Using Electronic Devices to Help Visually Impaired Peoples to Detect Obstacles: Carmen Sylva Your Eyes (CSYE)

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In this project we develop devices that help the visually impaired peoples to move easier and safety indoors and outdoors, to increase the speed of their movement. The development of the devices was made in collaboration with blind people. We used the feedback received from the visually impaired to create an algorithm which is capable to help them with their movement. We developed an algorithm for smart phones to manually calibrate the alert distances. We introduced in all our devices a manually calibration button which permits to set a warning distance depending on the blind`s person necessities. Also, a panic button is included in case the visually impaired person hurts him/her self, so that the ambulance service will receive a message by GPS with the coordinates of his/her location. We developed an application for smart phones in which the communication between the phone and the device is made through Bluetooth. We made an alert system through vibrations so the device won't bring attention from the people around. Also we realized a voice synthesizer which announces the distances to the obstacles. Of course, we integrated the phone`s GSM module and added to the application a panic button which sends through SMS the warning and the geographic coordinates of the appellant.

Awards Won: