



NEW TECHNOLOGIES: ICTS

NEWS

Indian designer develops Morse-based texting for deaf phone users

Lucas Laursen
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An Indian graduate student has designed a **mobile phone** application that enables people with sight and hearing impairments to send and receive text messages.

The PocketSMS application was developed for Android smartphones, which are generally cheaper than Apple's iPhones. The application converts text into Morse code vibrations so that users can "feel" the message.

Regular mobile phones already use vibrations to alert users to incoming calls or messages. Anmol Anand, a graduate student at the Guru Gobind Singh Indraprastha University in Delhi, realised that the same vibrations could also convey text message content.

He used the **open source** Google App Inventor to write a new application to convert each letter in a text message into Morse code — in which each letter corresponds to a set of a short and long tones — and then used the phone's hardware to vibrate for each letter.

An accompanying application, MorseTrainer, has been designed to teach deaf-blind users Morse code, and to use it without having to rely on smartphone keyboards, which can be difficult to see.

Text messaging is growing in importance as a tool for safety and social inclusion. In the Democratic Republic of the Congo late last year, for instance, a group of deaf users protested for their safety late last year when the government shut down text messaging services, the *BBC* reported.

In Uganda, the National Association of the Deaf is working on a project in which hearing students and deaf students learn how to send text messages together.

"We saw that deaf kids were not integrating," said education consultant Sacha DeVelle, who was volunteering in Kabale with the charity Cambridge to Africa.

When teachers began showing pairs of hearing and deaf students how to send text messages, deaf children became far more integrated into the school community. "It encourages them to go on and do what they want to do, [for example] go to university or set up a shop," DeVelle said.



Research suggests young people feel more socially included if they can send and receive texts
Flickr/kiwanja

Anand's collaborator, Arun Mehta — president of the Bidirectional Access Promotion Society (BAPSI) — said that **internet access is just as important for the disabled as everyone else.**

He said that the introduction of text-to-speech screen reading software had meant that "the gap between the sighted and the blind has shrunk dramatically. We would like to do that for the deaf-blind too."

Inclusive technology can help disabled people take part in everyday life, said Mohamed Jemni, a computer scientist at the School of Science and Technology in Tunisia.

Jemni says he is now testing an application to turn text messages into animated avatars which "sign" the message visually. He said the underlying software could be customised to suit national sign languages in use around the world.

See below for a video of MorseTrainer:

<http://www.scidev.net/en/new-technologies/icts/news/indian-designer-develops-morse-based-texting-for-deaf-phone-users-1.html>

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