SMARTBEAT CAR SEAT CLIP
A wireless temperature monitoring system for children in car seats

SMARTBEAT CLIP OVERVIEW
Smartbeat Clip is an infant temperature monitor for car seats. It combines cutting edge computing and wireless communication technology to provide parents with an additional assurance that their child is protected.

The Smartbeat Clip system consists of an electronic base, which communicates with a key fob, a display, and a mobile app. The three devices will alert if the ambient temperature near his/her child rises above 80 degrees Fahrenheit while in a car seat.

INFANT HEATSTROKE
In today's world, parents are tasked with increasing responsibilities that demand their attention. These demands, among others, may contribute to an increasing amount of accidents throughout the USA.

According to the Department of Meteorology and Climate Science at San Jose State University, on average, 37 children die every year from heat stroke inside of a car. The figure below shows the average rise in temperature in a vehicle over time.

Our team is doing our best to help busy parents have peace of mind from knowing their children are protected from high temperatures.

CONCLUSION
The Photorithm team has responded the need for a system to aid parents in protecting their children from temperature risks while traveling.

The Smartbeat Clip will alert parents, both inside and away from their car if their children are at risk from harmful temperatures while in their car seats.

We hope that this system will aid parents around the globe in reducing child heat stroke within automobiles.

SMARTBEAT CLIP DESIGN
Robust Design:
- Redundant Sensors
- Reliable Readings
- System Timer
- Wireless Connection Verification

Performance:
- High Speed Communication
- Visual & Audio Alerts
- Low Power Mode
- Wireless Range: 1200m

Applications & Features:
- Forward and Rear-facing Car Seats (abt. 0-7 yrs old)
- Adjustable With Child Size
- Easy Installation
- Free Android or Apple App

METHODS & MATERIALS
Microcontroller:
- Tiva C Microcontroller

Occupancy Detector:
- IR Obstacle Sensor

Bluetooth:
- Serial Bluetooth Module

Temp. Display:
- 4 Digit 7-Seg Display

Temp. Sensor:
- Analog Temperature Sensor

Alarm:
- Piezo-Electric Buzzer

Radio:
- XBee Radio Transceiver

DESIGNED SOLUTION
Key Fob

Temperature Display

Complete System

Mobile App

Car Seat Device