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Carnegie Mellon University team behind smartphone, tablet app for blind

MAX SIEGELBAUM | Sunday, Aug. 7, 2016, 11:15 p.m.
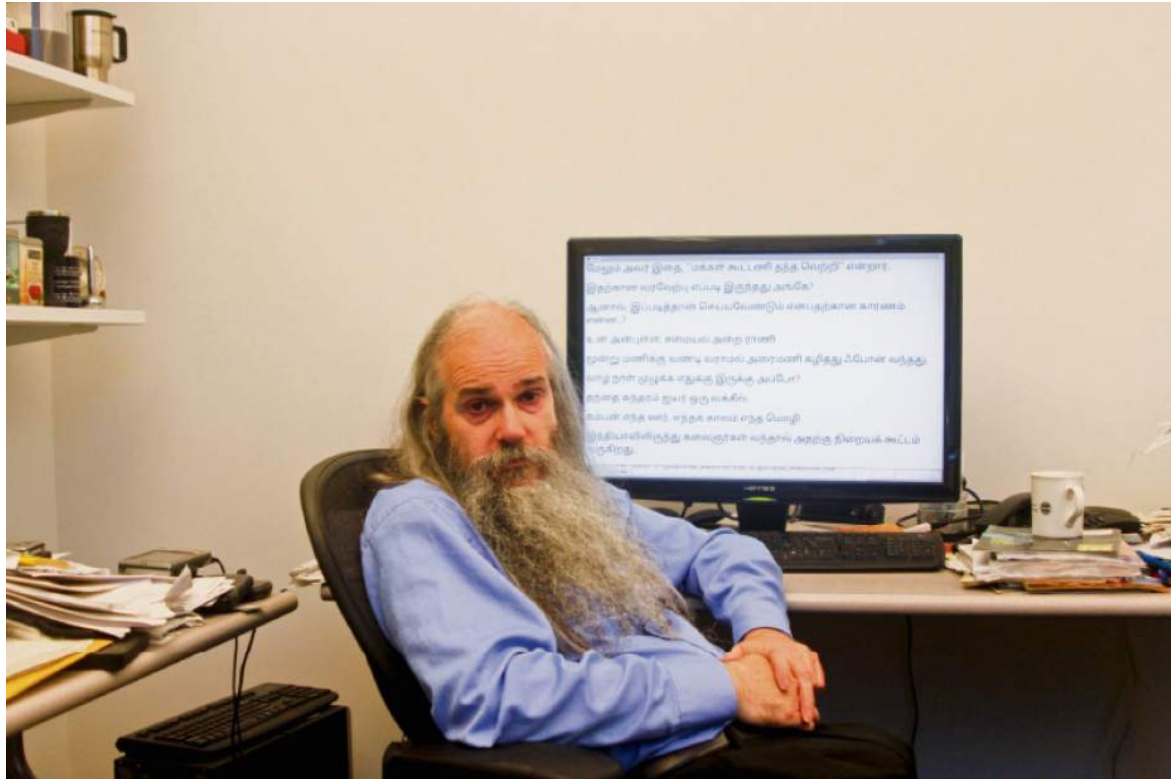
Max Siegelbaum | Tribune-Review

CMU professor Alan Black displays the text-to-speech computer program that he and his team built.

As a tech entrepreneur in Silicon Valley, Suresh Bazaj met people with visual impairments who achieved great success in the industry. They reminded him of the students at the Poddar School for Blind Boys in his hometown of Varanasi, India, where some students ended up in manual labor jobs despite having a spectrum of other talents.

"These people didn't lose their ability to think just because they didn't have their eyesight," he said. "The big problem was that they were not getting proper education."

He decided to do something about it.

Bazaj tracked down Alan Black, a professor at Car-negie Mellon University's Language Technologies Institute. Black, Bazaj, computer scientist Alok Parlikar and a team of developers and volunteers built Hear2Read, (http://www.hear2read.org/) a text-to-speech smartphone and tablet app intended for the Indian subcontinent that's free to download from Google Play.

The program functions by narrating a user's actions on their phone and reading screen text aloud. The team has programmed the Tamil language into the app, with Hindi, Marathi, Telugu, Kannada, Bengali, Gujarati and Punjabi to follow.

The app is designed to aid in education and daily life. Black and his team made the program code publicly available so anyone interested in adding a language can use the team's work as a template.

"Blind people are a clear targeted group, but it has a wide application," Black said.

Many in India receive their education in English. Reading and writing skills in a second language can atrophy. With the app, people can listen to newspapers and books in a language they understand when spoken, but would struggle to read.

Smartphones have been a "game changer" for blind people, said Tommy Leung, chair of the Telecommunications Access for the Deaf and Disabled in California.

Leung, who is blind, said smartphone apps have helped the visually impaired navigate public transit systems, shop for groceries and sort dollar bills by denomination. Text-to-speech is the most important feature, as none of the other apps could function without it.

Hear2Read could eventually open up these kinds of apps to millions of Indians with visual impairment.

Black and Bazaj developed the app to work offline and designed it for Android-based phones and tablets because they are generally less expensive than iPhones in India.

Ringing Bells, a company based in Noida, India, recently started selling, at a loss, an Android-based smartphone for less than $4.

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To learn more about the text-to-speech app Hear2Read, visit hear2read.org (http://hear2read.org).