

Project Title (Addressing Deafness with Innovative Solutions)	In body test
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Program	Artificial intelligence
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## 1. Abstract:

This report details the development of a Streamlit application designed to convert YouTube transcripts into detailed notes using multiple AI models. The project incorporates technologies such as the YouTube Transcript API, Hugging Face Transformers, Google's Gemini Pro, and custom-built LSTM models to provide comprehensive summaries. This document covers the project's objectives, the issues encountered and their resolutions, the testing phase, conclusions, and references.

## 2. Introduction:

The increase in video content on platforms like YouTube presents a need for tools that can efficiently extract and summarize information. This project aims Addressing Deafness with Innovative Solutions need by developing a Streamlit application that converts YouTube video transcripts into detailed notes. The application uses various AI models to generate summaries, offering users different options for summarization.

## 3. Objectives:

The primary objectives of this project are:

3.1 To develop a user-friendly Streamlit application for extracting and summarizing YouTube video transcripts.

3.2 To implement multiple AI models, including Google's Gemini Pro, Hugging Face Transformers, and LSTM, for generating comprehensive summaries.

3.3 To enhance accessibility and efficiency in consuming video content by providing concise and detailed notes.

## 4. Issues found and How we resolve issues:

### 4.1 Transcript Extraction Errors:

**Problem:** Extracting transcripts from YouTube sometimes resulted in errors due to unavailable transcripts or incorrect video IDs.

**Resolution:** Implemented error handling to manage exceptions and provide user feedback when transcripts are unavailable.

## 4.2 Large Text Processing:

**Problem:** Processing large transcripts in a single request led to memory issues and incomplete summaries.

**Resolution:** Developed a function to split large transcripts into manageable chunks, ensuring each chunk is processed efficiently.

## 4.3 Model Integration Challenges:

**Problem:** Integrating multiple AI models into the application was complex due to varying input requirements and output formats.

**Resolution:** Standardized the input and output formats for each model, ensuring seamless integration and consistent results.

## 5. Testing phase:

Involved validating the application's functionality and performance.

Key areas of focus included:

**5.1 Accuracy of Transcripts:** Ensured the YouTube Transcript API accurately extracted transcripts.

**5.2 Quality of Summaries:** Evaluated the summaries generated by each model for coherence and relevance.

**5.3 User Interface:** Tested the Streamlit application's usability, ensuring it provided a smooth and intuitive user experience.



## Testing Process

**5.4 Unit Testing:** Conducted unit tests for individual functions to ensure they worked as expected.

**5.5 Integration Testing:** Tested the entire application workflow to verify the integration of all components.

## 6. Output:

### YouTube Transcript to Detailed Notes Converter

Enter YouTube Video Link:

Get Detailed Notes

## YouTube Transcript to Detailed Notes Converter

Enter YouTube Video Link:

<https://www.youtube.com/watch?v=v7Li2WVHdHw>



## Google Gemini Summary:

### Summary:

This video provides an interactive English learning experience to enhance listening comprehension, vocabulary, and speaking skills. It consists of four parts:

- **Listening Practice:** Practice understanding conversations between native English speakers.
- **Vocabulary:** Learn new words and phrases related to dining out and their usage in context.
- **Listen and Answer Practice:** Test your listening and speaking abilities by answering questions about the conversation.
- **Shadowing Practice:** Improve pronunciation and speaking fluency by repeating lines after native speakers.

### Key Points:

- Focus on listening to real-life conversations to enhance comprehension.
- Expand vocabulary related to dining out to better understand restaurant-related scenarios.
- Practice answering questions out loud to improve speaking confidence and fluency.
- Shadow native speakers to improve pronunciation and intonation.
- Repeat the exercises daily for optimal results.

## Transformer Model Summary:

Interactive Learning Experience designed to improve your English speaking skills . Four-part exercise part one listening practice part one vocabulary part two vocabulary part three listen and answer practice part four shadowing practice . Shadowing practice will help you understand real life conversations better dining . Use a few words and use them in example sentences to help you grasp their meaning easily [Music] vocabulary to dine out this phrase means to eat a meal at a restaurant instead of at home . Emily suggested that they should go to the new Italian restaurant downtown . a place for a specific time at a restaurant ensuring there will be seating available when you arrive . a restaurant offers a variety of delicious dishes at reasonably priced rates . attentive staff this refers to employees who are very Mindful and observant of customers needs providing excellent service . Mark agreed to dine out for dinner with Emily and Emily to try a new restaurant downtown . Emily suggested dining out to try the local Cuisine during their trip to Italy . Emily suggests dining out with Mark tonight dining out . Mark agrees to dining out but doesn't ask about booking a chair . Mark asked Emily about booking a table for that restaurant . Emily said it might be better to make a reservation because she heard the restaurant is quite popular and she doesn't want to wait too long good point is the food there expensive no it's reasonably priced? Read your lines out loud after the speakers as they talk in the conversation focus on the Rhythm and intonation of the English expressions and sentences this exercise will sharpen your pronunciation and overall speaking abilities . English-speaking practice video is designed to help you improve your English language skills . Keep watching this video every day for one week and repeat the exercises to see significant improvements in your English skills .

## LSTM Model Summary:

exercises to see significant improvements in your english skills don't forget to like and subscribe for more helpful content happy learning thanks for watching guys now i recommend you watch this great video too it will help you to improve your english skills and you will love it i promise

## 7. Conclusion:

The YouTube Transcript to Detailed Notes Converter successfully integrates multiple AI technologies to provide comprehensive video summaries. The application enhances accessibility by allowing users to quickly obtain detailed notes from YouTube videos. Future work includes refining the transcription accuracy and expanding the summarization capabilities to support more languages and video types.