

# **Electronic Travelling Aid Using Haptic Feedback System For The Visually Impaired Individuals**

A Thesis Presented to the Faculty of Computer Engineering  
College of Engineering, Architecture and Technology  
De La Salle University – Dasmariñas  
Dasmariñas City, Cavite

In Partial Fulfillment of the Requirements for the Degree of  
Bachelor of Science in Computer Engineering

by

**David John S. Agni**  
**Victor N. Bueno**  
**Florisa Anne H. Roque**

March 2014

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## ABSTRACT

The major limitations of a blind person include the way of travelling and mobility. It is a challenge for them to move around in unfamiliar places and they need additional equipment to navigate around places.

The Electronic Travelling Aid Using Haptic Feedback System for the Visually Impaired Individuals is a microcontroller-based system and ultrasonic technology that helps the blind in terms of travelling. The device focused on the group of people that lack visual capabilities which they focus more on touch and hearing. Using vibration or haptic feedback is a new approach for a better design.

The prototype consists of two devices; head gear and hand gear. There are several steps to realize the haptic system. The first step is to select the components to be used in the prototype like the microcontrollers, sensors and motors then create a circuit wherein the sensors and motors are integrated into the microcontroller. The program is created to integrate to the circuit to the function. Lastly, test the system for functionality.

The impaired individuals developed keen senses compared to the sighted person. They rely on their sense of touch, smell and feel. The prototype focuses on touch because it will provide richer information to the user since it will not reduce their hearing capabilities and does not limit the use of hands.