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Restaurant-Guide Site Using Atmosphere Expressed by Abstract Characters
－A Pilot Study to Investigate Perception of Atmosphere Using Characters －

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Abstract In recent years, as use of the Internet has spread and the use of Web services has increased, websites of restaurant guides for gourmet dining have been developed. However, no guide has been developed that features a restaurant atmosphere, even though people often choose a restaurant in anticipation that the atmosphere is conducive to intimacy and romance. Therefore, we propose a restaurant-guide site that shows images of restaurant ambiance using the body posture of abstract characters. Our findings will be useful in investigating perceptions of the atmosphere created by characters.

Keywords Animated agent, Characters, Atmosphere engineering, Restaurant guide

1. Introduction

Nowadays, because the widespread use of the Internet has allowed people to access many types of Web services, gourmet- and restaurant-guide services have also flourished. The guide helps people find the perfect restaurant according to their desired conditions in terms of cuisine, train station locations, and budget [1]. For example, when a customer wants to have a party, he/she can search for restaurants by inputting options for the types of cuisines, alcohol, and features (buffet/late-night dinners, etc.) according to his/her budget. Social network services also provide information on recommended restaurants to an individual from information extracted from their members. People can quickly and easily find the best restaurant by using these guide services, even if they have not visited the place yet.

However, no service that focuses on restaurant atmosphere is available. Thus, customers assess a restaurant atmosphere by viewing pictures of food and the exterior and interior from restaurant guides. Photographs do not convey sufficient information to project the entire atmosphere, and often, the atmosphere does not match customer expectations, resulting in disappointment. On the other hand, people can simply read reviews or comments in restaurant guides to determine the restaurant atmosphere [2]. However, online comments are quite unreliable. Several Web services provide options for categories such as “romantic,” “cool,” or “serene.” However, these descriptions are very general, and specifying the atmosphere created by peoples is difficult.

Therefore, we propose a restaurant guide that expresses the atmosphere, such as easygoing or relaxed, using the body postures of abstract characters, which indicate the actions of customers in a particular restaurant. We focus on abstract characters that can express various expressions [3, 4] and can express different conditions in a restaurant. Body postures such as leaning forward/backward and the orientation of the abstract characters can portray a sense of intimacy, unity, and degree of communication in a restaurant. Customers can determine how close people are, what people clamor for, and how people enjoy the restaurant as portrayed by abstract characters. The abstract characters help customers find the most suitable restaurant.

2. Proposal of Restaurant Guide Showing Atmosphere

As described earlier, we propose a restaurant guide that uses abstract characters to convey how customers enjoy or relax in the restaurant. We assume that the type of atmosphere is displayed among the search results after the options are input, as shown in Figure 1. Figure 1 shows an example after a user inputs his or her options to the website. The system provides 12 restaurants in the search results, and the results display not only the page links but also the “atmosphere images” using abstract characters. From the images, people can quickly and easily understand the behavior of restaurant customers, the crowd situation, sense of intimacy, etc.

Moreover, a sense of brightness can be illustrated by the background color of these images. The example in the figure shows that “Washo Restaurant” has bright light, and “ABC Restaurant” uses dim lighting. “ABC Restaurant” is sparse, whereas “123 Restaurant” is very crowded. In the background in “123 Restaurant,” a Raimon (thunder

pattern) is displayed, which can be associated with ramen service. Furthermore, customers can catch a sample of the spoken voices in the restaurant by clicking a sound button. The voices can be effective in understanding the atmosphere.

In this manner, customers can quickly and easily learn about the restaurant atmosphere. We assume that the extracted information (such as the abstract characters and sample sounds) is effective in expressing the relationships between people because they convey symbolic meanings and easy comprehension. The proposed services will be enriched by adding other detailed features (nonverbal information such as nodding, blinking, and facial expressions). Therefore, investigating an appropriate expression to portray the atmosphere under a specific situation is crucial.

3. Atmosphere Expression Using Characters

3.1. Characters That Portray Atmosphere

In this study, we investigate the visual expressions of characters that display the restaurant atmosphere as a first step. We aim to systematically investigate atmosphere expressions. In addition, we do not take into account the types of customers (child or adult, male or female, etc.) and use only a simple abstract character. By focusing on abstract expressions, we can determine the mechanism to identify the atmosphere. Abstract expression, which is typified by biological motion [5], is a representation extracted from the surface, and reflects the essence. However, expressions are easily recognized by humans, and abstract characters are eye-catching [6, 7]. Furthermore, designing abstract characters is very effective in developing effective characters with wide applicability across multiple cases [8] in computers. In the present study, we use abstract characters and investigate the human ability to perceive an atmosphere consisting of humans and their activities.

3.2. Factors Composing the Atmosphere

To study the relationship between the types of atmosphere and their matching expressions, we need to identify the atmosphere category of a restaurant. We requested volunteers to collect information of restaurants that they like, and to categorize them into several factors that describe the atmosphere through mapping and discussions. Based on the category, we will conduct a preliminary experiment that confirms which abstract character expressions are effective in defining the atmosphere.

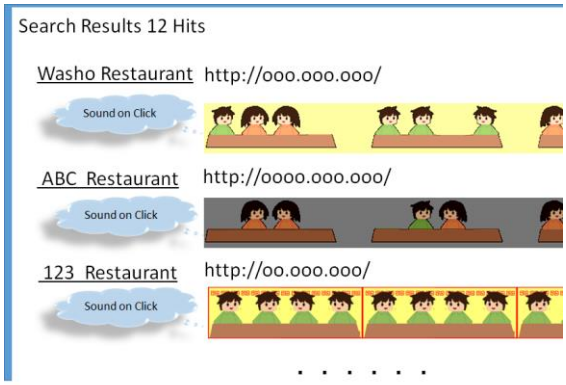

Figure 1 Atmosphere presentation using abstract characters as search results.

4. Discussion and Conclusions

We proposed a new restaurant-guide site that portrays the restaurant atmosphere. This guide provides images for the atmosphere, which are portrayed by abstract characters. The character images indicate how intimate people are and what do people clamor. This service will help the would-be customer find the most suitable restaurant. From a study using abstract characters, the expressions were found to be useful in displaying the restaurant atmosphere. By adding factors that describe the atmosphere, a customer is able to find a suitable restaurant.

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