

## **Capstone Project Abstract**

Project Title: EyeTouch: Portable Braille Converter

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Team number: 35

5 keywords: Braille, Bluetooth, Portable, Hardware, Software

Our project is a portable braille converter for text shown on a phone/tablet/personal computer. This converter has potential in education, leisure, communication and so much more. Our converter limits the need for audio assistance, as well as minimize cost for both user and manufacturer. The hardware component is composed of a physical braille touchpad, consisting of four cells with six indentations that rise and fall based on the letter being translated. The software component is used to scan the plain text and convert it into braille, in addition to filtering ads and photos on website pages or apps. Our product is made to run in the background, and can allow users to move back to the previous four letters or forward. The device connects to any other electronic device via Bluetooth technology and remains connected until the device is turned off by the user. This design frees the user's auditory capabilities so the user can be aware of street noise, traffic, emergency vehicles, etc.

Current technology for translating braille generally rely on a braille embosser that create a physical copy in braille. Our is to create the most cost efficient, user-friendly, portable device that any individual can use on the go. The converter is usable for surfing the web, unlike other converters which tend to be limited to textbooks/books/articles. The device also has potential applications in education of braille, by combining our physical device with the audio components of cell phones, tablets, and personal computers.