Renovated Cane to Aid Indoor Travel for the Visually Impaired

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People with severe visual impairment have difficulties navigating their way through buildings. Due to this, we created a renovated cane that combines a Cintech Pin-pointer metal detector, to detect a path, and a CT20 Bluetooth bar code scanner, to provide directions, with the original white cane in order to best help this group of people. While there are many products currently attempting to aid blind people with travel, none specifically help provide an indoor path. We wired a metal detector through the original white cane, replaced the beeper with a motor, and replaced the button with a switch. Then we laid a path with metal tape. The subject uses the metal detector to follow the path. When coming upon an intersection or destination, the bluetooth bar code scanner will read the bar code located on the floor for directions. The parts to hold the circuit board, bar code scanner, and metal detector were designed in 3D CAD Software and printed from our 3D printer. The were secured to the cane with precise measurements.The combination of a metal detector and a bar code scanner effectively provides enough information for a person with severe visual impairment to feel capable and confident while traveling independently in a unknown facility.

Awards Won:
Third Award of $1,000