1001 Nights
An text-based open-domain narrative game enabled by GPT-2

The game is adopted from the Arabian folklore collection, Arabian Nights, enabled by GPT-2 text generation model trained on Gutenberg short story dataset. The player has to advance the story by telling new stories.

In the game, a player will act as the girl Scheherazade. The player has to tell tales to the Sasanian King to postpone the execution, then the king will continue the story in turns through the story generation model. The player has a special ability to turn words into reality: When the king's continuation contains keywords like "sword", "knife" or "shield", those object will materialize and drop, which allows the character to fight the king. This game aims to turn human-machine creative collaboration into open-domain narrative gameplay.

Background

If videogames are the hallucination created by the computer, then machine learning with creativity can keep it growing according to the player's intuition. The base of the game, Arabian Nights, is a classic example of a framed story and embedded narrative: the character narrates a set of tales, and tales contain other tales. Based on the folklore, with the text-generation algorithm, this game allows players to affect the direction of the story by telling stories itself through natural language. With the help of machine learning, I aim to create the embodiment of the transcending language inside the game, present a procedural rhetorical experience that makes metaphor and language invade into reality, just like Wittgenstein's statement: The limits of my language mean the limits of my world(Wittgenstein 2001).

The Game

The game includes two parts: storytelling and battle. In the first part (left), the player needs to keep telling stories to lead the King with AI behind to produce story continuation that includes the important items for battle. The King's AI model is trained on Guttenberg short story dataset(Kaggle 2021) through GPT-2(Openai/Gpt-2 2020), so it's familiar with common tropes in various adventure stories. For instance, if the player writes a paragraph about a knight meet a demon on the road, then the king might say "The knight slashed his blade", then the player could materialize the word "blade" and put it into the inventory.

After getting weapons, the player can enter the turn–based battle part (right) to fight with the king. Under the structured digital environment, the game not only produces entertaining experience, but also provides a creative writing collaboration with AI (Fig.3), and the result of writing will change the environment itself.

Conversation log example

Year: The day a cat set a assassin in the forest...

King: The assassin threw biscuit at the cat, but the cat dodged and hit the assassin. Then the assassin's mother, who had no other children...

Year: The lady rushed out and cried aloud. Suddenly, the cat turned into a little boy...

King: "I heard them from a friend. They came of some from, but this story had gone on for a long time. She had cut off both of my ears."

"What is your name?" asked Hising-ah, "My name is Chong-ya, entitled Chong-ya..."

Your Chong-ya looked away. The lady suddenly realized that this might be her last chance to kill him. Even though her son is still nearby, she...

King: was not afraid of his life. She moved forward to him. "Well, you are to be taken away to a hospital," he said. "I will send for you and have you checked out."

"If the king who was the former I, I am sorry," said Chong-ya...

REFERENCES

