



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) Andy Kapoor	Project Number S1014
Project Title SensorSafe Baby Car Seat	
<p style="text-align: center;">Abstract</p> <p>Objectives The purpose of my project is to prevent the average of 40 babies, dying in temperature unregulated cars each year. Using weight, noise, and accurate humidity and temperature sensors, sensorsafe baby car seat can alert clueless parents about a potential danger to their infants. Many engineering companies such as Childminder have attempted to create a budgeted safety implement to a baby car seat. I have decided to use an arduino, due to the various sensor add ons available. Meant for engineers and hobbyists, arduino has the ability to create a sensorsafe baby car seat that can classify different details needed to save babies from hot cars. Others have approached the problem of children deaths in hot cars in different ways, like creating an app with a camera, or having a full seat that connects to a smartphone device. Child heatstroke in cars is a critical issue, that is rising, even till today. From 1989 to 1997 an average of 12 babies died of heatstroke in vehicles each year. From 1998 to 2006, an average of 38 babies died each year; a drastic increase. As the years go by, new distractions emerge, causing less attention to be derived to babies, leaving them without life in scalding vehicles. My sensorsafe arduino baby car seat will have the capabilities to rescue children from this undervalued conflict.</p> <p>Methods Adding the Noise Sensor: The process for connecting the noise sensor was relatively simple compared to the other two. The main thing I needed to do was to make the sound and temperature sensors work together, because they did not seem to work on the same breadboard. My alternative was to take two different breadboards, with one sensor on each. This benefits the locations the sensors will be placed. Adding weight sensor: The biggest issue I had was with the different weight sensors. I purchased a pack of 4 weight sensors from Amazon, but they weren t compatible with the arduino R3, so I needed to buy a different weight sensor. The new sensor was the HX711 5 kg one bar weight sensor, which was compatible with the Arduino R3, and relatively easy to code. A large issue I had was that my output for the sensor kept reading various intervals on the screen. It turned out to be an issue with the soldering I did on the board. I managed to fix it and get it up and running. Adding temperature sensor: The temperature sensor was the first sensor I included on my project. I had major problems with the libraries. In order for the code to work, there needs to be certain libraries. I attempted to download the</p>	
Summary Statement Using technology to create a sensorsafe baby car seat that prevents heat stroke in vehicles	
Help Received Dr. Li	