



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Isaac Lo; Siddarth Ramkrishnan; Brendan Su</b>	<b>Project Number</b> <b>J0920</b>
<b>Project Title</b> <b>Sensory Glasses for the Blind</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our project is to create inexpensive glasses allowing the visually impaired to navigate the urban areas efficiently.</p> <p><b>Methods/Materials</b> The sensory glasses has a vibration motor on the side of the glasses and an ultrasonic sensor on top of the frame facing wherever the person is looking. We also have an Arduino Uno chip on the other side of the glasses, which runs the whole program and is essentially the #brain of the whole thing. When an object comes within 53 centimeters of the user, which is a good enough distance for the user the react, the ultrasonic sensor will detect it, thus alerting the Arduino chip. Then, the chip will trigger the vibration motor, which will alert the user and give his/her enough time to move away from the object.</p> <p><b>Results</b> After testing, we found out that our sensory glasses were successful 87% of the time, which is a fairly good percentage, but not good enough. We, however, tested it on ourselves, not on a blind person. Since our senses and reaction time aren't as good as a visually impaired person, the percentage might actually increase into the 90's if they tested it. So, our project was overall successful.</p> <p><b>Conclusions/Discussion</b> In conclusion, we found out that our glasses might actually work well in the real world. With some improvements, our glasses can be a new efficient option for the visually impaired to navigate around their areas. We feel like our glasses might actually make a difference for the visually impaired</p>	
<b>Summary Statement</b> Our main focus is to provide an affordable and efficient option for blind people to use to navigate around their urban areas	
<b>Help Received</b> Some Materials provided from school; Had mentor named Cameron Taylor help a little bit with code and program	