

# Project 39: Text Expander

---

## Description:

This tool takes short ideas, phrases, or bullet points and expands them into complete, clear, and coherent paragraphs. Perfect for turning notes into emails, outlines into reports, or thoughts into social posts—instantly.

---

## text\_expander.py

```
import openai
import os
import gradio as gr

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

# Function to expand a short idea into a paragraph
def expand_text(short_input, style):
    # System prompt to guide assistant behavior
    messages = [
        {
            "role": "system",
            "content": (
                f"You are a professional writing assistant. Take a short input"
                "Make it flow naturally and clearly while retaining the origin
            )
        },
        {
            "role": "user",
            "content": f"Short input: {short_input}"
        }
    ]

    try:
        # Generate expanded text from OpenAI
        response = openai.ChatCompletion.create(
            model="gpt-3.5-turbo", # GPT-4 optional for more polish
            messages=messages
```

```

    )

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

except Exception as e:
    return f"Error: {str(e)}"

# Gradio interface for text expansion
iface = gr.Interface(
    fn=expand_text,
    inputs=[
        gr.Textbox(lines=3, label="Short Idea or Sentence (e.g. AI is changing the world)",
        gr.Radio(["formal", "casual", "inspirational", "technical"], label="Expansion Style"),
    ],
    outputs="text",
    title="🧠 Text Expander",
    description="Turn your brief thoughts into full paragraphs instantly. Great for brainstorming and writing.",
)

# Launch the expander app
iface.launch()

```