WEBTALES

VISUAL NOVEL GENERATOR

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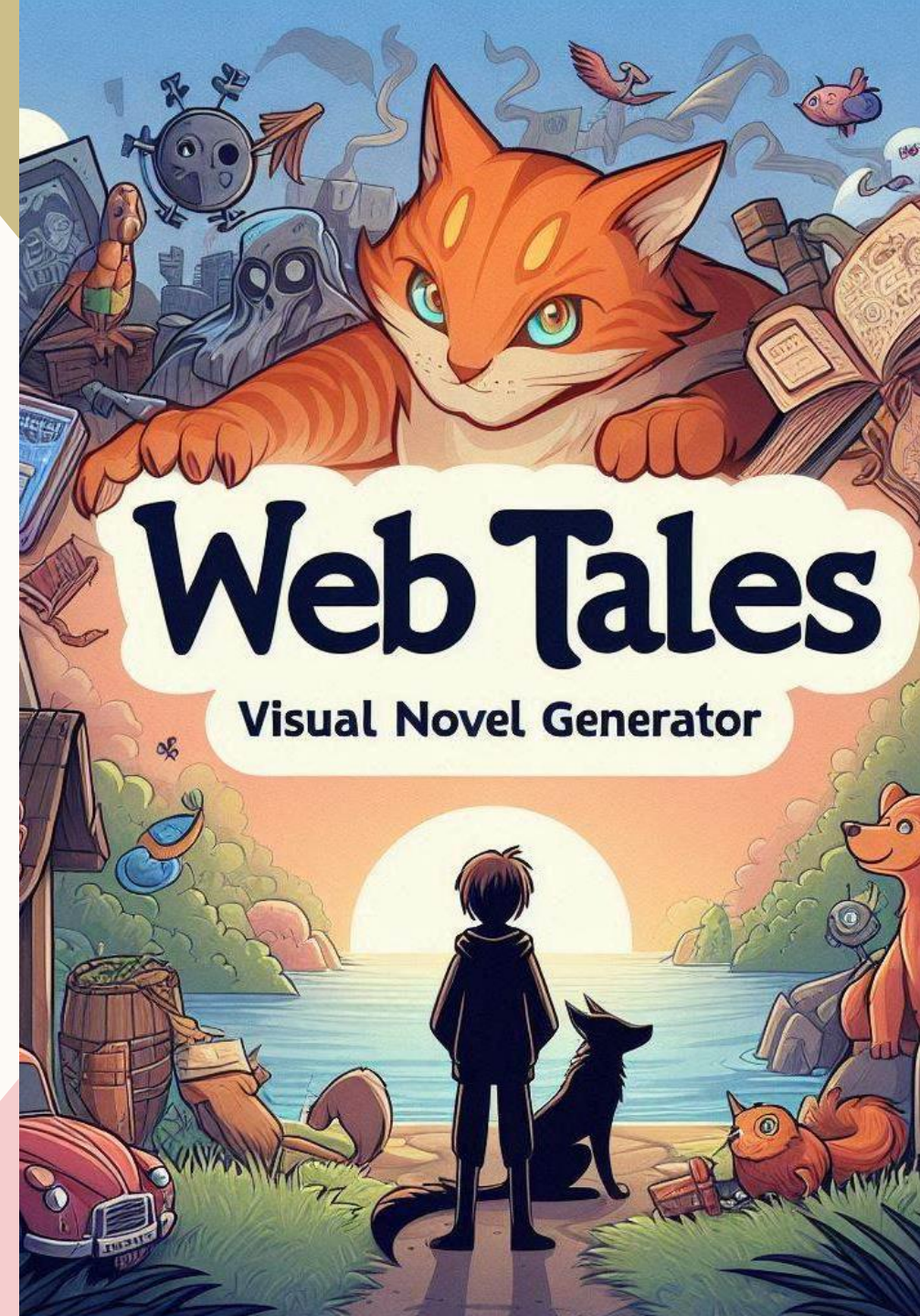# AGENDA

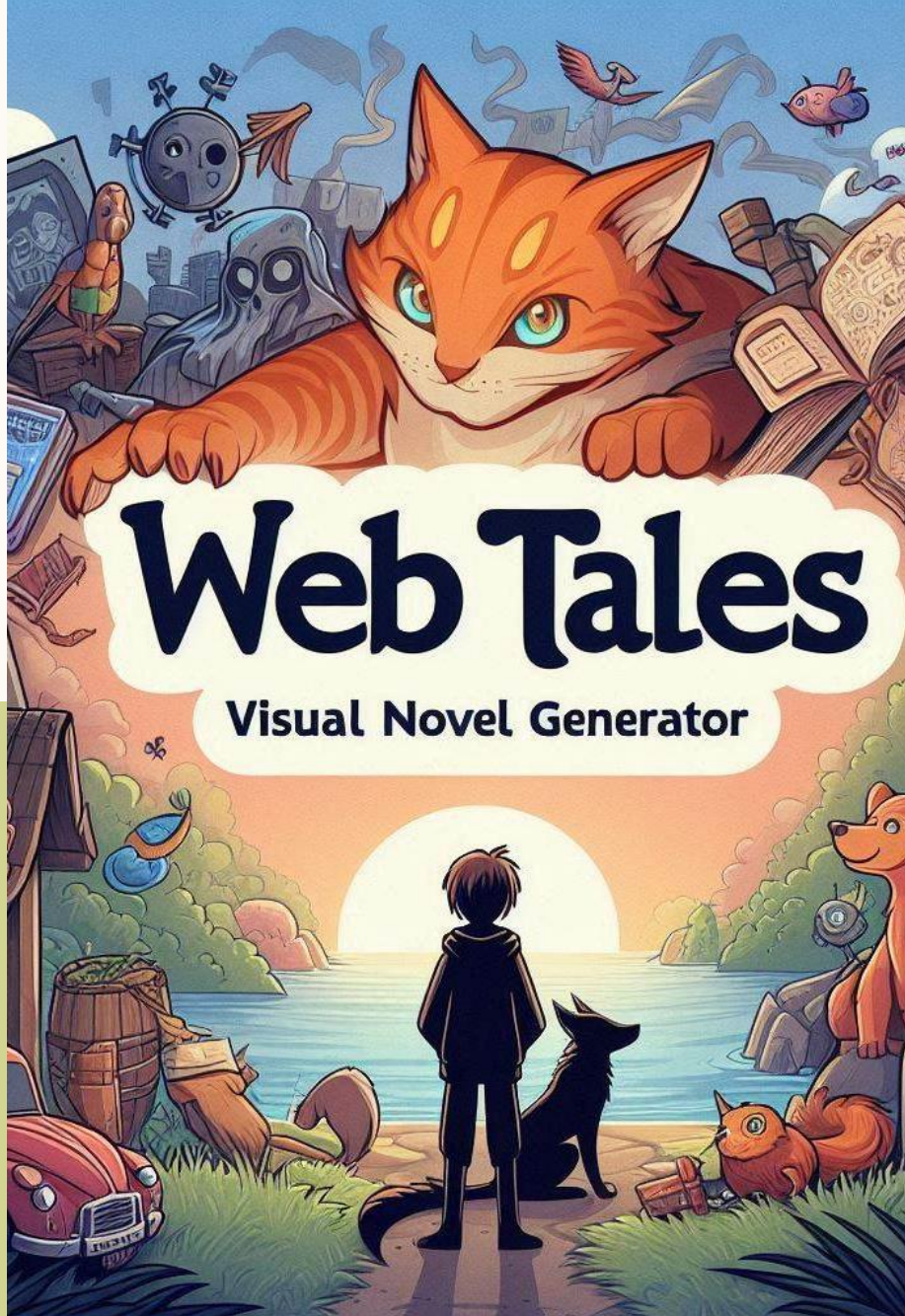# INTRODUCTION

WHAT IS WEBTALES?

- Visual Novel Generator that uses Llama3 Instruct, and image models like Stable Diffusion and Openjourney to create captivating visual novels.

- Langchain brings together all of these models together and makes them work to create a visual novel.

HOW IT WORKS

- Prompts are provided for each scene of the story by user into a streamlit applet. These prompts are saved in a .txt file and sent to the model.

- Llama3 takes these prompts and with the help of our prompt templates and pydantic output parsers of classes we defined, puts the story in a JSON format, making it structured and usable.

- Memory is built by providing previous context to the model so the story-flow is persistent and relevant.

- The model is put to another task at the same time to detect the mood of the situation and choose a music track from predefined moods storied in the music/ folder.

OUTPUT OF LLAMA3 (PARSED)

- For each scene, we ask the instruct model to generate a format like this

```json
{
  "scenes": [
    {
      "scene_id": 0,
      "characters": [
        "Paul Atreides",
        "Chani"
      ],
      "story_elements": [
        {
          "element_type": "narration",
          "content": {
            "narration_text": "The sun had long since set on the desert planet of Arrakis, casting a deep orange glow over the endless dunes. The Fremen sietch, hidden deep within the rocky outcrop
          }
        },
        {
          "element_type": "dialogue",
          "content": {
            "character_name": "Paul Atreides",
            "dialogue_text": "We must unite against the Sardaukar, my friends. They seek to destroy our way of life, to enslave us and exploit our planet's resources. But I propose an alliance betw
            "emotion": "determined",
            "character_image": "./images/Paul Atreides.png"
          }
        },
        {
          "element_type": "dialogue",
          "content": {
            "character_name": "Chani",
            "dialogue_text": "Paul, I agree that unity is key, but we must not forget the centuries of bloodshed and betrayal between our people. Can we truly trust the Atreides?",
            "emotion": "cautious",
            "character_image": "./images/Chani.png"
          }
        },
        {
          "element_type": "narration",
          "content": {
```

```python
for character_name in characters.keys():
    #characters[character_name].description = input(f"Please specify appearance of the character {character_name} (the more deta
    messages = [
        {
            "role": "system",
            "content": "You are a creative illustrator, and excel at creating good prompts for image generation.",
        },
        {
            "role": "user",
            "content": f'Craft a prompt for image generation (with openjourney model), so that i get realistic image of character
        },
    ]

    # Send the request to together.ai and parse the response
    promptgen = client.chat.completions.create(
        model="meta-llama/Meta-Llama-3-8B-Instruct-Lite",
        messages=messages,
    )
    try:
        characters[character_name].description = promptgen.choices[0].message.content
    except:
        print('Prompt generation for character failed, falling back to user given prompt')

    character_img_path = f'./images/{character_name}.png'
    response = client.images.generate(
        prompt = characters[character_name].description,
        model="prompthero/openjourney",
        steps=20,
        n=2,
        width=512,
        height=512,
        seed=42,
    )
    image_data = base64.b64decode(response.data[0].b64_json)
    image = Image.open(io.BytesIO(image_data))
    #image.show()
    image.save(character_img_path)
```

- For the backgrounds, the image tag of the background png matches the scene_id for ease of use. The character images are generated by utilizing the structured data and searching for all the dialogues the character spoke, to determine the appearance of the character

- Utilizing these details, we utilize the Llama3 8b Instruct Lite model to generate prompts which are sent to Stable Diffusion and OpenJourney.
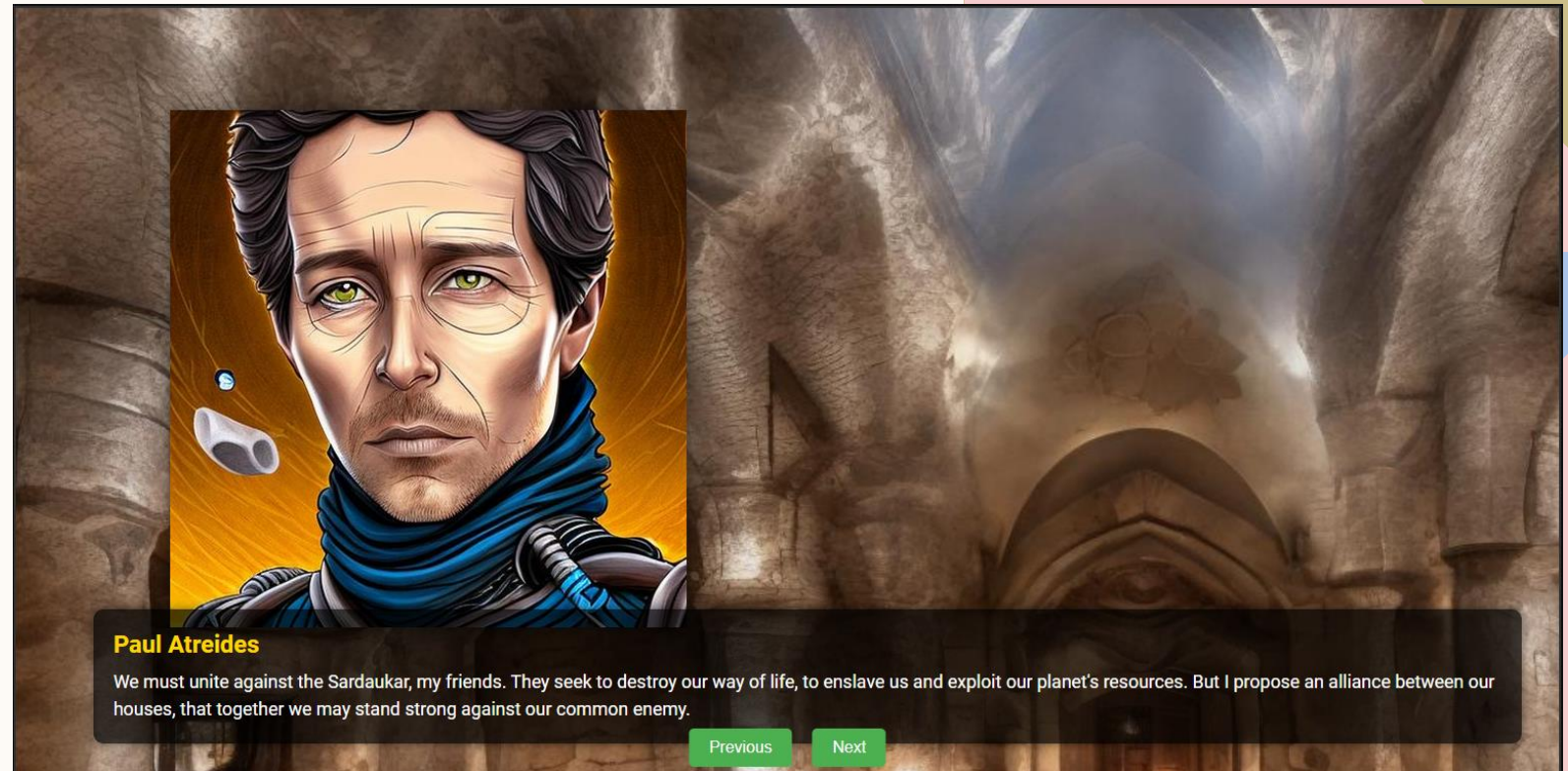
UTILIZING THE STORY STRUCTURE

Making it a visual novel

JAVASCRIPT, HTML

Javascript and HTML, create interactive elements for the visual novel interaction, and play the role of using the content's structure to finally put it in a nice presentable visual novel format.

After this step, users have to open the index.html and are greeted with a power-point like portrayal of the visual novel

TUTORIAL

How to make your own!

CREATE YOUR OWN!

1. Clone the repo.

2. Change the directory to where the files are present.

3. In terminal run, streamlit run start.py

4. You will be greeted with a screen like this on the right

5. After you are done entering the prompts, hit the "Save Prompts" button.

6. Only after step 5, click Open Visual Novel (currently broken)

7. If step 6 fails, open the index.html manually and your visual novel should be ready.

Note: Give it 5 minutes of time if you have a lot of scenes (more than 10)

Visual Novel Scene Prompt Generator 🔗

Enter Prompts for Each Scene

How many scenes?

4   −   +

Prompt for Scene 1

two friends were participating in a hackthon and were pretty nervous as it was only 48 hours long. Introduce the two friends who are college students, Sam and Alex. They registered for a hackathon. They enter the hackathon room, a wide space that looks productive and has many tables, desks, etc

Prompt for Scene 2

They enter the hackathon hosted by lablab.ai which is based on Llama3. They were surrounded by many experts and seasoned professionals in the field of generative ai. But still, they kept their calm and decided to stick to their creativity. They plug their laptops in to charging and begin coding in their designated cubicles.

Prompt for Scene 3

Now, they finally publish their project on github, and are waiting for the results, when their name is called sam and alex get up on the hackathon stage and explain their project. The explanation went well and now they are waiting for the results.

Prompt for Scene 4

Sam and alex nervously wait as the host announces the awards. continue the ending here. --end--

Save Prompts

Generate Visual Novel Scenes

Open Visual Novel

Click the button above to open the visual novel in a new tab.

SOME MORE DEMOS

Pretty raw footage but, there the model succeeded in telling the story of the famous manga – "Death Note" when provided with the gist of events.

DeathNote:
https://drive.google.com/drive/folders/1R4tKTs6vKKvkyC_5bkG23_wRaIX8DaGk?usp=sharing

Dune 2:
https://drive.google.com/file/d/1zrabKTPQwG0-mScRHYtddY28Mp2xJ5OS/view?usp=sharing

FUTURE PLANS

- Polishing the UI.

- Adding more interaction in the visual novel (on the spot generation)

- Feature to regenerate images if needed (on the spot)

- Text-to-Speech for more immersion

- Quality of Life changes.

- Simplified UI and one-click process.

- Any kind of feedback, positive or negative is hugely appreciated. Please reach out to us:

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