An Autonomous Ambient Temperature Detection and Cooling System Designed for Overheating Vehicles

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Every year, on average, 37 children die from being left in vehicles out in the heat. This is a fatal mistake that can be avoided with a simple temperature detection and cooling system. The reason for this experiment was to devise an autonomous system that would: check the ambient temperature of a vehicle, and activate a Servo to roll down the window to ventilate hot air, all done without human input. So that even if a child, pet, or anything of importance was left in the vehicle, the system could save it by regulating the temperature in the car. The system was created using a breadboard, an Arduino Microcontroller, a Servo, and other electrical components. Additionally, code was created and uploaded to the Arduino. After assembling all components and uploading code, the system was tested in environments with a range of ambient temperatures. After 33 trials with temperatures ranging from 25C-75C; and it was determined that in 100% of the trials, the system correctly identified dangerous temperature levels and activated as intended. This data concludes that the system developed is an effective solution. If it were to be installed in commercially available vehicles, it could entirely prevent hot car death across the world.

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