TacRead: A Low-Cost Refreshable Braille Display for Persons with Blindness

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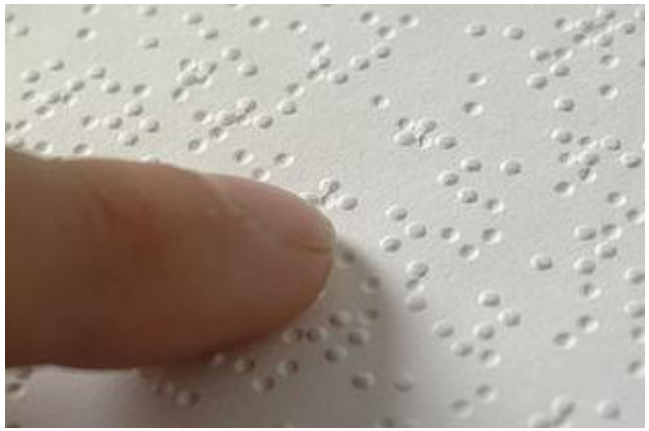
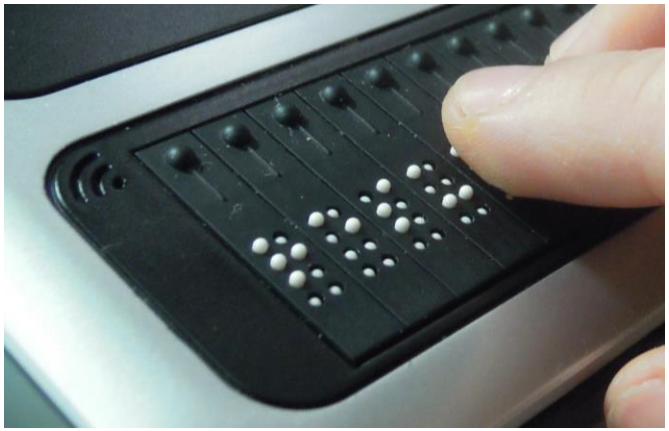
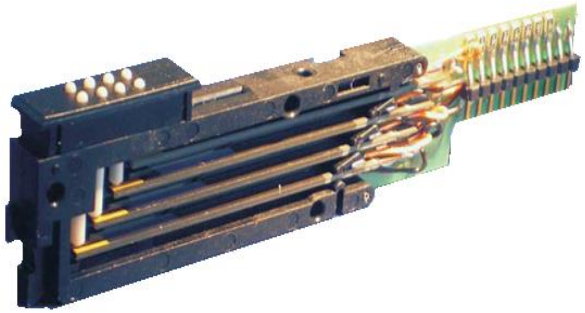
Refreshable Braille





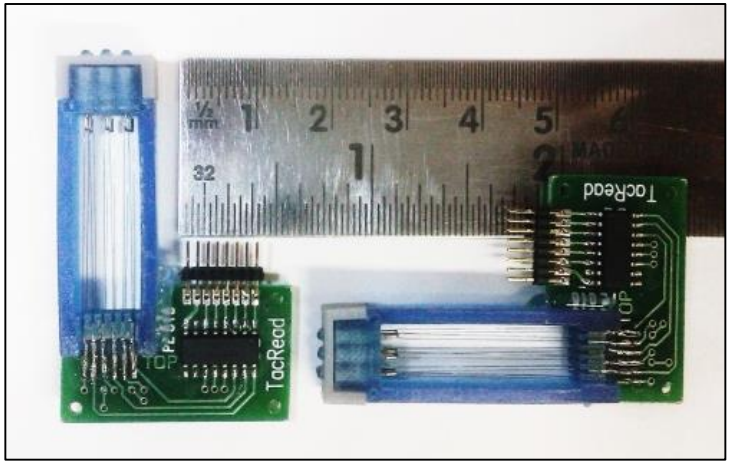


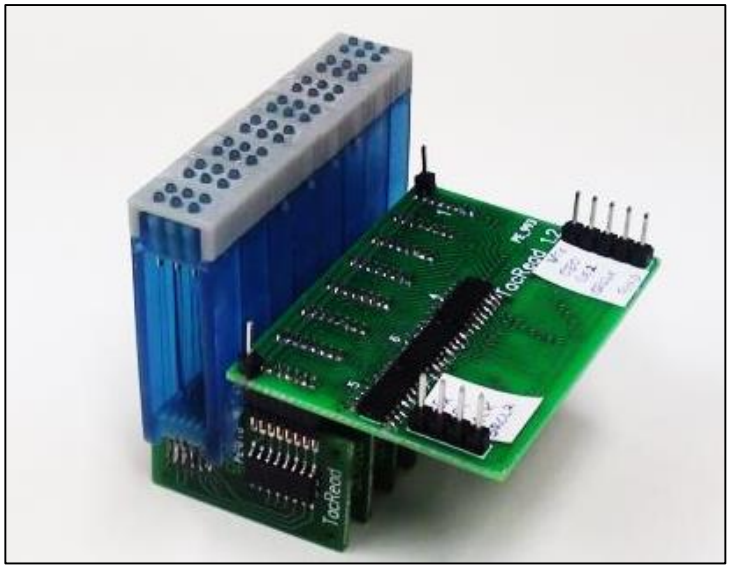
Existing Commercial Devices are based on Piezoelectric Actuation. Each Braille cell has a retail cost of **$30-35**.

End-user products typically have 40 such cells, and cost to users $2500 – 5000. Per cell cost thus comes at **$62 - 125**

Solution

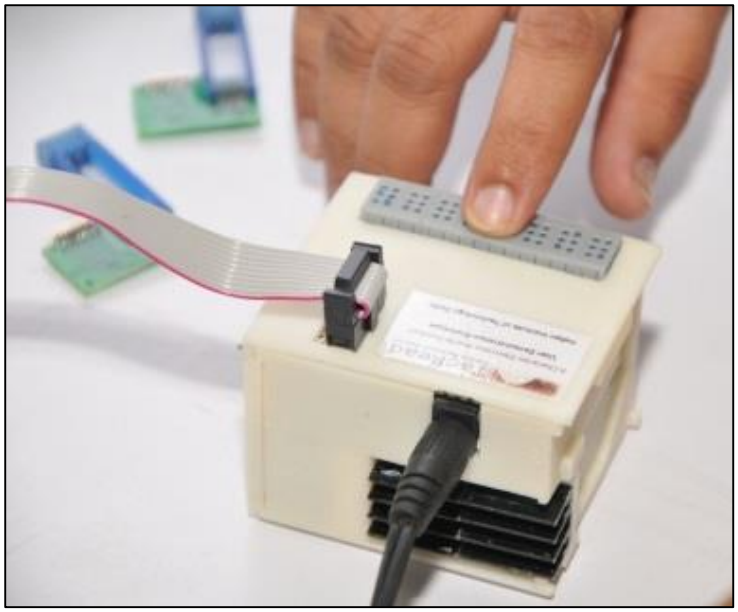
- TacRead is a low-cost Braille display, with a price point expected to be lower than 1/10th.
- TacRead is based on Shape Memory Alloy (SMA) based actuation. SMAs are relatively new smart materials and are lower in cost.
- TacRead is similar in functionality, operation and performance to existing devices.
- In future applications, it is possible to extend the technology to develop small-scale refreshable graphic displays.





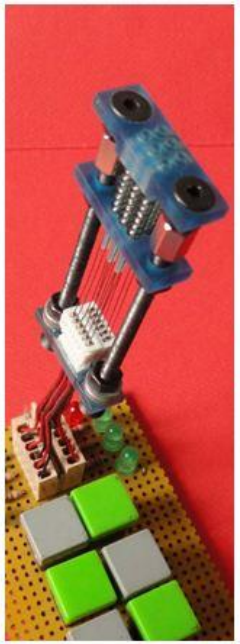
Current Status

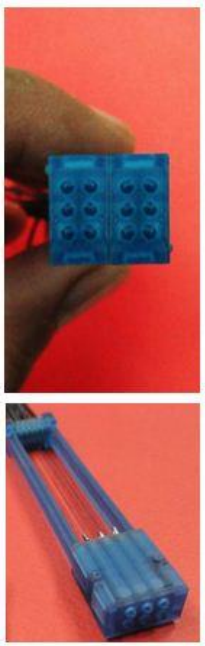
- Functional prototypes have been developed and demonstrated to limited users.
- Currently, the SMA-based Braille cells are being developed further for improved functionality.
- Daisy Consortium's Transforming Braille Project has evaluated TacRead. It has identified as a potential solution to the global hunt for a low-cost Braille display

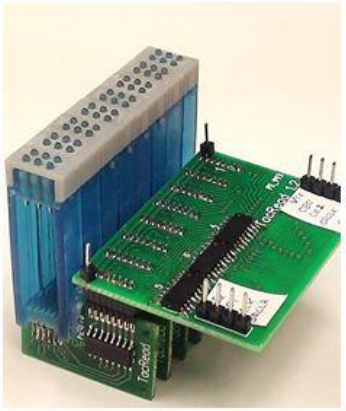


Development History









Jan 2012	Jun 2012	Oct 2012	Dec 2012	Mar 2013
Technology & concept proven	Lab-scale prototypes developed & tested	User feedback Design reviewed and optimized	Final design developed	Electronic Systems Developed

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TacRead
Tactile Readout Device