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Dynamic AI Storytelling and Narrative Plot Generation Engine Using Generative Language Models

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Abstract: The proposed system mainly focuses on generating Dynamic AI storytelling and also Narrative plot Generation by using models like generative language models. The main aim of this proposed system is to create an interactive story which is changing according to the emotions and choices of user. The traditional systems mainly focus on linear or semi-linear story creation whereas this proposed system introduces dynamic branching which means allowing the user to change the story dynamically. This system also provides the story to branch into multiple according to the perspectives of the user. Additionally, this system also identifies the emotional tones of the user like anger, happiness, sadness, anxiety etc. Based on these emotional tones of the user this system generates the next part of the story. Proposed system generates the characters as a realistic and these characters also stores the past actions that are given by the user choices. System provides the consistent and realistic characteristics in the story that is generated by system. This system changes the story in different ways according to the user preferences. This system generates more interactive and creative stories, where these stories are meaningful and remains logical. AI is used to generate dynamic stories whereas NLP is used to help the system to understand the language, emotions and context of the user and also makes the story to be natural.

Keywords: Python, GPT Models, Transformers, Text Generation APIs

I. INTRODUCTION

Storytelling is always one way to communicate and it serves a way to share the knowledge, emotions and imagination. With the development of the Artificial intelligence and Natural Language Processing the storytelling developed toward more dynamic, interactive and adapt various forms. Traditional storytelling is linear and static, it provides limited flexibility to users. It restricts the user creativity and decreases the user experience. To solve this issues, AI-based storytelling systems generate the stories that can change in real time based on user choices.

Recent advancements in the generative language models and transformer-based architectures helps the machines to develop the stories that are realistic and context aware. These models maintain the context continuity. By using these models, AI systems can go beyond fixed scripts and generate stories that can change dynamically based on user actions and character actions.

The dynamic AI storytelling introduces changes in linear narratives where user each choice influences the outcome of the story. This method is used to increase the user involvement by allowing the user to actively participate in story development rather than just learning content. Emotion driven plots are used to help the system to analyze the emotional tone like anger, fear, joy of the user and to generate the story according to their emotion tone and their perspective. It makes the stories more engaging and grabs the reader attention.

The main challenge majorly occurred in the automated storytelling is to maintain the character consistency along the story. The proposed system highlights the problem through character engine, by holding the character past experiences and interactions with other characters.It also allows to combine different genres, with this the reader anxiety is increased towards story.

II. LITERATURE REVIEW

Wang et al. (2025) introduced TaleFrame, an interactive storytelling system allows the user to control the key elements

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or components of the story like character details, events (5). Further it improves the user interaction, it mainly relies on the user inputs for design of the story but it also faces issues while remembering many details during long-term story development. Xie et al. proposed a system which is named as "The Next Chapter: A study of large Language Models in storytelling", the main focus of this system is to evaluate the performance of Large Language Models(LLM's) and to generate coherent, long -form narratives and also to analyze story structure, consistency, creativity and logical flow of the story (1).The main challenge faced in this system is long stories generations may suffers from the loss of coherence over time. Kim, et al., proposed a system which is named as A multi- modal story generation framework with AI-Driven storyline guidance. The main aim of this system is to design a framework which combines storyline prediction and multimodal outputs like text, image (2). The main drawback of this system is it requires complex and multimodal data integration and high computations. Pan et al. (2025) proposed a system which is named as Guiding Generative Storytelling with knowledge graphs which combined the language models with the knowledge graphs. This method helps in maintaining relationship between character and events, it helps in increasing the consistency (4). However, `it requires lot of effort and was difficult to scale and it is more complex and expensive in case of execution. Emotion control has also been studied in storytelling. Sum et al., proposed a system which is named as Drama Liama. This system mainly focuses on the development of a modular interactive storytelling system which used LLM-generated storylets (6). The main disadvantage of this project is it requires efficient orchestration mechanism for interaction of user with story. Yang et al., proposed a system which is coined as SEED-story The main aim of this system is to generate long form narratives which combines images and text and also enhances the story immersion and visual understanding (7). It also helps to study the alignment between the narrative story and visual content. The main risk faced by this system it provides mismatch stories and also provide mismatch between resulted image and story context.

The proposed system generated an story using Generative AI and NLP these are used to create real-time, dynamic and innovative stories. It also supports branching narratives which means the story segment can be changed according to the perspective and choices of user. Proposed system also detects the tone of the user like anger, happy, sad and so on and generates the story according to their tone. This is the important feature that is not present in the traditional systems. This system also creates memory based realistic characters which means this system have the ability to store the characters of the story and they are also be realistic which grabs the user attention. The proposed system has another important feature which enables multi-genre which means the story can be generated in multiple ways and also can be shifted in those paths according to the user choices. Overall, the proposed system generate a dynamic and creative stories which can be changed according to the user preferences.

III. METHODOLOGY

The introduced Dynamic AI Storytelling engine follows the modular and iterative storytelling. Each part has its own specific task to perform and has the responsibility to develop the structured story generation.

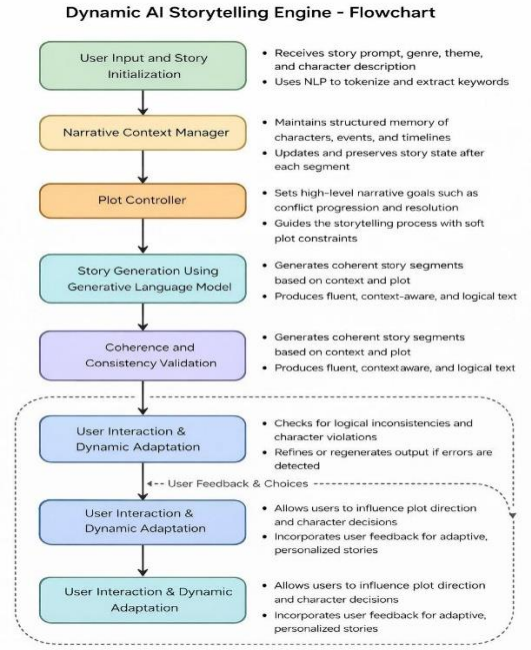

Figure-1: Dynamic Story Telling Engine Flow chart

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a) User Input and Story Initialization

The system work starts by taking user, like a story prompt, genre, theme, or character description. The input is the processed by using language models and further its breakdown into small components or elements. And these elements help in the story set up. It decides how story should start.

b) Narrative Context Manager

The narrative context manager acts memory to store the information related to story and character details, events. It updates story state and related information continuously. It preserves character past event details make sure that character behaves in the same way. It makes sure that no problems arise during storyline development.

c) Plot Controller and Narrative Planning

The plot controller is responsible for narrative goals and direction of the story. It is responsible for the development of the story at various phases like most exciting moments and how the story ends in a meaningful way and it maintain the creative freedom. It avoids the random and repetitive story lines.

d) Story Generation Using Generative Language Models

A transformer based generative language model helps to identify main elements of the story like plot direction, storyline further more. It makes sure that the story it fluent, smooth and meaningful at every phase. It combines the creativity and narration guidelines to generate a well-connected and enjoyable story.

e) Coherence and Consistency Validation

After each phase of story is created, it carefully checks the modules weather it maintains the logical consistency or not.

f) User Interaction and Adaptation

The system allows the user to interact with the story at various phases, it allows user to makes the changes in the storyline or any other decisions. It responds to the user feedback. Furthermore it creates the story more personalized and more engaging for the user.

IV. RESULT

This proposed system is tested and implemented under different test cases. This system generates user-friendly stories and change can be done according to the user choice and emotional atmosphere of the user. Traditional System follows linear and single path story making but the proposed system generate story at multiple paths. Each path has its own uniqueness. These paths can be changed according to the user choices.

The emotion detection feature played a key role in generating the creative story. In this feature the system identifies the emotional tone like anger, anxiety, sadness, happiness and fear etc. of the user. The system collects and stores these emotional tones and generates the story based on the tones. This story also creates the characters with a memory to store their past actions and also with their personality traits which makes the character to behave consistently throughout the story.

The proposed system responds quickly to the user actions and also helps to maintain the smooth and continuous story experiences in multiple interactions. It provides a very interactive interface between user and system. Therefore, the results of the proposed system proved that it offers the reliable, creative, flexible, unique, safe and user-friendly story. It is highly preferred in creative writing, education, gaming and interactive entertainment.

V. DISCUSSIONS

The proposed system is developed to create and develop creative stories and changes according to the user choices. This makes the user experience to be more interactive, attractive and personal. The story can be natural and alive by combining AI, emotion detection and branching story paths. The storyline and characters of the story can be changed according to the user choices and also becomes strong sense of involvement by the user choices. The character generated by the story stores the past actions to make the character to be more realistic.

Emotional analysis is used to make each scene in the story as a meaningful and logical. The system memory technique is used to store the past actions, relationships and personality of the character that is generated by the system in the story. This also helps the characters to behave consistent throughout the story even in large and complex stories. The logical error checking mechanism in the system ensures to maintain the safe and quality story. Ethical content filtering mechanism of the proposed system helps to prevent mismatches and inappropriate content in the story.

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Additionally, the system also helps to adjust the reading complexity level based on the user experience and user age. This helps the user to adjust their reading level and also helps to improves their reading level. This system mainly used in the education where stories help to learn their academic studies which makes the students to learn quickly and also used for the authors who always writes the stories. This system will improve their efficiency and also generates the quality story according to their choices.

VI. CONCLUSION

Therefore, the proposed system successfully illustrated the key role of AI and NLP in generating interactive and adaptive story telling experiences. The proposed system helps to generate creative, consistent and meaningful stories that changes according to the emotional tone of the user and user preferences and actions. This makes more innovative and attractive stories than the traditional story making system. In traditional systems the story is generated in a linear and single path but in the proposed system the story is generated in multiple paths and shift to the different paths according to the changes in the user choices. This makes the story to be more unique and attractive. The features in the proposed system such as emotional analysis, branching story paths and character memory enhance helps to improve the character realism and makes the consistency in the entire story.

The integration of ethical content filtering and logical consistency checks helps to enhance generated stories are safe, reliable and suitable for diverse users. In addition to this, the ability to adjust the reading complexity level helps the users to read the story clearly and confidently. This makes the story can be read by different age group and different experienced users. This increases the user's trustworthiness of the system. Overall, this system highlights the potentials of AI story telling mainly in the areas of creative writing, education, gaming and entertainment. Therefore, the proposed system generates reliable, creative, attractive and trustworthy stories and changes can be done according to the user choices.

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