Editorial

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Contact Intel PR

LAS VEGAS – Amid all the fanfare over a new button-sized computer, robots, 3D cameras, and new processors from Intel this week at the International Consumer Electronics Show (CES) 2015, there were a couple of sleeper devices that weren't being hyped much by the company. One was the Compute Stick, a $149 Windows 8.1 or Linux computer that plugs into your TV that will be available in March. Another one was the Intel Smart Clip, a prototype car seat toddler tech device that may hold promise to prevent tragic accidents with children being left in vehicles.

Every year, dozens of children die in the U.S., mostly from heat stroke, after being accidentally left in vehicles, In most cases, according to KidsandCars.org, a public interest group, the person responsible for the child's death unknowingly leaves them in the vehicle. One of those events happened late last year to an Intel employee.

Smart Clip prototype being shown at CES 2015.

The Smart Clip prototype shown at Intel's booth at CES could be a solution. The device and accompanying app remarkably went from concept to a full working demo in just a few weeks leading up to the show, thanks in part to 3D printers that were able to make the clip in rapid fashion.

Marcie Miller, a new mother and an engineer within the company's Internet of Things Group was asked in November to evaluate possible solutions that would prevent accidental deaths. As an Arizona resident, who once worked for the Arizona Cardinals as a professional cheerleader while also holding down her day job at Intel, Miller knows all too well of the dangers of high temperatures.

"One of the really interesting things that I found when I was starting to do research was that all the case studies or stories about accidentally leaving children in cars are not limited to any socioeconomic or education level," Miller said. "It can happen to anyone, doctors, lawyers, professors, stay at home parents, retirees, grandparents – really anyone."

Indeed in one case, the CEO of a hospital in Iowa inadvertently left her child in her minivan as she was rushing to attend meetings. The child died from heat exhaustion.

Miller gathering feedback from local

focus group.

“I did focus group testing and – this is no joke – 15 of my friends have had babies in the last two years,” said Miller “I talked to a lot of my friends who are either new parents or just had their second child, and there are half of them who think ‘This would never happen to me, I’m responsible’ or ‘Who would ever leave their kid in the car?’ but the other half who would absolutely use a reminder product just as a safety precaution.”

With encouragement and support from her management, a small team comprised of Miller along with four other Intel engineers tested and evaluated existing safety reminder systems.

Some existing safety devices on the market require parents to carry around a wireless fob, which can also be misplaced or forgotten, or don’t report temperature devices. The team surmised that the best control system is one that’s as seamless as possible and believed that a smartphone would most likely to always be with a parent or caretaker, and sought to build a system that would interface with an app rather than an additional accessory that could be forgotten in the car itself.

The Smart Clip team was able to make this concept a reality in just weeks thanks to 3D printers.

Based on that research they were able to design, prototype, test, and produce a working device in the few weeks between Thanksgiving and the New Year. The team included hardware engineers, 3D printing and prototyping experts, and android app developers; even Miller’s own daughter contributed by being a test participant.

“[The team] loved the idea and were totally on board,” said Miller. “We started meeting every day, or every other day, to figure out what we could to do.”

The team would even take their work where so many products have their beginnings: one of the team member’s garage.

Intel Chandler, AZ team members Nona Ebrahimi, Joe Romeo, Marcie Miller & daughter, Chris Ross, and Rene Sanchez

The Bluetooth-enabled device operates like a safety buckle while also connecting to a smartphone app that will report back on ambient temperature and the Smart Clip’s remaining battery life. The most important feature, however, is that it will send an alert should the Smart Clip still be enabled while falling out of range with the smartphone, preventing a forgotten toddler from being left behind.

While the device in its current form is just a prototype, Miller said that her team is working with a multinational partner to bring this device to market, but development won’t stop there.

“This kind of clip is like a baby step, if you will, into the next generation of possibilities,” Miller said. “The next generation technologies could include sensors that detect load, temperature, or maybe some music or vibration that would react to your baby being fussy or crying. It might even hook into your car info and entertainment system so you can calm them down and improve the driving experience, which is especially important when you’re stressed, stuck in traffic, and your kid is crying in the back seat.”

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