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BRIEFLY
Video Transcript Summarizer

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Abstract— In an age where video content proliferates across digital platforms, the need for efficient video transcript summarization tools has become increasingly crucial. This abstract introduces a novel Video Transcript Summarizer designed to automatically generate concise and informative summaries from lengthy video transcripts. By utilizing techniques such as text summarization, keyword extraction, and sentiment analysis, the summarizer seeks to capture the essence of the video while preserving its context and relevance. The abstract concludes by highlighting the potential applications of such a tool in various domains, including education, journalism, content creation, and information retrieval, underscoring its significance in facilitating accessibility and enhancing user engagement with video content

Keywords-- Video Transcript Summarization, Natural Language Processing, Machine Learning, Text Summarization, Keyword Extraction, Information Retrieval, User Engagement, Accessibility, Information Extraction, Context Preservation.

I. INTRODUCTION

Briefly is an innovative video transcript summarizer designed specifically for YouTube videos. Leveraging the widespread usage of YouTube and its captions, the tool extracts sentence by sentence from provided YouTube URL links. By collecting and analysing these captions, it also generates accurate summaries of the entire video content. The project aims incorporate additional features, including the ability to summarize videos with disabled captions. This endeavour not only offers immense potential for expansion into various applications but also serves as an open-source platform, inviting collaboration and contribution from developers worldwide. Built using Python technology, the project's comprehensive documentation serves as a vital resource for users and developers alike, facilitating project understanding, collaboration, and future enhancements.

A. PROBLEM STATEMENT

The problem of summarizing YouTube transcript is significant because of the large number of videos available on the platform and the limited amount of time users must watch them all. The need for a summarizer that can quickly and accurately condense transcripts into a manageable format is growing as more and more people use YouTube for entertainment, education, and information. The development of a YouTube transcript summarizer requires the application of advanced Natural Language Processing (NLP) and Machine Learning (ML) techniques to analyse the text of the transcript and extract the key information. The solution must also be user-friendly and customizable, allowing users to define their own summarization criteria and parameters. Solving this problem will provide users with a valuable tool for quickly and efficiently understanding the content of a video, making the most of their limited time and attention.

B. OBJECTIVE

The primary objectives of video transcript summarize, an innovative summarizer for Videos is outline as follows:

1. To create easy and accurate summaries of longer videos, enabling viewers to quickly grasp the essential content without watching the entire video.
2. The main goal is to save users' time by offering a condensed version of video content that captures the key information effectively.
3. To address the diverse needs of users by providing them with relevant and useful information in a concise format.

C. ALGORITHM USE

- T5 (Text-To-Text Transfer Transformer) and BART (Bidirectional and Auto-Regressive Transformers) are both advanced neural network architectures developed by the team at Hugging Face and Google AI for natural language processing (NLP) tasks. They are part of the broader family of transformer models, which have revolutionized many NLP tasks due to their ability to learn complex patterns in sequential data like text.

- **T5 (Text-To-Text Transfer Transformer): -** T5 is a versatile transformer model that follows a text-to-text approach, meaning it frames all NLP tasks as text generation tasks. Instead of designing separate architectures for different NLP tasks like summarization, translation, question answering, etc., T5 can be fine-tuned on various tasks by providing input-output pairs in a unified text format.

- **BART (Bidirectional and Auto-Regressive Transformers): -** BART is a transformer model specifically designed for sequence-to-sequence tasks, such as text generation, summarization, and translation. Unlike models like GPT (Generative Pre-trained Transformer), which are autoregressive and generate tokens sequentially, BART uses a combination of autoregressive and bidirectional training.

II. LITERATURE SURVEY

A. The Nallapati et al. proposed a method for summarizing YouTube video transcripts using a blend of convolutional and recurrent neural networks. Their approach, evaluated on a YouTube dataset, demonstrated competitive results compared to other summarization techniques. This method holds promise for efficiently extracting pertinent information from video content, leveraging the capabilities of deep learning models to enhance summarization processes in multimedia contexts.5]

B. The Authors is Sanjana R., Sai Gagana V, Vedhavati K R, and Kiran K N put forth a method titled 'Video Summarization using NLP,' presenting an automated approach leveraging Natural Language Processing (NLP) algorithms. With YouTube's burgeoning video repository, demand surges for effective summarization techniques to distill content accurately. Their system generates summarized videos based on YouTube video transcripts, addressing the need for efficient information extraction [7].

C. From [2], the author introduces two distinct methods for generating summaries and extracting important keywords from YouTube videos: extractive and abstractive. These methods offer users flexibility in how they obtain information, catering to different preferences and needs. The user interface designed by the author is described as simple and user-friendly, facilitating easy interaction for users seeking summaries through these methods. By condensing lengthy videos into concise summaries, the project enables users to access only the most relevant information on topics of interest, thereby saving valuable time. This efficient approach empowers users to allocate their saved time towards further knowledge acquisition, enhancing productivity and learning outcomes.

III. WORKING OF PROJECT

The steps are followed to getting summary by using Video transcript Summarizer:

1. User or Clint select the video from YouTube that you want to get summary of video.
2. Copy the YouTube link and paste it on search panel. You can also upload video from devices.
3. After paste the link, wait 1 or 2 minutes and get full summary.
4. User or Client receives the summarized text of a given video.

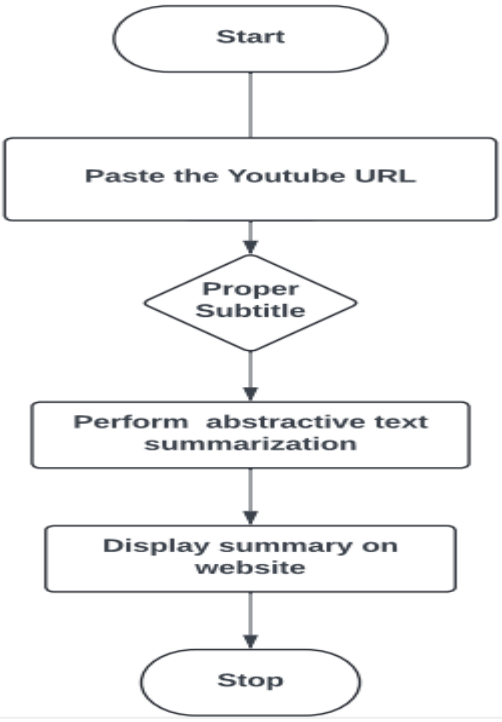


Fig. 1. Flowchart

Here the user gives the YouTube link for Summarizer. Based on the YouTube URL, the subtitles or caption are fetched by the backend flask server from YouTube server. The subtitles that are

extracted from the YouTube for gives proper and accurate summarized to user, and it is in text will be received by the User. In our application, the user is allowed to Upload the Video from User Devices to get summary on it.

IV. RESULTS AND DISCUSSION

The implementation of the video transcript summarizer has yielded compelling results, revolutionizing the way video content is processed and accessed. By automating the transcription process, the tool has significantly reduced the time and resources required for converting spoken dialogue into written text. This efficiency not only streamlines content creation but also facilitates rapid dissemination of information to a broader audience. Moreover, the summarizer plays a pivotal role in enhancing accessibility by providing a textual alternative to the audio content, ensuring inclusivity for individuals with hearing impairments.

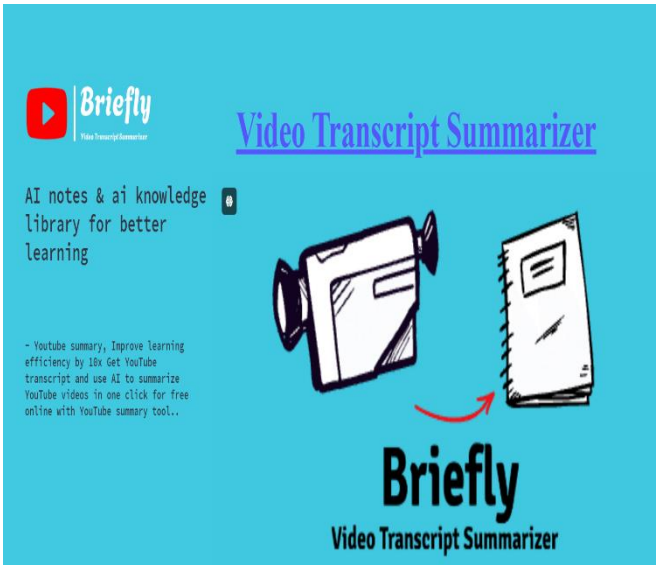
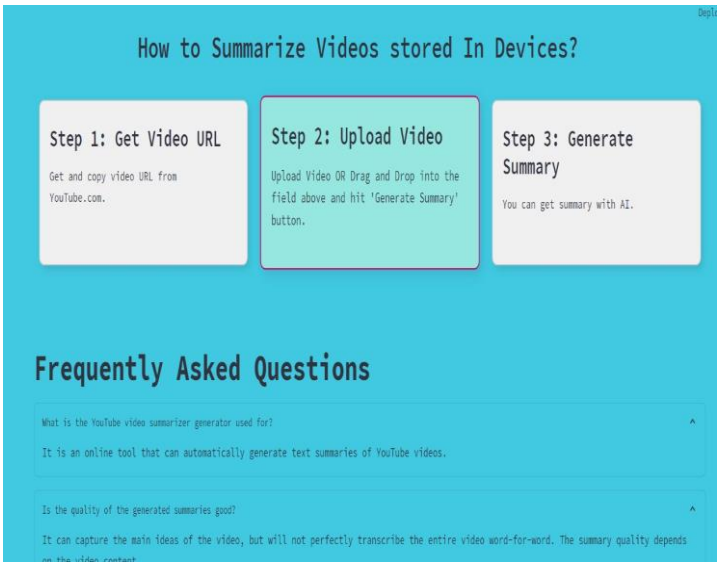


Fig. 2 . This is the starting Page of the Project.

1. Here, the User should get the summary by both YouTube video link via or Uploading Video from device.

Fig. 3.We can upload Links or Video.



2. These are the steps to Summarize Videos.

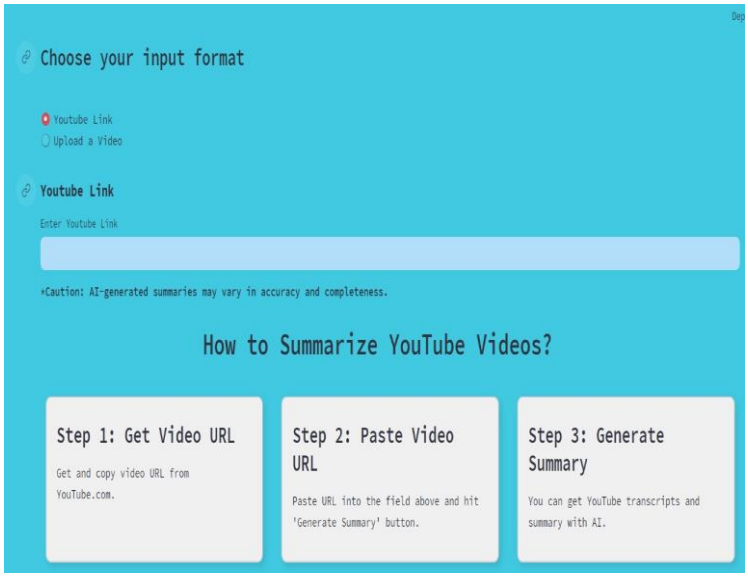


Fig. 4. Steps For Summarize Videos.

3. Here is the YouTube Video link in pasted or User can upload video also.

Fig. 5. User can paste the links or Video.

4. This is a Summary of the Full YouTube video.

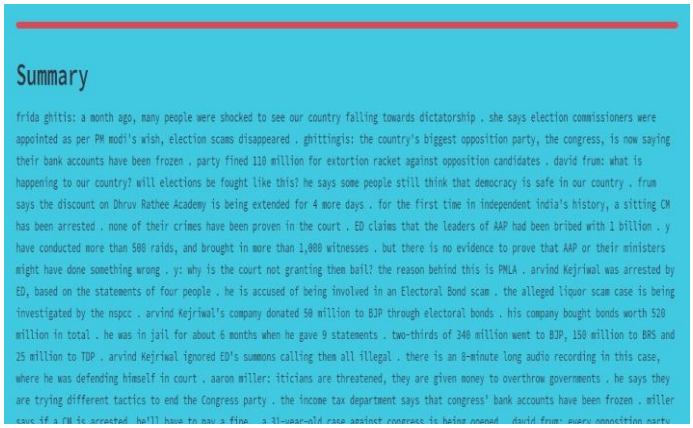


Fig. 6. This is the summary of Links videos

V. CONCLUSION

This project has proposed Briefly Video Transcript summarizer is offers a time-saving solution through concise text summaries. By leveraging Python, it enhances user experience and efficiency. It takes long videos and turns them into short summaries, saving time and helping users find the information they need quickly. It is easy to use and can even help avoid unwanted content.

Future research may explore multilingual support and personalized summaries, showcasing its potential for innovation in YouTube video summarization.

VI. REFERENCES

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