

Car Seat Alarm

Project purpose: to be able to alarm guardian or civilians that a child has been left in a car.

Project goal statement: to alert that a child has been left in the car to the guardian or civilians.

Group members contacts

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Advisor: David Tashjian

Project Abstract

We want to build an monitoring system that will alert parents if they forget their children in the backseat of a car.

This will be accomplished by:

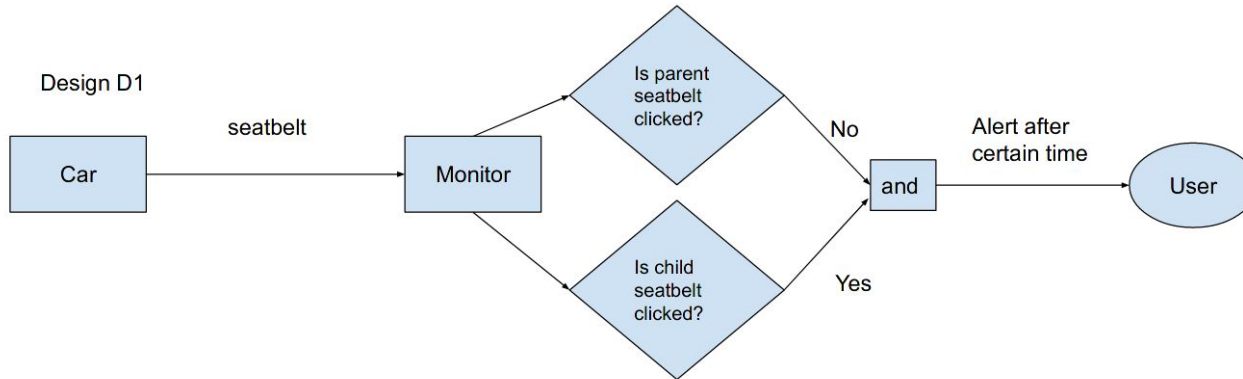
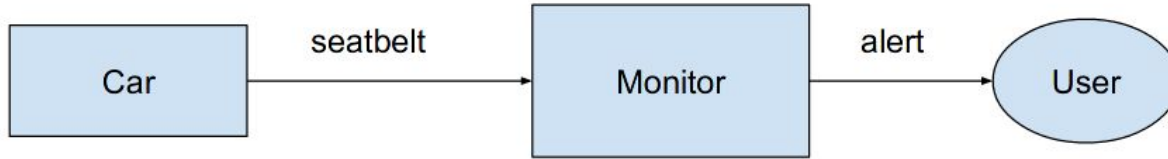
- Monitoring the child's seatbelt to know if the child is present
- Monitoring the parent's seatbelt to know if the parent is present
- Starting a timer when the parent leaves the car
- If the child is not removed in a given time, the parent will be alerted
- Alert could be the car alarm, a phone notification or an alarm attached to the parent's keys

User Stories

- As a parent, I want to be alerted if my child is forgotten in the backseat, so my child is safe.
- As a child, I want someone to be alerted if I'm stuck in a car, so I don't get hurt from a heatstroke or frostbite.
- As a user , when using this i want to be correctly alerted when i leave my car seat and a child is left in the back seat of a car.

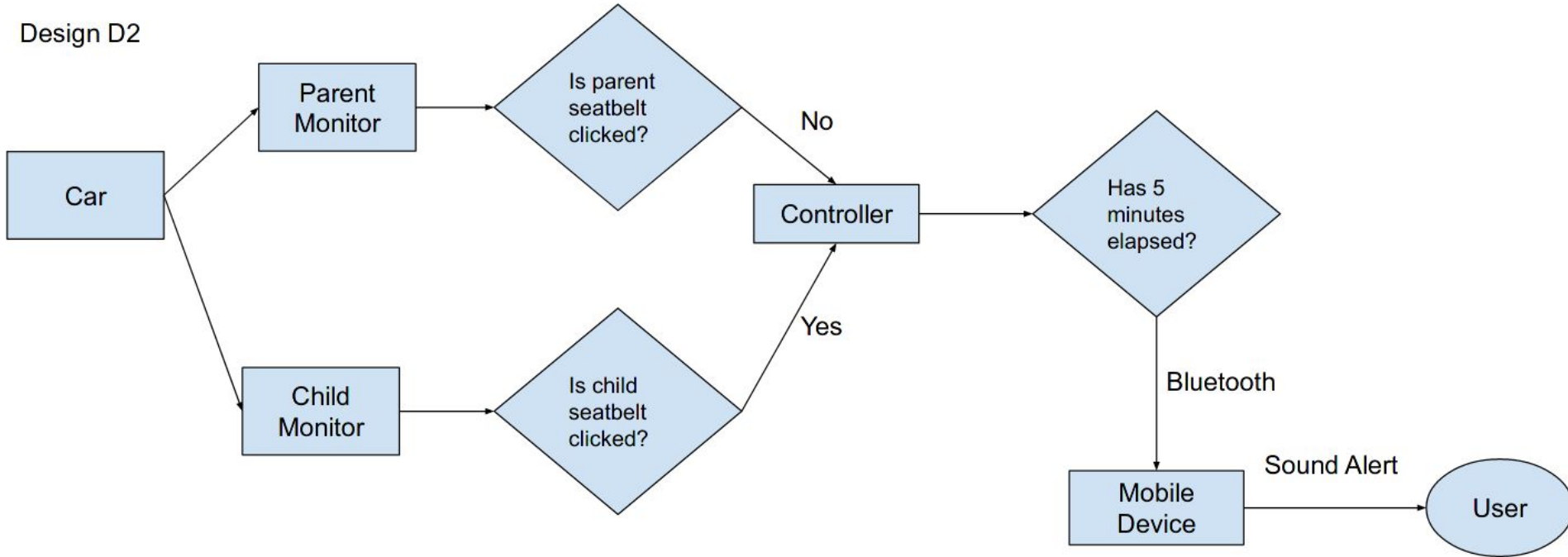
Diagrams

Design D0



Diagrams

Design D2



Major Project Constraints

Time: Regarding our project we only have so much time to assemble a functional prototype.

Technical expertise: being able alerting parents from systems within the car

may be challenging as we don't have access to the internet. The alerting system must be able to contact parents directly.

Scope: There are many different car seat configurations. Infants, toddlers and children may all have different car seat styles.. We will target infants and toddler seats but even in this area, there are many different car seats.

Legal: based on the nature of our project we have to find means in which to notify bystanders and also the parent or guardian that a child has been left in the car. This could run into legal issues because we would have to modify the seat belt and install certain equipment in the car.

Current State of Project

Currently researching way to implement seatbelt function and how to implement the alarm system and finding what equipment we will be using to construct a prototype.

End-of-Semester Goals

The goal by the end of the semester is Having our research done and having initial design idea of prototype that we would be constructing.

Division of Effort

1. Raeshawn Bart: research ways to monitor seatbelt buckles
2. Raeshawn Bart: research arduino/etc circuit board
3. Nick McClorey: Research ways to alert parents and/or bystanders
4. Raeshawn Bart: Decide whether or not to use switches on prototype
5. Nick and Raeshawn: Build parent's seatbelt monitor prototype
6. Nick McClorey: Acquire child seat
7. Nick and Raeshawn: Build child seat monitor prototype
8. Nick McClorey: Connect child seat monitor and parent's seatbelt monitor to the hud
9. Nick McClorey: Create installation guide
10. Nick and Raeshawn: Perform and document demonstration
11. Nick and Raeshawn: Test prototype
12. Nick and Raeshawn: Finalize prototype

Demo

For the demo we plan to have a finished prototype of the car seat alarm and to be able to show its functionality and its design and also how to implement it.