Automatic Chat Generation of Emotional Entertainment Characters using News Information

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Abstract. Currently interactive entertainment characters have their conversation topics prepared beforehand by the creator. In this paper, we propose the automatic chat generation engine for emotional entertainment characters using real-time news information. The character emotionally reacts to the news contents based on their interest and feelings so that the users can have intimate feeling. The character also incrementally learns user's interest from their response.

Keywords: chat generation, RSS, emotional character, user learning

1 Introduction

Currently, various games and movies offer the means to conduct conversations with characters. In role-play games, there are often scenes in which a player talks about the progression of the game with non-player characters, hears two characters talking, or joins in the small talk. In this paper, we propose an entertainment character that generates various utterance topics using dynamic sources of news, weather reports, etc., which exist on the Web as sources of real-world information.

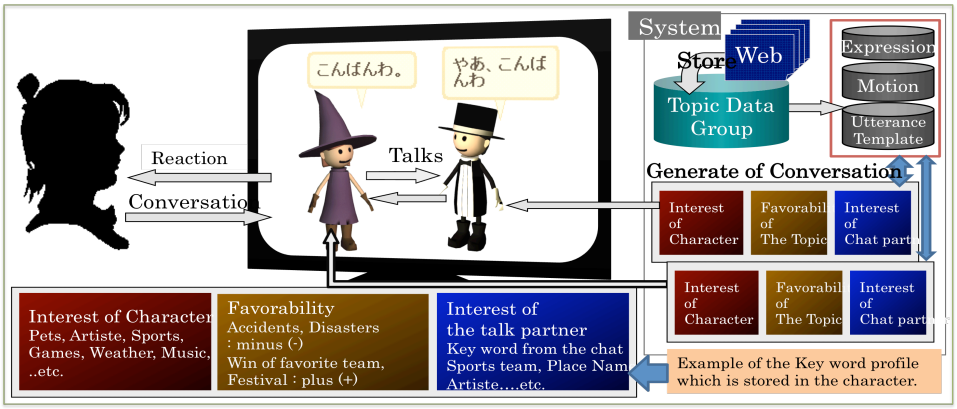

Fig. 1. Outline of the chat generation system

3 System Design

Fig. 1 shows the outline chart of the technique. This system talks about the news and weather as real-world information. The topic is acquired and accumulated from XML and RDF files describing the news, weather forecasts, etc., on the Web, which are delivered as RSS feeds. Hereafter, these data files have been designated Web information files.

Conversation between the user and the character starts with text that the user inputs or with the character's voluntary utterances to the user. The topic is decided using the user's and character's level of interest to generate a significant utterance for the user, and not just make random conversation. If a topic garners a high level of interest, it can easily be selected as the conversation content. Moreover, the level of interest in the topic changes tending to favor the user and the character through small talk.

This system uses parameters of favorability that judge the topics as pleasant or unpleasant to improve the character's utterances. When the character utters, it automatically calculates the favorability of the topic and selects an appropriate expression, behavior, and the utterance template.

The conversation flow is coordinated according to several patterns and used to enable continuous utterances and an easy conversation between the user and the character. Moreover, the flow of an appropriate conversation between characters is achieved by equipping the character with a conversation pattern that has a level of interest similar to that of the user.

When the conversation begins from the user's text input, the character selects a topic suitable for the user's demand. The input content is accumulated as an information genre in line with the user's interest. When the conversation begins from voluntary utterances made by the character, the topic is selected from the genre in which the character has an interest or that in which the user has an interest. Next, expressions, gestures, and the utterance template of the character that match the favorability are selected by referring to the calculated favorability of each topic resulting in an animated utterance.

4 Conclusion

In this paper, we propose the concept of emotional chat for characters in games through the use of Web information to generate utterances. In the proposed system, the conversation character can behave more naturally toward the user and talk flexibly. In the future, we intend to develop this system and obtain natural-speaking characters that can engage in interesting conversations.