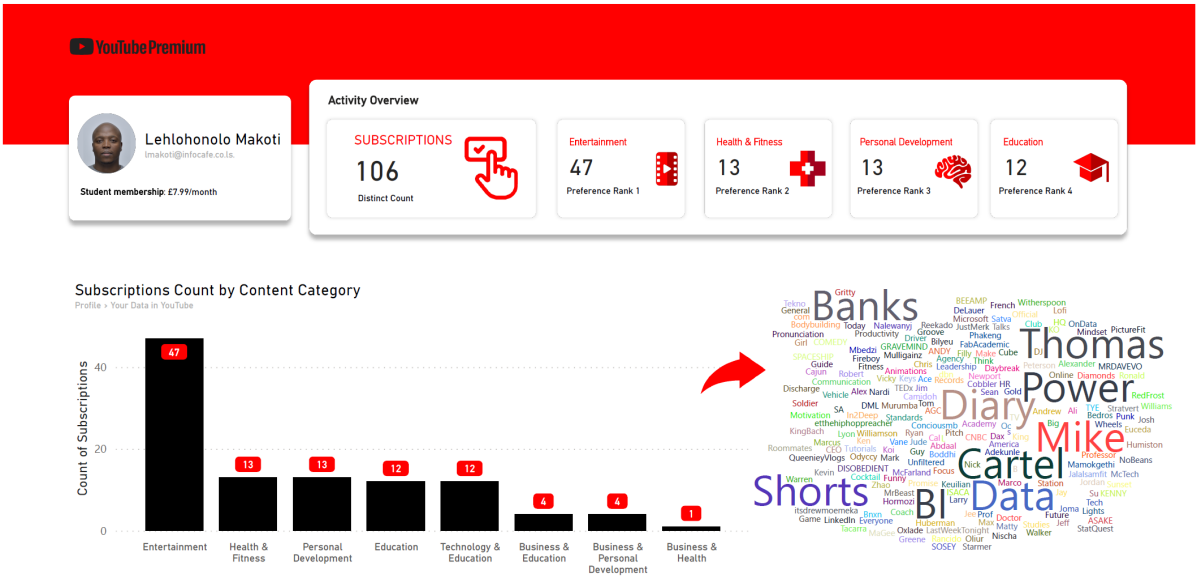
- Take any area of your life you're "interested" in understanding more
- Get the data: personal, open source, fake (kaggle) or commercial
- Align the project to your area of work (consultancy/business/9-5)
- Write a project document (use a format relevant to your industry)
- Publish on platforms you intend to build your client base (Facebook, Twitter, LinkedIn, GitHub, etc.)

With more projects, you build a professional competence portfolio and proof of your skills/achievements; it's one thing to claim on your CV that you know something, and it's another to have a way to substantiate it.

6. Considerations/Appendix

- **GitHub Repo Naming Conventions:** https://github.com/bcgov/BC-Policy-Framework-For-GitHub/blob/master/BC-Gov-Org-HowTo/Naming-Repos.md

Actual Deliverable



I developed a Power BI dashboard to analyse YouTube subscription data by importing and cleansing datasets, creating basic measures for subscriber counts and preferences, and visualising the data using a column chart and custom word clouds, all styled with YouTube's signature red and black colour scheme.

Brickwall: The API didn't perform quite as I had envisaged, with its functions being primarily focused on analysing content creator data. This might prove useful once I begin producing and sharing my own content, enabling me to utilise the API for analytics and updates. However, at the current stage, a straightforward data export from YouTube and an analysis of my subscriptions would suffice for my objective of understanding where I spend most of my time on YouTube.