Introducing *"Kuchikomi* Net," a Communication Content for 3G Cellulars

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Abstract

"*Kuchikomi* Net" is an information communication content that allows content users to form a community and create new word-of-mouth or through-the-grapevine information by exchanging information on what they want to know about.

The authors propose the creation of a new form of communication through the system by combining the functions specific to cellular phones such as the camera function, shortness of distance between users and the flat-rate packet communication system as well as the speech synthesis technology developed by NEC Media and Information Research Laboratories.

Keywords

mobile, 3G, flat-rate packet communication, information, communication, *Kuchikomi*, community, speech synthesis, question, answer, Q&A

1. Introduction

Following the recent increases in cellular phone content resulting from the large capacity data communication requirements of games, ringtones and songs etc., users of 3G cellular phones and fixed-rate packet communication systems are increasing rapidly. Also, users of Q&A sites for PCs, where various data may be accessed by the public are also on the increase.

Based on this background, we at BIGLOBE have started to provide new information communication content that will allow users to share current information provided by other users by making use of the anytime, anywhere convenience of the cellular phone, instead of by reading previously prepared information.

2. Q&A System of *"Kuchikomi* Net"

"*Kuchikomi*" is a Japanese word meaning word-of-mouth or through-the-grapevine communication, and the "*Kuchikomi* Net" is a new information communication content with which a user can collect answers to his or her own current questions from other users by creating his or her personal agent character on the cellular phone site and can eventually create new information of his or her own creation based on the collected information.

When a user posts a question text and some options for possible answers through the agent character, the results of answers from other users are collated and displayed in a ranking format. For example, a user can post a question such as "Which is the most romantic place for a first date with a girl?" together with some options of the possible plans that the user might have thought of. And then view the ranking and vote rates of

the selection by other users (**Fig. 1**).

Previous information collection content has not been capable of assembling a large variety of information because answers have been limited to "those who want to answer the question." However, the question of this content is distributed randomly to all of the content users, so that it can collect information that is not inclined to individual opinions.

The user can also select the free answer system without entering options or can limit the attributes of answerers for targeting the sex, age or region according to the question. This will make it possible for the user to obtain customized trend information based on *Kuchikomi* communication instead of referring to existing information.

3. Speech Synthesis Technology and Lip Sync

The agent characters in "*Kuchikomi* Net" offer navigation for questioning, answering and notifying the results with smooth mouth motions and intonations as if actual persons are pronouncing the words by using the "speech synthesis technology" and "lip sync service," both of which were developed by the NEC Media and Information Research Laboratories.

The speech synthesis technology is used for reading a text in voice, and the NEC system is capable of generating highly natural, clear voices based on the original acoustic analysis and semi-syllable waveform editing method. In addition, it also incorporates a design tool for varying the voice tone widely by using a variety of acoustic effects.

The lip sync service is an application of the speech synthesis technology. It uses six mouth motion pictures for the five

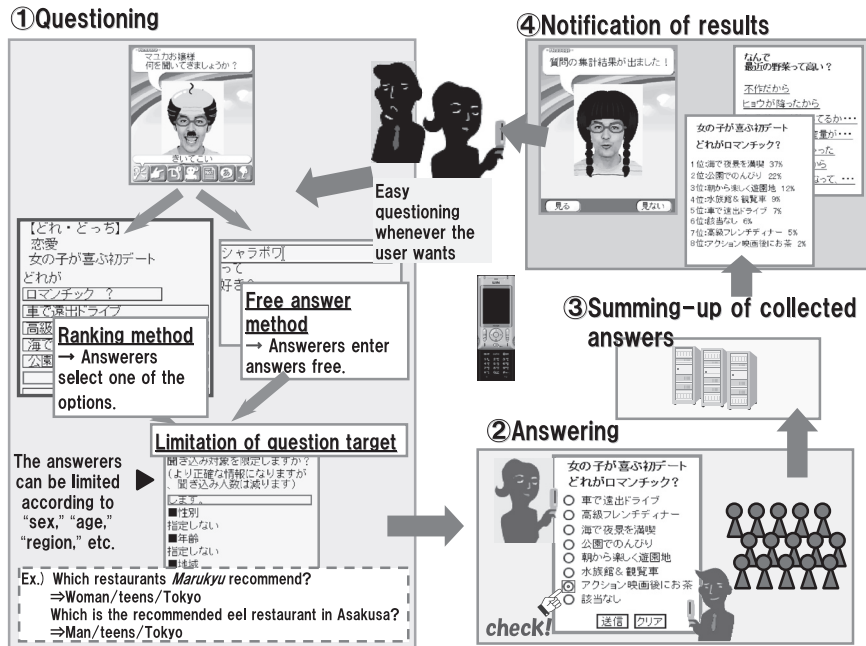# Introducing "*Kuchikomi* Net," a Communication Content for 3G Cellulars
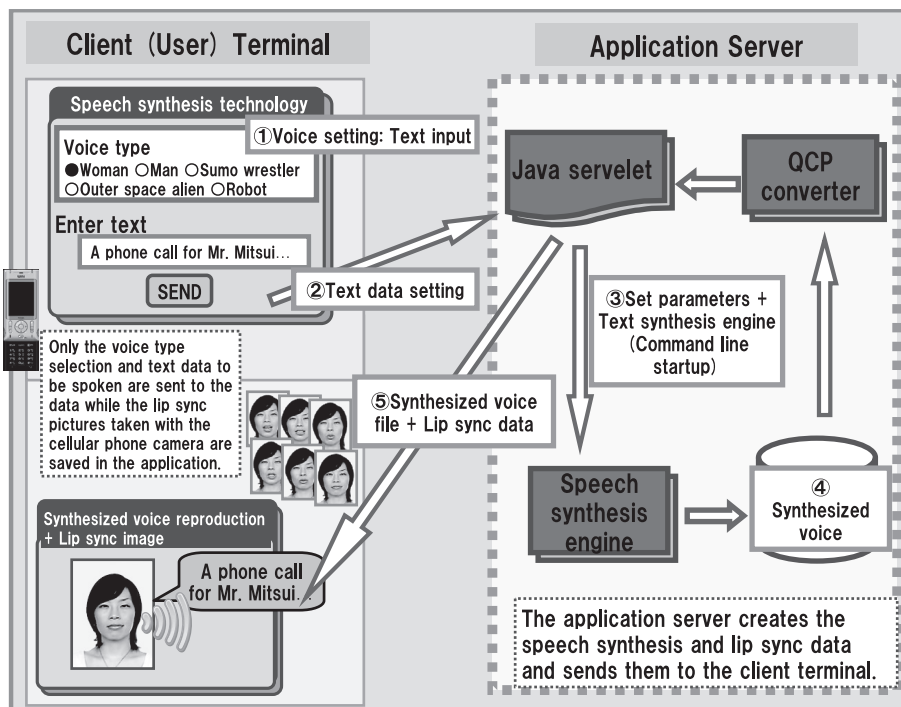

Fig. 1 Q&A System of "*Kuchikomi* Net".

Fig. 2 Speech synthesis and lip sync content of "*Kuchikomi* Net".

Japanese vowels "a", "e", "i", "o" and "u" plus one syllabic nasal "N" and displays them sequentially by aligning the timings with the synthesized voice. The result is a simulated movie in which the character is actually pronouncing the synthesized voice.

With "*Kuchikomi* Net," the user can also convert "Friends" into the user's own agent character inside the site by taking the six above-described pictures of each friend using the camera function of the cellular phone and registering them in the site (**Fig. 2**).

These agent characters can additionally be customized by using various accessories including hairstyles and eyeglasses according to the points that are given to the user when the user answers the questions from other users actively. To promote the use of this content, the site also provides the original ring-tone voice creation facility or notification timer facility by making use of the speech synthesis technology.

4. NG Word Check and Safety

"*Kuchikomi* Net" can be used by registering the membership in the internet service "EZweb" provided by "au" and downloading the special application software. The information to be registered is limited to the sex and age group such as "teenager" and "twenties" and the domicile region such as the Kanto or Kinki Districts so that individuals are not individually identified based on the system.

However, such a posting-based site is accompanied with the risk of posting of harmful or personal information by malicious users. This content deals with this concern by introducing the original automatic NG word check system, which eliminates messages with previously set harmful information, including inappropriate words and the information enabling identification of individuals such as telephone numbers and mail addresses. The questions and answers input by the users are saved temporarily in the server and checked for NG words as well as redundant questions, and the users who have input inappropriate questions or answers are noted together with the details of the specific contents that are found to contain NG words. Such users are then cautioned by agent characters and those who are persistently malicious are recommended for membership deregistration. As an additional system, the site also runs an informing system based on human surveillance and mutual notification by the users in order to form a safe, healthy information communication of the "no encounter type".

5. Conclusion

At NEC, we intend to continue the provision of attractive cellular phone services for users by keeping abreast of the rapid progress of cellular phone and associated technologies. By also meeting the current trend toward the Ubiquitous society we will develop new services by including the possibility of web linkages for PCs as well as cellular terminals in our perspectives.

*As the products introduced in this paper are mainly sold for the domestic market, some figures feature explanations by the Japanese Language.
*Method of accessing "*Kuchikomi* Net"
■ [Method using Application button]
 [EX Application Catalogue] → [Search by menu] → [Game] → [*Kuchikomi* Net]
*EZweb is a registered trademark of KDDI Corporation.
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●Site for introducing "*Kuchikomi* Net" for PC users:
Related URL : http://kuchi.ezmini.biglobe.ne.jp/cm/index.html