RNS Institute of Technology

(VTU Affiliated, AICTE Approved, NAAC 'A' Grade Accredited)
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(NBA Accredited for the Academic Years 2018-19, 2019-20, 2020-21 and 2021-22)

Project: Enhanced Braille Display

Title	Enhanced Braille Display	
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There are approximately 37 million blind people across the world. Out of that 15 million are from India. These people are unable to access the documents or electronics media which are not available in Braille scripts. Recently, and with the fast evolution in technology, researchers proposed to give the blinds the ability to take advantage of these advancements. Accordingly, designers and engineers started working on projects that relate input and output devices to the computers in order for the blind individual to have full control of the hi-tech machines. However, investments in these kinds of hardware presented complexity in the design, in addition to the high cost imposed by the devices used. In order to overcome the above said challenges our idea is to design a portable device called "Braille Display".

Here we have implemented enhanced Braille blind people to read text or content. This project uses an algorithm which enables the user to convert the text that we normally have in our day to day usage into Braille Script and thus gives impetus for the visually impaired to read that text

Images are scanned using camera, processed by image processing techniques. The input image will be converted to grayscale, tesseract highlights the characters presented in the image and same converted into text using OCR. The detected text is given to raspberry pi which recognize every character and convert it into Braille code. The particular pattern is set for each character in the solenoids. The relay activates the solenoids when the character is highlighted through OCR. With the help of solenoid, that Braille code is displayed on Braille.