

Executive Summary

The summer is extremely harsh, especially in areas known to reach high temperatures, and cars can reach hotter temperatures of up to 20 or 30 degrees more than what is outside. Parents have many things to worry about when it comes to parenthood, and leaving their child in the car on a hot day is one of those worries. KidGuard aims to take one less worry from a parent's mind by sending a notification via a cellular device. Figure 1 shows a high-level overview of the design and what features KidGuard is going to have.

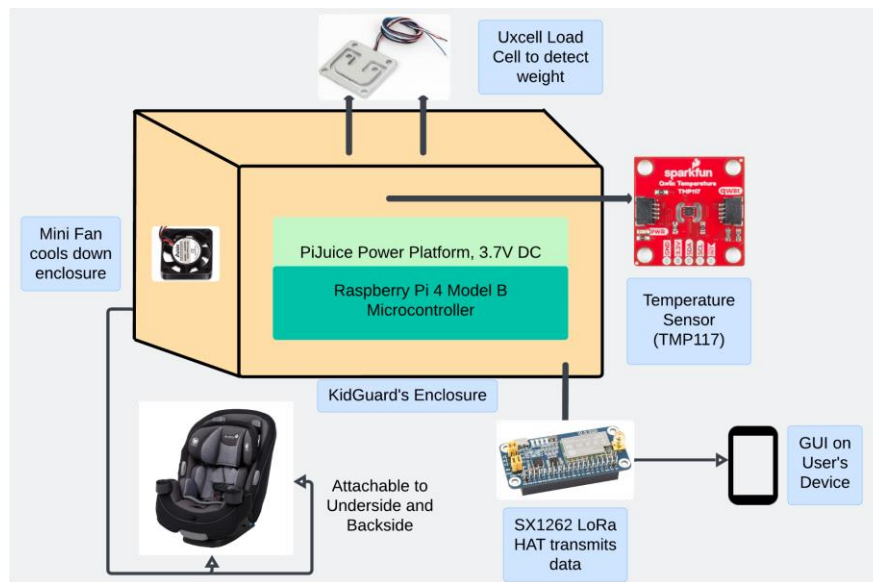


Figure 1: KidGuard Flow Diagram

The main priority for KidGuard is ensuring children's safety through reliable battery performance and consistent data transfer. The temperature and weight sensors are designed to withstand extreme temperatures in vehicles. KidGuard's universal and easy-to-use design allows users to employ the device in any car seat they own. Accurate and reliable data is sent to the user's smartphone ensuring the user will always be knowledgeable about their child's safety. The long-lasting battery of KidGuard guarantees the user is aware of the conditions inside the vehicle. KidGuard's innovative attachment to car seats follows the Federal Motor Vehicle Safety Standard No. 213 and does not inhibit the functionality of the car seat.

The core approach of KidGuard is to protect children from heat/cold-related accidents from inside vehicles. KidGuard allows parents to travel worry-free from location to location with their child, knowing that there's no way that they can forget them in the car. The electronics need to be well insulated and protected from tampering that the child sitting in the seat could do. The design is universal and can be attached to any car/booster seat on the market. No parent is denied access to the life-saving device, KidGuard Climate Monitor.

KidGuard currently works for all car seats, but making KidGuard universal with booster seats could improve its usability. Another aspect worthy of consideration is ensuring KidGuard operates under freezing conditions. KidGuard includes insulation to protect against some cold, but in areas where the weather is constantly cold, KidGuard might struggle to function correctly. KidGuard protects children from dying in vehicles, so any upgrade or modification is meaningful. The goal of KidGuard is to ensure the safest, fail-proof climate monitoring device with the use of weight detection, thermal sensing, and wireless communication.