

Sprint 1: User Story: Youtube API and Google Developer tools

1. Google Developer Tools: Google Cloud Console

Google Cloud Console is the interface for managing Google services, including API access. To use the YouTube Data API, we must:

- Enable the YouTube Data API v3 in Google Cloud Console.
- Create API credentials (API Key or OAuth 2.0) for authentication.
- Set up quota limits to avoid exceeding API request limits.

2. YouTube Data API v3

The YouTube Data API allows us to retrieve video comments, metadata, and engagement details. The key endpoints for extracting comments include:

- `commentThreads.list`: Fetches top-level comments on a YouTube video.
- `comments.list`: Retrieves replies to a specific comment.

Steps to extract comments:

1. Make an API request using `commentThreads.list` with parameters like `videoId`, `part=snippet`, and `maxResults`.
2. Parse the JSON response to extract comment text, author, and timestamps.
3. Store the extracted comments for analysis.

3. Python Notebook for Sentiment Analysis

We can use Jupyter Notebook or Google Colab to process and analyze the extracted comments. Key steps include:

Step 1: API Integration with Python

Step 2: Sentiment Analysis Using NLP

Step 3: Visualizing the Sentiment Distribution

Useful Github links:

<https://github.com/googleapis/google-api-python-client>

Other useful links:

<https://textblob.readthedocs.io/en/dev/>

<https://textblob.readthedocs.io/en/dev/quickstart.html#sentiment-analysis>