V.O.A. Systems
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Product Description

Vehicle Occupancy Alert (V.O.A.) is a system uses a microcontroller with a motion sensor and a temperature sensor to detect babies or animals left in a hot vehicle. The system is powered by a small battery or cigarette lighter or a USB slot that is available in today's vehicles. Users communicate with the device via Bluetooth when he or she left the vehicle and moved too far away from their vehicle.

The total number of applicants that participated in your InnovateHER competition

Innovation Greenhouse, UNT hosted the competition on October 29, 2015, and there were twelve teams participated. These teams included students and community business owners.

Executive Summary

Every summer, news report after news report of children dying after being left in a vehicle by their caregivers or that were accidentally locked in while playing in a vehicle. This kind of accident is preventable!

Vehicle Occupancy Alert (V.O.A.) will help prevent 47% of children accidently left in extreme temperature. V.O.A. will also help prevent the 30% of accidental deaths of children being locked in an unattended vehicle or just playing in the vehicle. Also, V.O.A. will also 17% of accidental deaths of children who may be intentionally left in the vehicle.

On average, there are 4 million babies born each year here in the United States. Our primary customers will be new parents and existing families that have children less than five years of age. Since our market is parents of children age up to five years old. An additional application for our system will be in the pets market, especially dogs. In the United States, pet owners spent $75 million on their dogs. This device will help keep their other family members safe.

The market for these types of child safety devices is on an increase and is predicted to stay in that direction as new products and awareness emerge on the market. That being said the product I have developed here is on top of the existing products regarding flexibility and consumer needs. It is also important to me after being in the electronics repair and troubleshooting field for over 20 years that the product is made user-friendly and easily installed by anyone.

Mission

Vehicle Occupancy Alert (V.O.A.) Systems' mission is to provide consumers with quality and reliable safety equipment using the most advanced electronic equipment to prevent children and animals accidently left in extreme temporary.

Product

Vehicle Occupancy Alert (V.O.A.) was developed in response to the seemingly increasing news stories of baby's dying due to being forgotten in vehicles. The system is also intended for pet owners that often travel with their pets. The system is a control box which includes a microcontroller with a motion sensor and a temperature sensor attached. There is also a removable sensor for a child safety seat if one needs to be installed. The control box is connected to a power source such as a cigarette lighter or a USB slot that is available in today's vehicles and then placed in a strategic place inside the vehicle. The user will then connect to the device via Bluetooth to program the device.

V.O.A. Programming includes:

- Parents', caregivers' and pet owners' cell phone number, up to 3 numbers may be programmed
- Temperature ranges that the consumer wants the "Temperature" alerts to be sent
- Option for system to alert 911 if no response is received from parent/caregiver or a certain amount of time has passed with no response.

Once the system has been programmed, there is a "test" button on the control box, the consumer can press the button to make sure he or she will receive the text messages.

What the system does

Vehicle Occupancy Alert (V.O.A.) system can be setup to notify caregivers such as parent, grandparent, pet owner that a child or pet is left in the vehicle even when the vehicle is off. The system will take into consideration if the vehicle is on or off, what the current temperature is, or if the child seat indicator is installed and if the motion sensor has sensed motion.

If the system detects the vehicle was turned off and 3 minutes have passed or the temperature limit has not been reached and the motion and child seat indicator does not go off. The system will go into "sleep mode".

If Vehicle Occupancy Alert (V.O.A.) system detects the vehicle was turned off and 3 minutes have passed or the temperature limit has not been reached and the motion or child seat indicator does off. A text message will be sent to the people who were preprogrammed in the system. The text will also offer the parent or caregiver an option to respond that they have received the text, and then the system will reset itself. If there is no response received within a set time, the system will continue to send a text until someone respond, even calling 911.

V.O.A. is flexible and portable. The system can be set up in a vehicle by the consumer and made to be easy for installation and removal so it can be placed in different vehicles. The main reason is that people buy new vehicles or may want it to go with the caregiver/baby sitter/pet sitter.

Niche

There are several different devices that are part of the "forgotten child" category. In 2012, the National Highway Transportation Safety Administration come out with a report after they had tested what is on the market. The report stated that the devices "were inconsistent and unreliable in their performance." They also pointed out that they would not be applicable in situations that the child was intentionally left in the vehicle or if the child was accidently locked in the vehicle while "playing" in the vehicle. All these products were considered "active" devices. The V.O.A. system is designed to be reliable in all those scenarios.

Features and Benefits

- Passive system
- SMS technology
- 911 capable
- Portable
- Insurance of child/pet safety

Customers

We will have two target customers for this product first being babies/children. In this target customer, the demographics seem to cover almost all families within the United States despite age, marital status or race.

- New mothers and fathers
- All ages
- All geographic locations
- Existing families and caregivers of children i.e. grandparents, babysitters and relatives of the families

The second target customer is dog owners.

- 57% of all adults own a dog
- 40% of men and 39% of women have dogs
- Adults in ages 18-64 average 43% ownership
- Ages 18-29 40%
- Ages 20-49 45%
- Ages 50-64 40%
- Ages 65+ 26%

Household income

- $100,000 or more 50%
- $50,000 to $99,999 44%
- $30,000 to $49,999 42%
- Less than $30,000 29%

The target customers will be pet owners, new parents and existing parents with children that still use a child safety seat. As well as grandparents, Aunts and Uncles of young children. The demographics of the customers will include all regions of the United States as well as all races, ethnic backgrounds and ages.

Facts about this industry

- Revenue for U.S. online baby product sales $5 billion with a 10.8% growth in the past 5 years
- Revenue for U.S. retail baby "Durables" product sales is $3 billion, $30 billion overall retail
- The Global Baby Safety Products market to grow at a CAGR of 5.28 percent in terms of revenue during the period 2014-2019
- New Niche in child safety market that needs a standard and a superior product

Anticipated Sales and Profit Margins

Year	2016	2017	2018
Sales Growth	0.0%	10.00%	10.00%
Gross Margin	90%	90%	90%
Profit Margin	65%	70%	75%
Sales	1200	1320	1452
Sales Gross	$144,000	$158,000	$174,240
Sales Net	$93,600	$110,600	$130,680

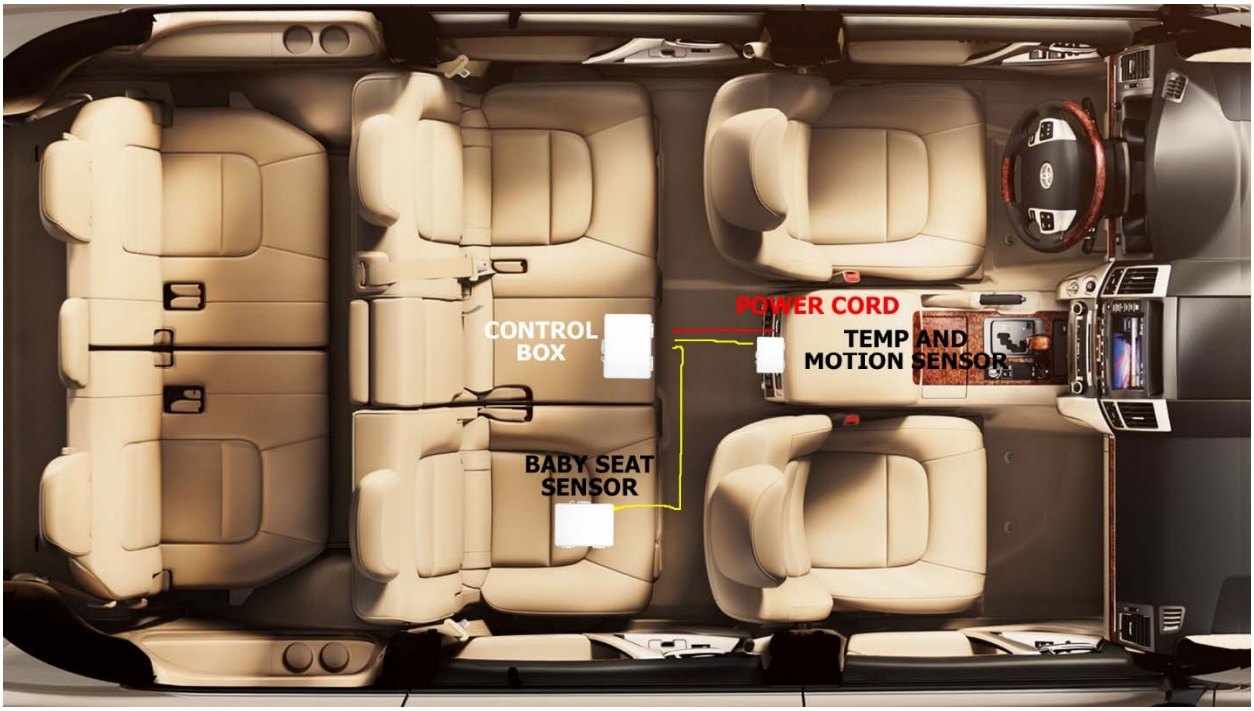
Competition

Product	V.O.A.	ChildMinder	Forget Met Not	Child-in-car Alert
Sent a Text	YES	NO	NO	NO
Call 911	YES	NO	NO	NO
Detect Child in Car seat	YES	NO	NO	NO

FOUNDER

- 20 years' experience in computer networking and server/client applications
- 20 years of experience in electronic troubleshooting and repair including soldering, reading and creating schematic diagrams for troubleshooting
- Seven years' experience in Programmable micro controllers and sensor networks
- Education: Current student majoring in Electrical Engineering student at University of North Texas
- Research Assistant in the Wireless Systems and Sensor Networks Lab

Sample where the device may be installed:



The Innovation Greenhouse at UNT believes Vehicle Occupancy Alert system will save babies and pets' lives by preventing caregivers accidently left their loved one in an extreme temperature. Not only will this product help save lives, but it also has a potential of creating jobs and scale nicely.