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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
FINAL YEAR B.E (2009-2010)**

**PROJECT REPORT ON
“ULTRASONIC HAPTIC VISION SYSTEM”
(Sponsored by Karnataka state council for science and Technology)**

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ABSTRACT

Technological advancement in Navigational aids is creeping. This project primarily focuses on navigation through hallways and around large objects without sight, through the use of an ultrasonic rangefinder that haptically interfaces with the user via tiny vibrating motors mounted on the user's head.

These features are achieved with the help of a microcontroller. The MCU(Micro Controller Unit) is interfaced via Darlington array to load vibrators, which vibrate in varying intensities individually indicating direction based on the ultrasonic sensor output. The ultrasonic sensor is directly interfaced to MCU, which rotates 0° and 360° with aid of stepper motor.

In navigation when obstacle is sensed by sensor, the vibrators indicate obstacle to user indicating the obstacle distance. The vibrators intensify as obstacle nears. The entire process can be observed in nearest computer unit with aid receiving unit.