Final Project Presentaion

AI Framework for a Full-Automatic Shorts Maker

Group 8

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Intro
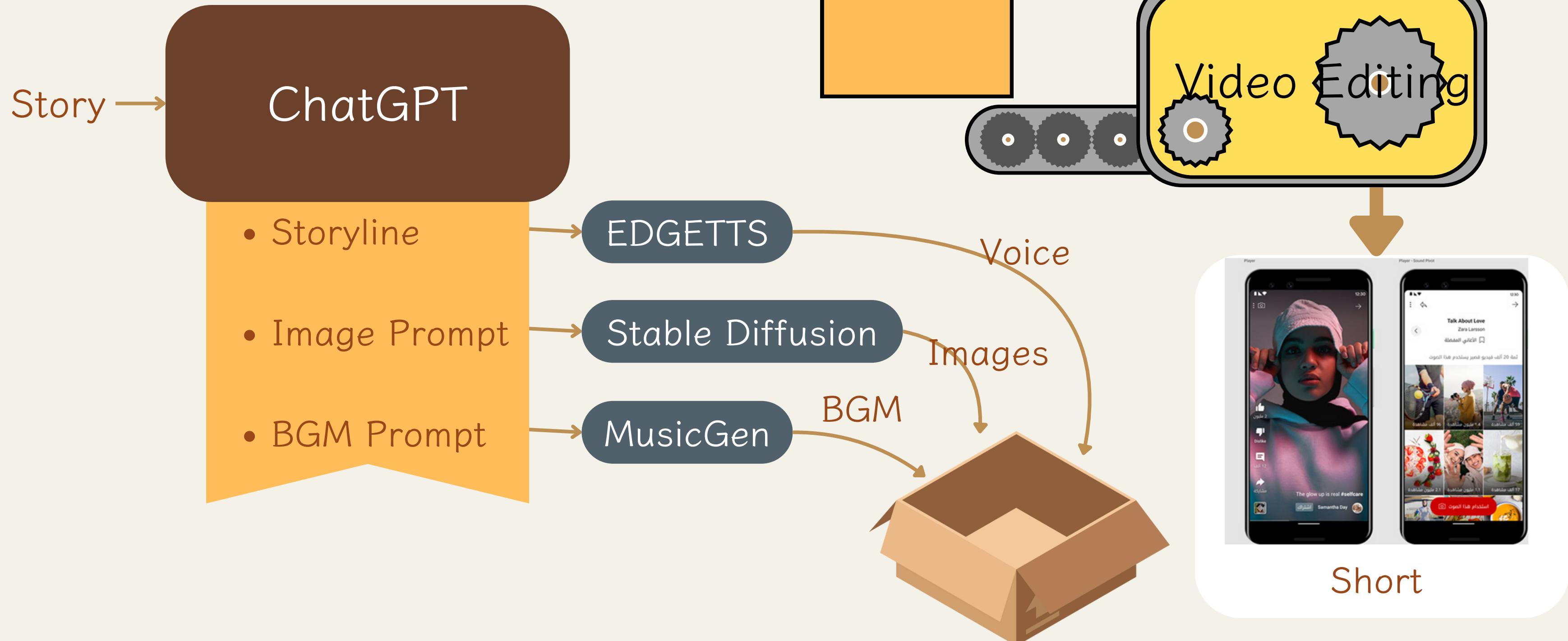
We aim to do a powerful framework for automating short videos creation.
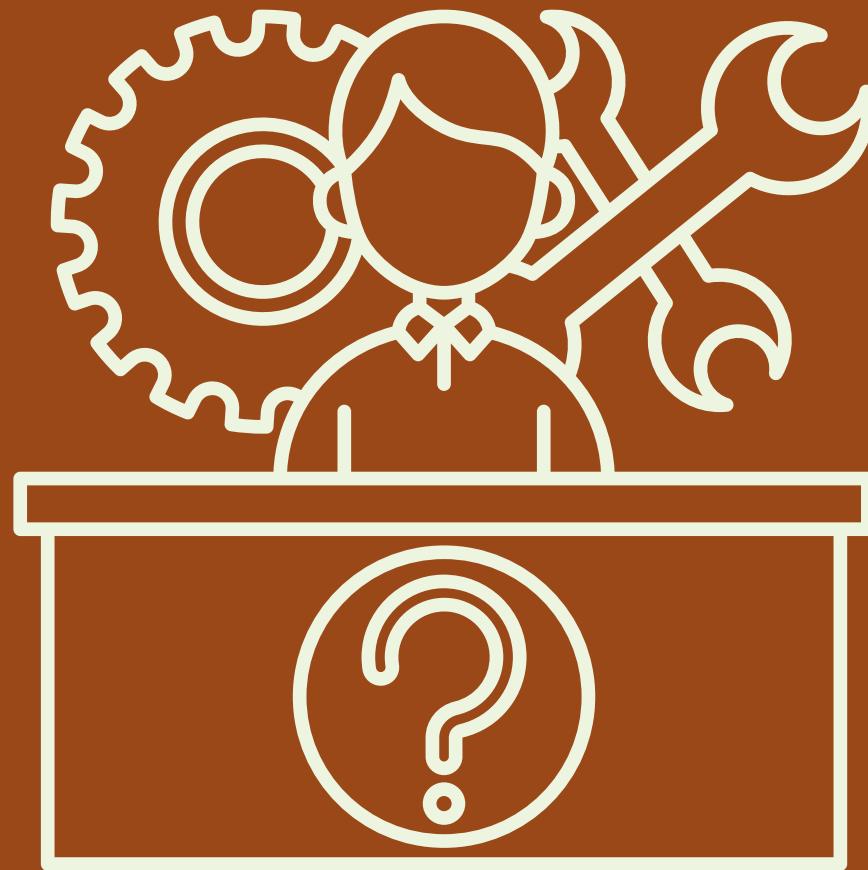
The system creates a simple video with given topic, paragraph and style.

Eventually, our goal is to automatically operate a youtube short channel.

System Overview

Story → **ChatGPT**

- Storyline → EDGETTS
- Image Prompt → Stable Diffusion
- BGM Prompt → MusicGen

Voice

Images

BGM

Video Editing

Short

Technics Intro.

Prompt Generation:
Design system prompts to leverage the power of GPT3.5 By calling Openai's API, we can get the storyline and prompt for generating images and hints for generating BGM

ChatGPT
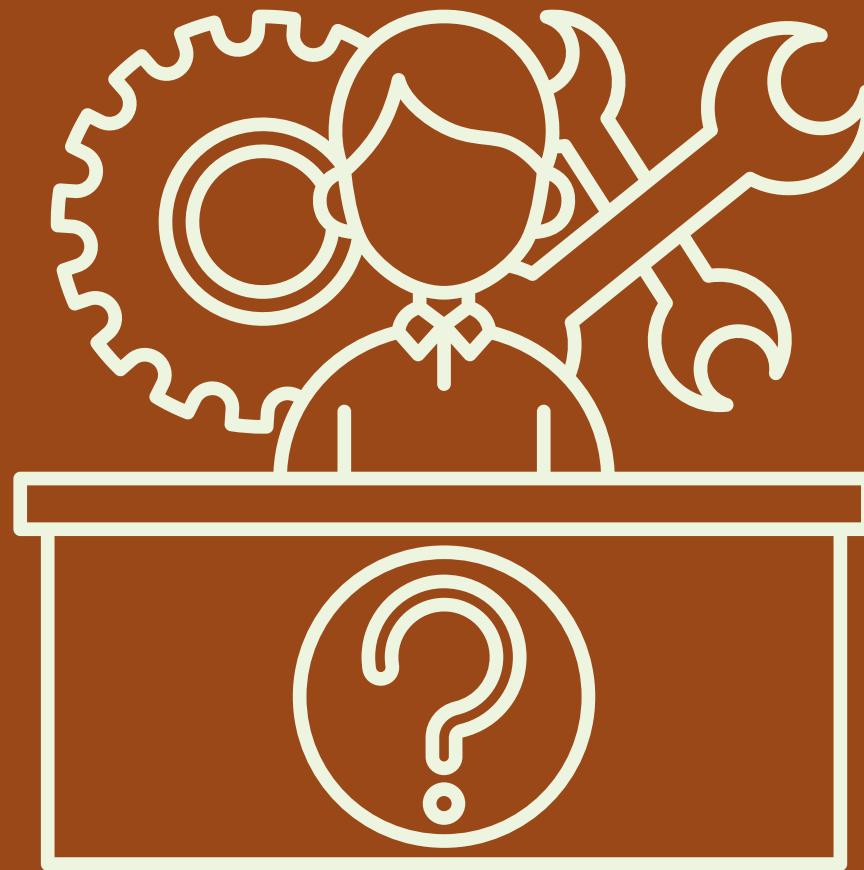
Story

Nov. 11

Call me Ishmael. Some years ago—never mind how long precisely—having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and

- Storyline
- Image Prompt
- BGM Prompt
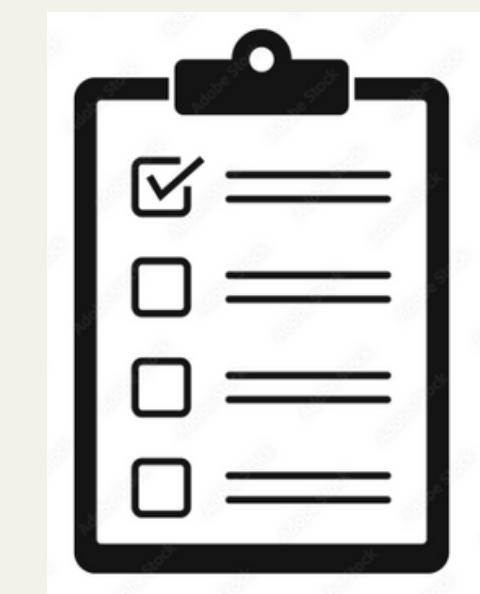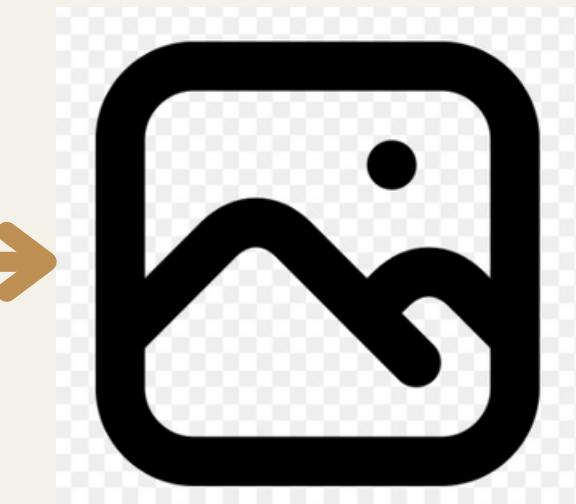
Image Generation:

Use Stable Diffusion to generate high quality pictures. Denoising diffusion models are a class of generative models that generate new images.
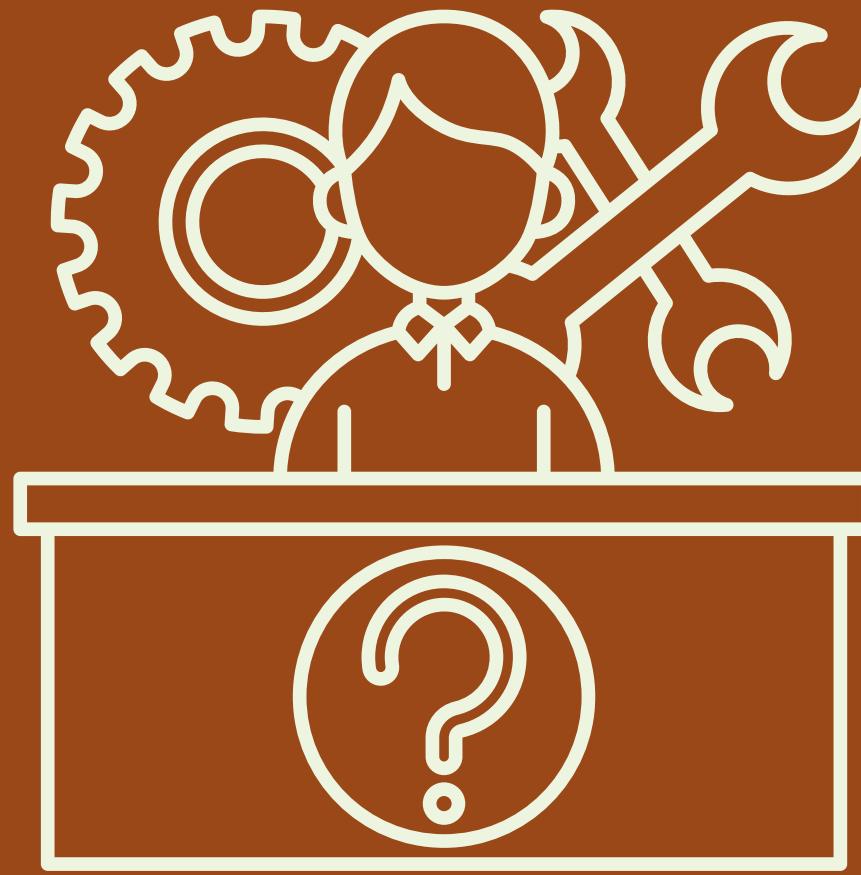
Stable Diffusion

Image Prompt

Pictures
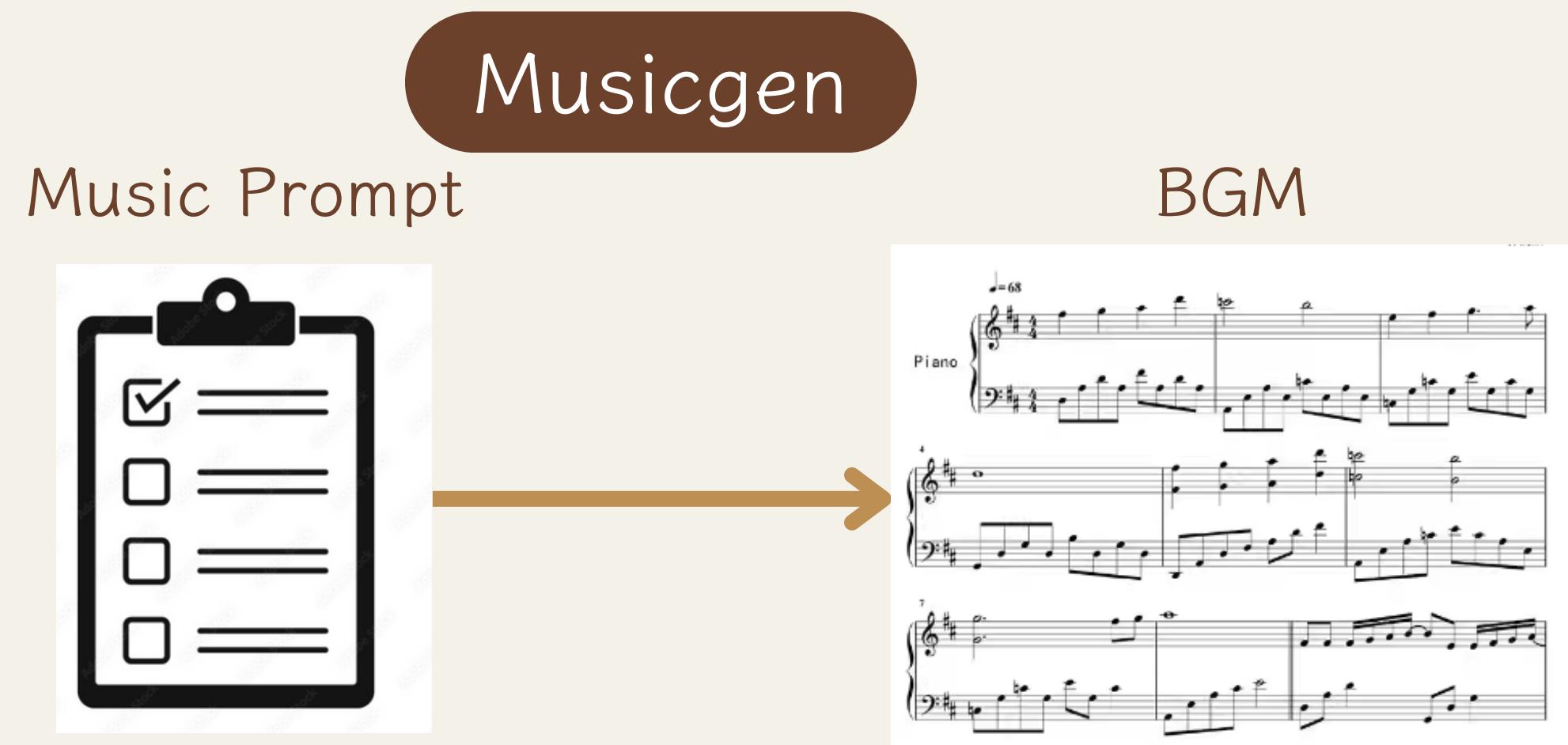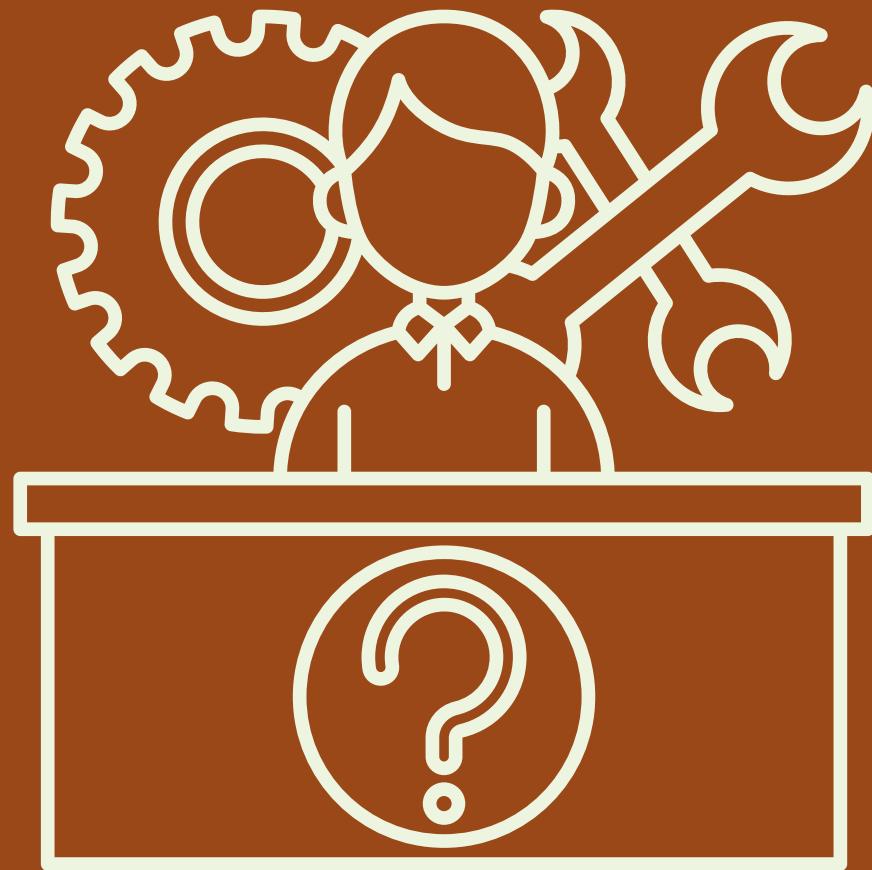
BGM Generation:
Musicgen is an open source AI music generation.
We use its pretrained model and BGM prompt to
generate the music.

Musicgen

Music Prompt

BGM
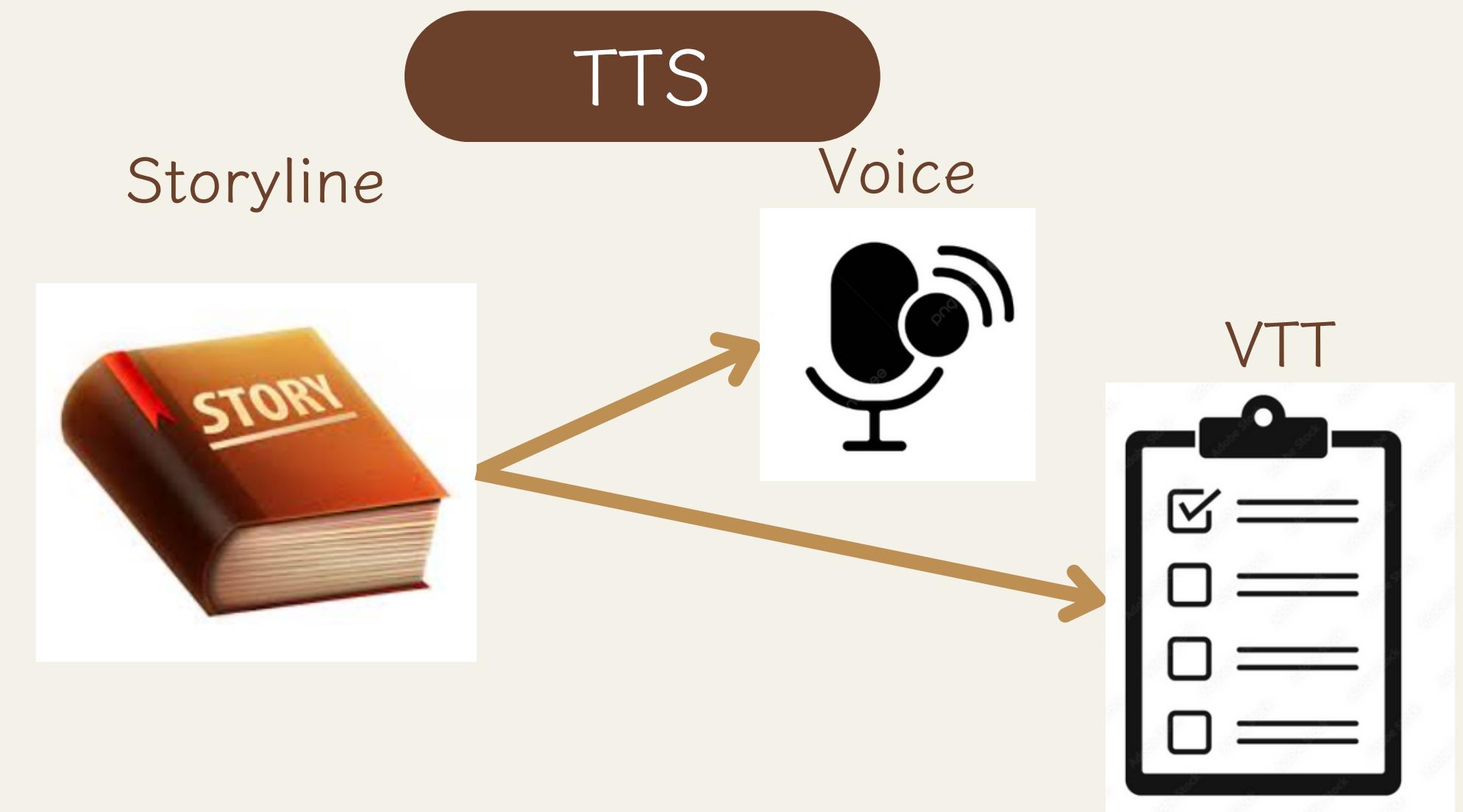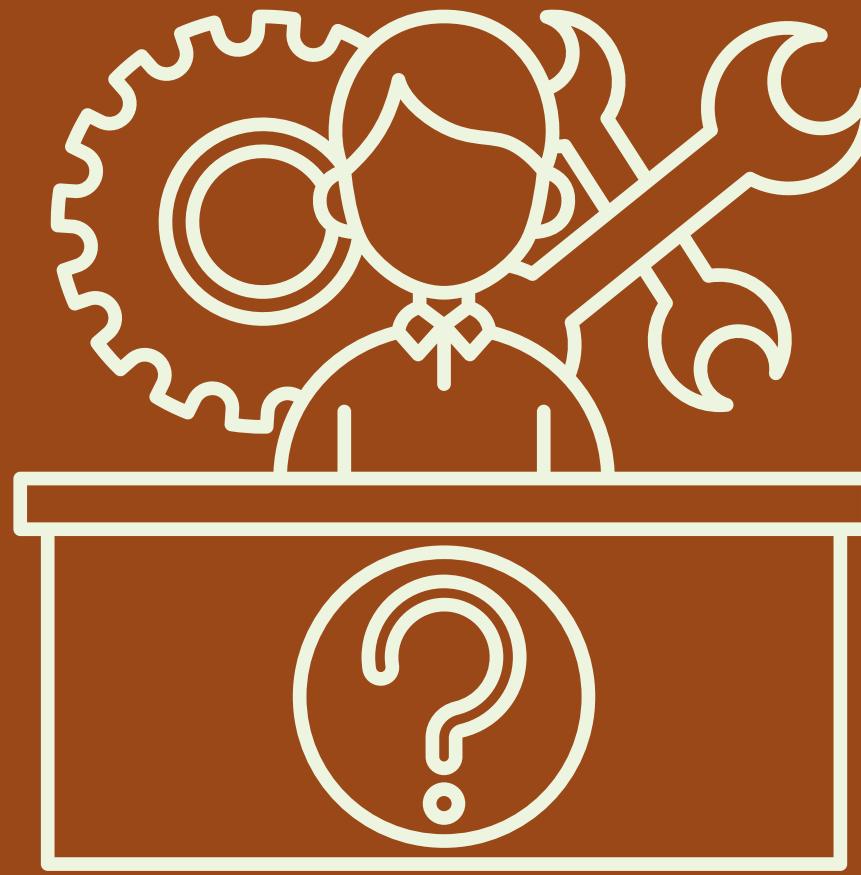
TTS Generation:
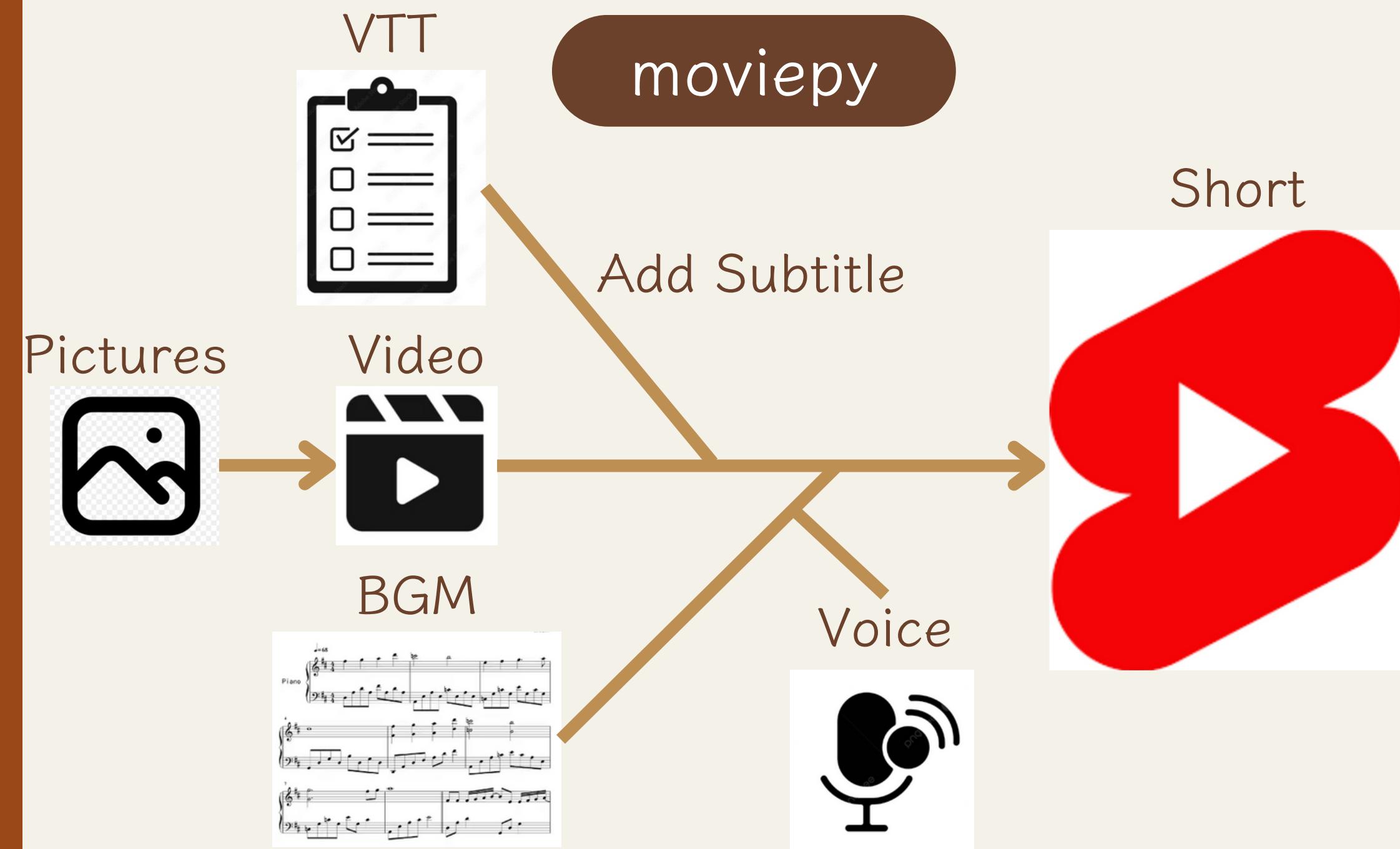
A script that uses the Edge TTS (Text-to-Speech) to generate speech and subtitles. The main functionality is to convert input text into an audio file (MP3 format) and generate corresponding subtitle files (VTT format).

TTS

Storyline

Voice

VTT
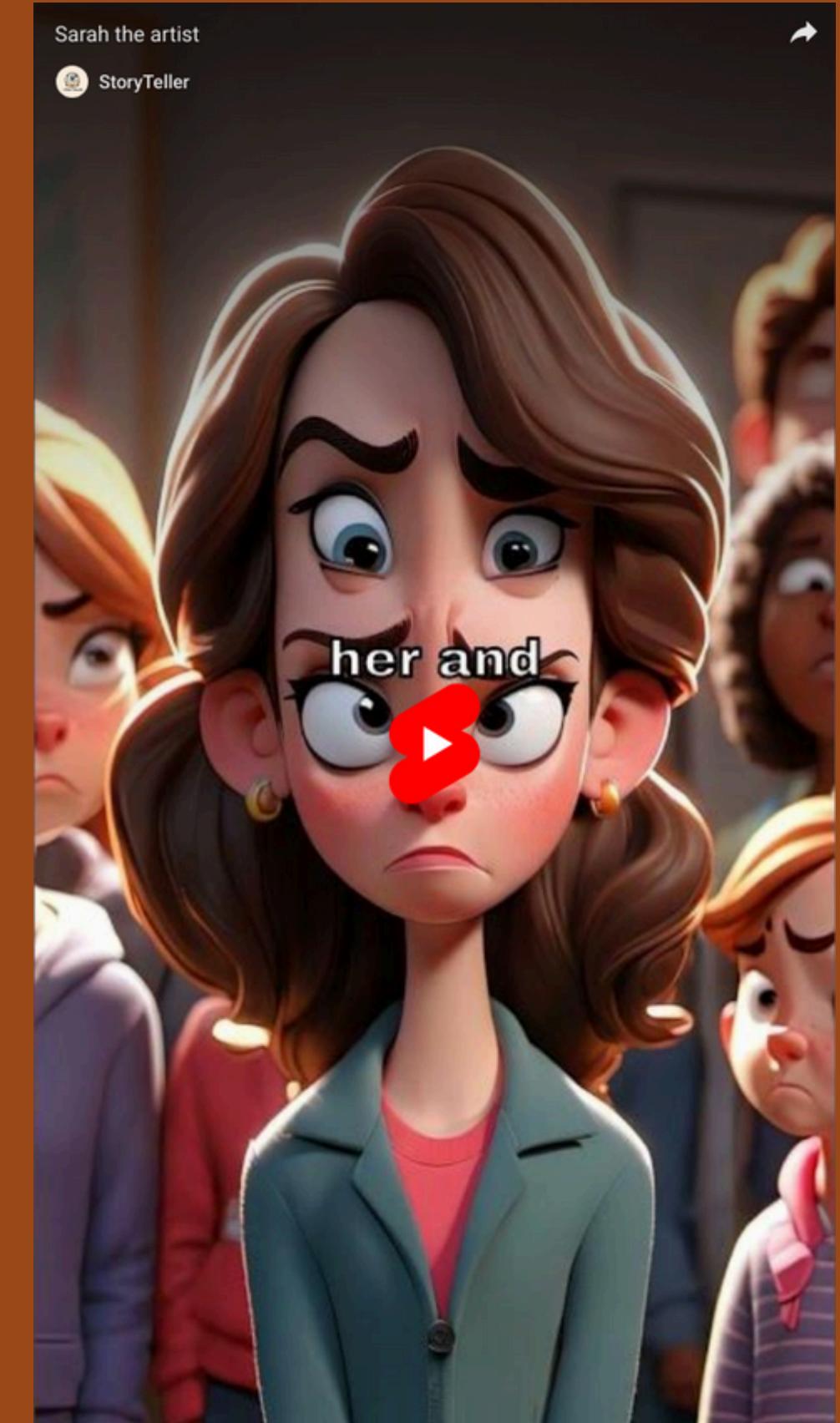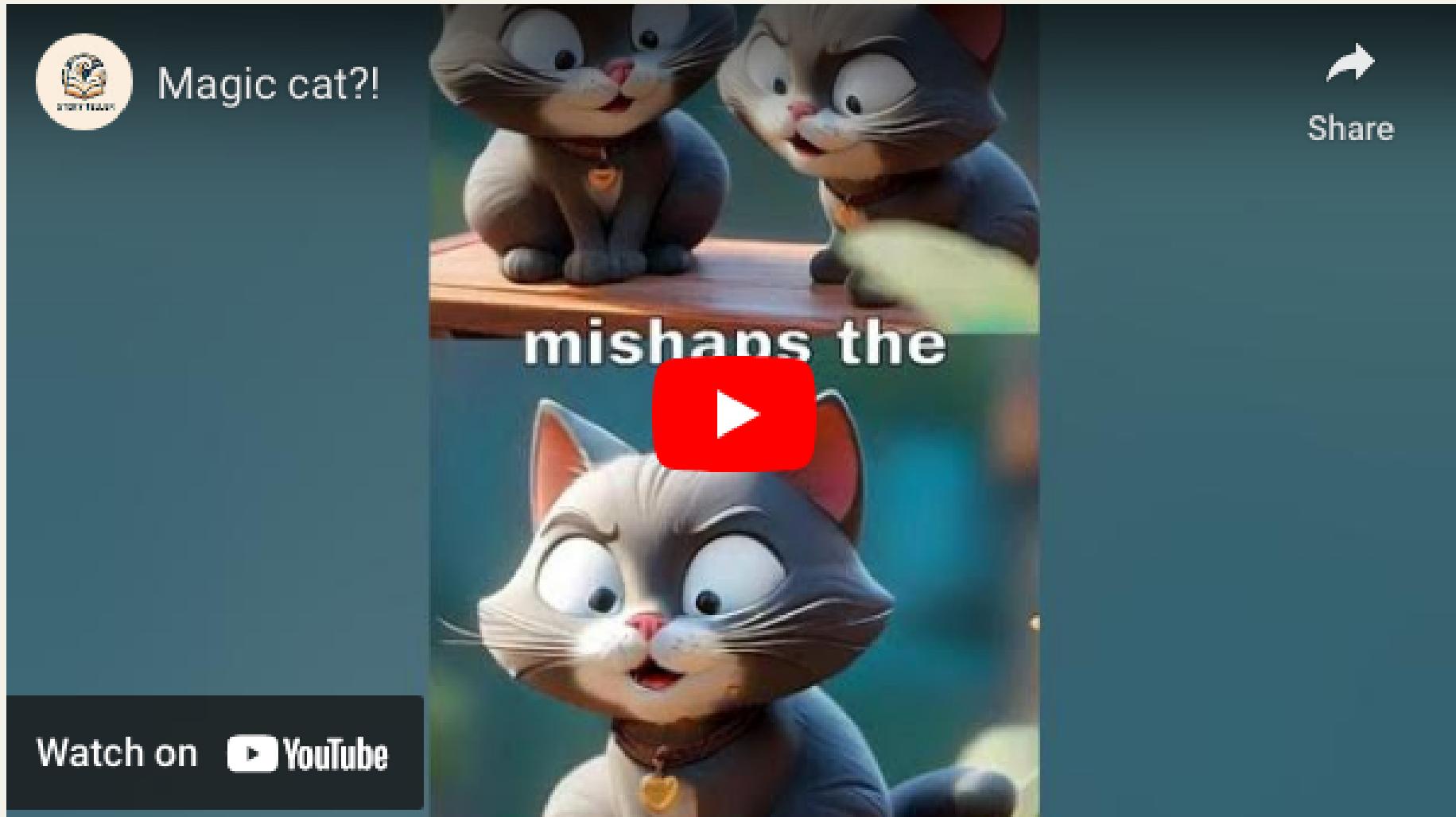
Technics Intro.

Video Editing:
Using the moviepy library to create a video with background music, voiceover, and subtitles.

VTT

moviepy

Short

Add Subtitle

Pictures   Video

BGM

Voice

Results

Conclusion
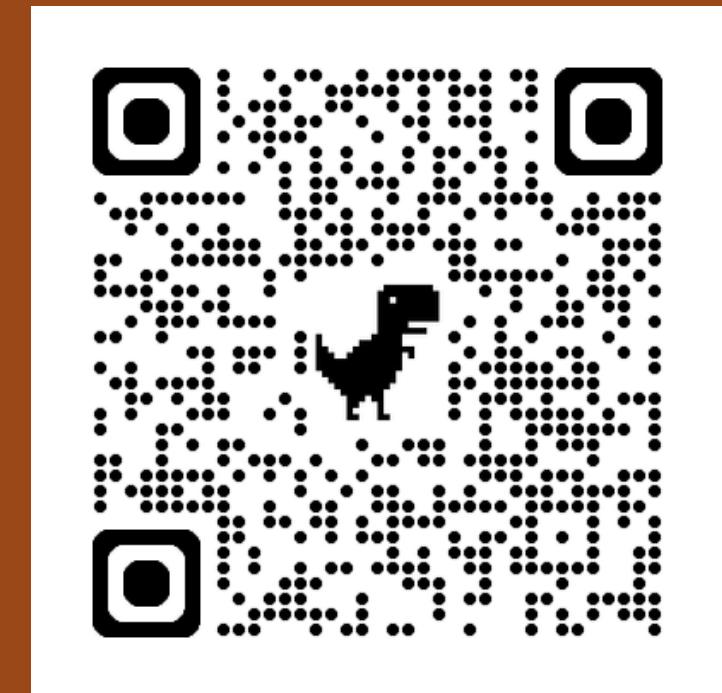
We successfully created a framework to automatically create shorts videos with statics images and basic transformation effects; however, there are still lots of room for improvement.

Future work:
- Generate dynamic clips related to content.
- Better subtitle (semantic analysis, duration)
- Incorporate the mode to generate with given Images or GIF
- UI design for model selection and more customized selection.

StoryTeller

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THANKS