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Speech System for Mobile Communication Terminals

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Brief Description of the Technology

This speech system transforms text displayed on a cellphone screen into speech, so that the user may hear a given on-screen message along with others present. The character data shown on the cellphone or PHS connected to the Internet is changed into speech data using the phone's ring tone functions.

The mobile communication terminals access external sources of content (such as web and mail servers), display corresponding character messages on the screen, and read the message aloud as necessary. This system is composed of a mobile communication terminal and a conversion server. The mobile terminal stores software that monitors on-screen messages. This software constantly monitors the cursor position and user key operations. When it detects a user's speech request, the software sends the character data to the key operation controller of an external conversion server for conversion to speech data. The conversion server analyzes the key operation, converts the character data into speech data using its installed character data conversion library, and sends the converted data to the mobile terminal. The mobile terminal then plays the delivered speech data through the ring tone speaker.

In general, mobile terminal data processors are not provided with sufficient capacity to incorporate such a data-conversion function. We therefore convert the character data into speech data using an external conversion server, and then have the mobile terminal play the converted voice message.

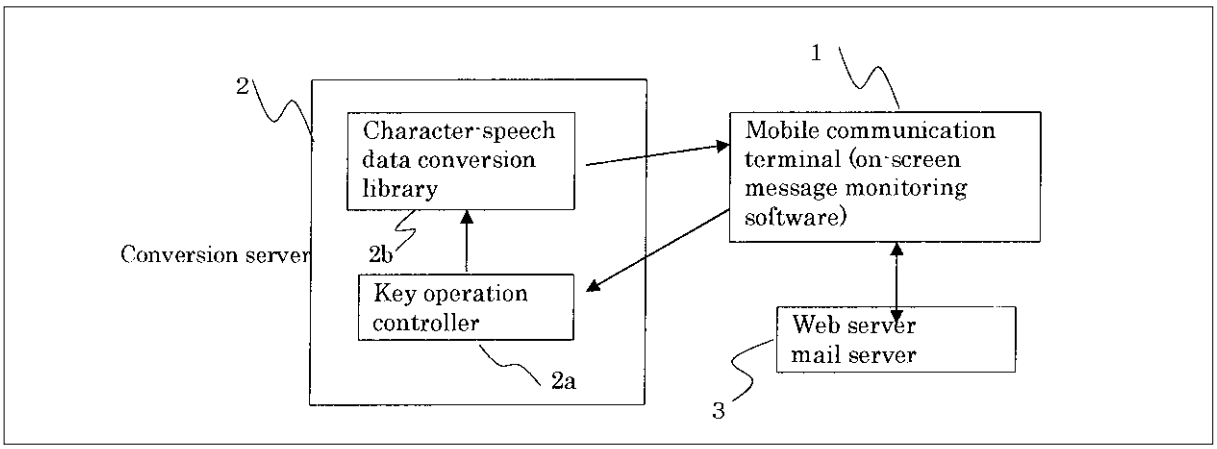
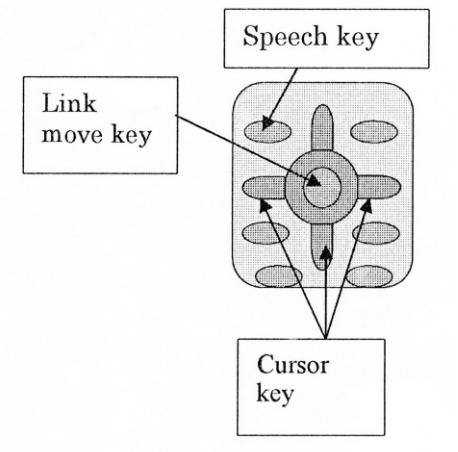


Fig.1: Speech system block diagram

System Features

Some mobile terminal speech systems can read messages aloud using a voice-synthesis device. These systems, however, are only available when the user is connected to specific websites holding voice data prepared in advance. In contrast, our speech system can produce voice output from any site, as the conversion server changes any given character into voice data.



Applications

This speech system will help the visually impaired and elderly users who have difficulty reading small characters from websites and in e-mail displayed on the small screens found on mobile terminals. This system will also prove useful when users wish to share messages with others present and when users have difficulty viewing their screens. Furthermore, this system is expected to encourage the development of new applications—for example, a voice-message summarizing system could be implemented based on software designed to select and edit specific characters from a body of text. Such a system could give rise to an entirely new content-based business. In fact, Bluebox Japan Co., Ltd., in charge of developing the software for such extended applications, intends to license precisely this sort of message-summarizing technology.

How to use

1 Download the JAVA application (for initial access only).
2 Access a desired website.
3 Move the cursor to the character message to be read aloud.
4 Press the speech key.

Photo of the exhibition(November 25,2003)

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