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IIT-G to help blind keep pace with tech

Dayananda Yumlembam, TNN | Jul 11, 2011, 04:54am IST

AHMEDABAD: The tapping of blind men's walking sticks often misses a puddle of water or an open manhole leading them to step into it and fall. They also face similar accidents with low tree branches or concrete beams. But now the blind will be able to navigate around by using high-tech walking sticks.

The walking stick called 'smart cane', which is being developed by [Indian Institute of Technology, Gandhinagar \(IIT-G\)](#), with the help of the Blind People's Association (BPA), is likely to be affordable and the cost will be as low as Rs 1,000 each. Hi-tech walking sticks available in the market cost between Rs 15,000 and Rs 1 lakh.

A group of 24 students of IIT-G has sacrificed visiting their homes this summer to develop a walking stick that will vibrate and buzz in different ways to inform the user the shape, size and the kind of obstacles as far as two to three metres ahead.

The battery-operated walking stick will be equipped with an infrared and ultrasound sensors. Explaining the technology, team member Akshay Jain said, "The ultrasound detects objects at a longer and wider range. However, its preciseness is lower than that of infrared rays that have a short range. So the combination of both helps in detecting an object in advance and estimating its details precisely as it comes closer."

Depending upon the nature of the object, whether it is tall, short, at the head level or knee level, water of simple potholes, there will be different combination of long and short vibrations on the handle of the stick. Each type of vibrations will be accompanied with different tones of sounds from a buzzer as well so that the user can turn off the vibration mode and just use the sound once he comes out of noisy ambience. With the help of [BPA](#), the students conducted their initial research and understanding of the end users.

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