Oh No, Watch Out for the . . .

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The purpose of this project is to provide those in need of visual aid with another option for safe navigation. I programmed and soldered an Arduino (small computer) to trigger speakers (based on distance) which will help better the efficiency of the mobility for any blind or visually impaired subject. I hypothesize that if a blind or visually impaired person were to use my Arduino-glasses there mobility will be improved as opposed to the use of white cane. I first bought the Arduino (small computer) and then programmed it to have two sonar sensors and make a sound when it gets to a pre-programmed distance. The materials that were used include glasses, two sensors, Arduino, pin wires, a sketch of the maze created with desks, notepad, pencil, and a blind or visually impaired test subject. Then I set up the maze using desks and then attached the sensors to the glasses using Velcro, and soldering the wires to the Arduino (small computer) . Next I had the test subject go through the maze first using their white cane, then secondly with the Arduino, sensors and speakers. The speaker increases in speed as the test subject moves closer to an object. As they are going through the maze I tallied how many times each subject hit the desk. Based on the data collected in all three trials using the white cane, the subject hit the desk more times with the white cane, rather than utilizing the Arduino device. Based off of the data provided by my test subject, I can infer that the Sonar Glasses did in fact help improve the blind persons mobility rather than the white cane.

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