Aftermarket Child-Detection for Car Seats
Team 35

Team Members • Troy Brumm • Stephen Carr • Justin Craig • Charlie Cruzan • Spencer Nguyen
Sponsor • Dr. Michael Devine – **Instructor** • Dr. Shayne McConomy – **Faculty Advisor** • Dr. Simone Peterson Hruda

Summary

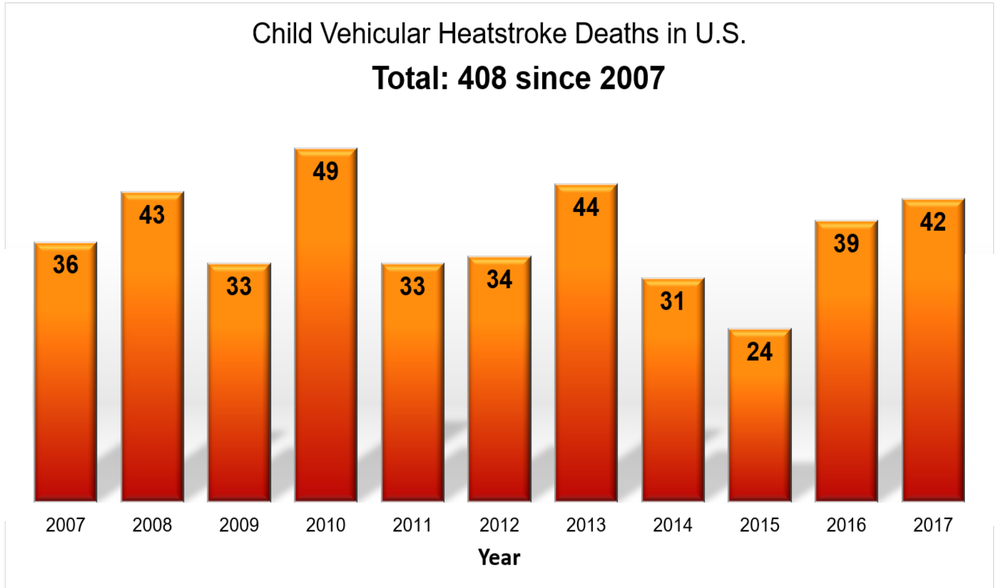
The number of infant fatalities in parked cars due to heat stroke shows no sign of decreasing. Our goal is to develop a device that detects when a child is left in a vehicle that is subject to dangerous temperatures, and alert necessary parties.

Objectives

- Create a simplistic and robust prototype
- Compete in the InNOLEvation Challenge
- Submit an SAE World Congress Paper

Targets

- Detect Temperature
  - 70-120°F
- Withstand Temperature Range
  - 0-200°F
- Detect Child in car seat
- Determine temperature rate of change
- Communicate to user
- Compatibility
  - > 5 top selling car seat brands



Systems

Temperature Detection
- NTC Thermistor

→ Child Detection
- Harness Clip
- Pressure Sensor

→ Algorithm
- Temperature Rate Extrapolation

→ Response Initiation
- Key Fob Alarm

Future Work

- Plan to begin prototyping in December
- We will continue with market research in the Spring, and hold a focus group to decide between our parallel designs
- In 2018, focus will shift towards entrepreneurial aspects of the project since InNOLEvation deadlines approach in February