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Startup team signals time for affordable smartwatch for blind

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Blind people can read using their fingers to tell the letters; the tactile system, Braille, is thanks to Louis Braille. Learning to read and write in Braille means literacy and having access to publications in Braille means a lifeline for those with vision impairments; the problem is that many needing such lifelines do not have them; access to Braille education and content available in Braille are lacking for many with vision impairments.

As for Braille in the digital age, one could hope that with advances in gadgets and mobile devices moving at such a fast clip, those with severe sight loss and the blind should not be left behind. It is not difficult to imagine a blind person wanting content access beyond reliance on voice assistants, for learning and communicating.

Out of the various information access setbacks confronting the blind, one factor has been the cost of Braille devices, said a startup team who are out to make a difference. They are set to introduce a Braille smartwatch called Dot.

This smartwatch is presented as an affordable E-Braille reader for visually impaired people. Colin Moreshead in *Tech in Asia* noted that Dot's Braille smartwatch represents a low-cost education and communication tool for the blind. "With it," said Moreshead, "Dot hopes to return equal information access to a demographic that has been left behind in the age of real-time digital text."

The time for such a smartwatch has come. More people in need of Braille assistance would look forward to a reader which is affordable (the company said the price of E-Braille readers is $2,000 and up) and not too bulky to carry around. The size of the Dot is just a fraction of that of the typical Braille terminal. The price that they are targeting is below $300.

The watch module described in *Tech in Asia*: "four cells of six active dots each – enough for four Braille characters to be displayed at once."

The watch makes use of Bluetooth 4.0. "By linking up to a device with Bluetooth connectivity," said *Alphr*, "the Dot smartwatch can turn text into a rolling wave of Braille characters at a speed of between 1-100Hz."

CEO Eric Ju Yoon Kim told *Tech in Asia* that the Dot smartwatch goes on sale in the United States this December. The battery life of 10 hours will give users about five days between charges.

A video interview with the team members in June discussed their technology for this smartwatch. Interestingly, they tackled the challenge of Braille functionality in a small smartwatch form factor by asking two key scientific questions: Why? and Why not? Said a staffer in the video:"Why should actuators be on ceramic substrate?" They thought about experimenting with magnetic field; they were able to prevent clashes among pins. As for design, they did not want a bulky, clumsy-looking assistive device and tried to come up with something sleek as well as easy to handle.

They tested their prototype with visually blind students and sought their feedback to come up with a final product. By listening to the students and brainstorming, said the CEO in the interview, they made Dot, and also other products are in mind.

Tech in Asia reported that Dot is trying out other applications in South Korea. Kim referred to "public Braille," where the company has installed modules at ATMs and in train stations. The modules can be programmed to show information updated in real time, such as account balance or subway schedule.

More information: