

Texting made possible for the illiterate

May 23 2012, By Cécilia Carron



Credit: 2012 EPFL

People incapable of reading and writing will have access to text messages from now on. A system using vocal synthesis, icons and contact management allows people to send and read text messages by those normally unable to read and write. It is already being used in Switzerland.

More than 800 million people in the world are illiterate, and with the advent of mass text messaging, these people are incapable of using one of the most common forms of communication available today. Students at the Laboratory of Design and Communication at EPFL have developed an application for Smartphone, EasySMS, that allows people unable to read and write to use text messages.

“Meeting” “at” “1” “pm”: every word of the received text is turned into an icon. The isolated words become a tactile button, so that when the

user touches the button, the system pronounces the word. To respond to or create a message, one need only drag words from the received message to complete it. “This application combines different existing systems, most notably vocal synthesis, which allows for the creation of artificial speech from any text,” explains Oscar Bolaños, one of the students participating in this project.

Another challenge: How can one choose a recipient without being able to read names? To overcome this problem, EasySMS proposes a contact manager composed of avatars with changeable characteristics. The avatar’s customizable haircut, glasses or eye color, for example, allow the illiterate person to recognize their contact at first sight.

The idea for this application stems from a Master’s project proposed by the Laboratory of Design and Media at EPFL. In 2010, the researchers travelled to a farm village in India—a trip occasioned by a project financed by Cooperation@EPFL and the Swiss Development Agency. Based on numerous interviews, students of the course “Personal Interaction Studio” had to come up with an application that could be useful to the farmers of the Pavagada region.

“Contrary to what one may think, cellular phones, which include services not provided by landlines, are common in India, even in rural and poor regions,” states Hendrik Knoche, a post-doctoral researcher. “Often, inhabitants use portable phones without a subscription, to listen to music. The most inexpensive smartphone, at around 50 CHF, represents approximately 20 days of work. The price has, for that matter, sufficiently lowered recently, and it is conceivable that they will soon be accessible to Indian farmers. Furthermore, mobile phone coverage is rapidly rising, and text messages are quite inexpensive, or even free.”

This system is available in all languages that have a vocal synthesis solution. Developed by Elsa Friscira, who worked on the [text message](#)

aspect, Oscar Bolaños, who worked on the avatar portion, and Lukas Frelich, the system has been elaborated after many encounters with those unable to read and write at courses in [Switzerland](#) given by “Lire et écrire” – an association for aiding the illiterate. “Many members have tested EasySMS in French-speaking Switzerland on Android Smartphones, and the response is very positive,” says Elsa Friscira. An illiterate mother, for example, can use it to stay in contact with her daughter living in another city. With this system, she is able to send her daughter an SMS at any moment to say she is thinking of her in addition to their weekly telephone call.

For the moment, the only restriction to the use of this program by farmers in southern India is that a system of vocal synthesis is not available in their mother tongue, Kannada. But, according to Hendrik Knoche, it is a problem that can be resolved within 6 months by Indian research institutes and possibly Google.

Provided by Ecole Polytechnique Federale de Lausanne

Citation: Texting made possible for the illiterate (2012, May 23) retrieved 20 April 2024 from <https://phys.org/news/2012-05-texting-illiterate.html>

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