NEC Develops Technologies that Assess Author's Feelings from Text

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Highly expressive and entertaining audio and visual blogs using newly developed technologies that assess an author's feelings from text.

NEC Corporation announced today the development of two new technologies that evaluate an author's feelings based on text data in order to automatically generate entertaining blog content. The technologies produce a variety of text decorations and feature an entertaining text-to-speech function that generates synthesized speech based on the positive or negative emotions expressed in a body of text.

The two newly developed technologies are represented by a "state of mind assessment technology," which analyzes text data in order to assess whether the feelings expressed by an author are positive or negative, in addition to a "variable voice tone synthesis technology" that uses the

identified feelings to create diverse variations in the tone of synthesized voices.

Main features of these newly developed technologies:

1."State of mind assessment technology": Assesses an author's feelings based on text dataFor some time, NEC has been developing a "Reputation Extraction" technology that can identify the subject of evaluation expressions in a sentence, such as "expensive" or "small." By applying this technology, the "state of mind assessment technology" judges whether the feelings that an author has expressed in text, including evaluation expressions, are positive or negative. This technology is able to assess the author's feelings based on both the evaluation expression and the subject of that evaluation, even when the sentence does not contain phrases that express emotions directly, such as "fun" or "frustrated."

2."Variable tone voice synthesis technology": Achieves diverse voice synthesisNEC has developed a technology that can synthesize smooth speech, even while dramatically changing a variety of parameters that express the speaker's tone, such as speed, pitch, depth, and brightness. Sentences for which the speaker's feelings have been assessed using the "state of mind assessment technology" can be read out with the tone adjusted to match a combination of parameters, thus injecting a new element of fun into text-to-speech functions.

Using these newly developed technologies, NEC has produced a system that allows users to create highly expressive and entertaining audio and visual blogs simply by sending a voice message and photographs by e-mail from a [mobile phone](link). For example, a blog can be read out in a unique and enjoyable synthesized voice, and text can be embellished using a variety of text decorations.

The flow of the system is as follows:

1. A user sends a voice message from a mobile phone, to be used for a blog posting. This message is converted into text data using voice recognition technology.
2. An author's feelings are assessed from the text data using the "state of mind assessment technology."
3. An author is able to easily create a highly expressive blog via a mobile phone, by using voice characteristics for text-to-speech reading of text data based on the feelings assessed in 2), and with automatic settings for text color and size, as well as pictographs to be inserted into the text.

In recent years, blogs have evolved from a simple technique used by individuals as a means of transmitting information to the level of a communication tool that brings people closer together. Recently, there has been a rapid increase in diverse blog formats that incorporate photographs, videos, and voice, and this has added a new level of energy to communications. Now that blog entries can be made from mobile phones, an increasing number of blogs are updated several times each day. Although users can easily take photos and videos using a mobile phone, until now, adding decorations to the text or editing the layout required complex operations, which made it difficult for authors to create truly expressive blog entries that effectively conveyed their feelings.

These newly developed technologies can be used not only to update blogs from a mobile phone, but also to provide a wide range of services that require highly expressive or entertaining content.

Source: NEC

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