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Biographical Sketch

AL FAHAD DAPITILLO CHOWDHURY, born in Bangladesh, moved to the Philippines in 2014 for higher education. He enrolled at Malayan Colleges Laguna takes up Bachelor of Science in Information Technology with the Specialization of Mobile and Web Technology. Throughout his college days, Al Fahad managed to work with several programming languages like C, C++, C#, ASP.net, Java and Swift. In 2017, he won an Android App Development Competition at University of Makati. During his OJT (On the job training), Al Fahad worked as a lead programmer at the Biñan City Hall, where his team developed an Informative Kiosk.

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Abstract

As a developing country, the number of people with visual impairment in the Philippines increases alongside its population. In the school year 2012 – 2013 of SPED's early enrollment, out of total 40,181 Children with Disability (CWD) all over the Philippines, 4,925 of them are visually impaired with a total of 509 of this figure are from CALABARZON. Although the Philippine government is doing its best to cater the needs of the visually impaired by providing basic resources, access to advanced assistive technologies remains to be an issue. For example, the Elementary SPED School in Carmona only has slate and stylus as their form of learning braille notation writing. This study is design to develop a Braille notation writing device called PinDOTS. Having low-cost and readily available microcontroller like Arduino and materials that is durable and can be used for actual writing. The braille device is easily accessible in terms of functionalities and low-cost. PinDOTS is a portable device that can be used by the visually impaired as a tool in learning the basic braille notation. The braille device also focuses on the keying and pressing of dot sequences that can help the use of student's kinesthetic and proprioceptive skills. With the help of Modified-Nurun Based methodology, the developers were able to develop a device that met the objectives and core functionalities as a braille notation writing device. This study shows that PINDOTS is a great tool that can be used both by the SPED teachers and visually impaired students based on the testing that was conducted on the locale. The results showed that the design of the mobile application is appropriate, and it is easy to navigate, while the braille device is portable, and near to the standards of other commercial braille devices

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