

# Project 13: YouTube Transcript Summarizer

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## Description:

This tool summarizes transcripts from YouTube videos—great for turning long educational content, podcasts, or lectures into quick takeaways. Users can paste transcripts directly (from auto-generated captions or tools like [YouTube Transcript](#)) and get a concise summary.

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## youtube\_transcript\_summarizer.py

```
import openai
import os
import gradio as gr

# Load OpenAI API key
openai.api_key = os.getenv("OPENAI_API_KEY")

# Define function to summarize YouTube transcripts
def summarize_transcript(transcript_text):
    # Set up system prompt to guide the assistant
    messages = [
        {
            "role": "system",
            "content": (
                "You are an expert summarizer. Your task is to take long videos"
                "and summarize them into key insights and bullet points. Be concise."
            )
        },
        {
            "role": "user",
            "content": f"Please summarize this transcript:\n\n{transcript_text}"
        }
    ]

    try:
        # Call OpenAI API to generate summary
        response = openai.ChatCompletion.create(
            model="gpt-3.5-turbo", # Use GPT-4 if preferred
            messages=messages
```

```

    )

    # Return summarized content
    return response["choices"][0]["message"]["content"].strip()

except Exception as e:
    # Return any errors encountered
    return f"Error: {str(e)}"

# Create Gradio interface for transcript summarization
iface = gr.Interface(
    fn=summarize_transcript,                # Function to summarize tra
    inputs=gr.Textbox(lines=15, placeholder="Paste YouTube transcript here..."),
    outputs="text",                        # Display summarized output
    title="🎥 YouTube Transcript Summarizer", # App title
    description=(
        "Paste the full transcript from a YouTube video to get a clean summary"
        "Great for lectures, interviews, podcasts, or long videos. Example: us
    )
)

# Launch the app
iface.launch()

```