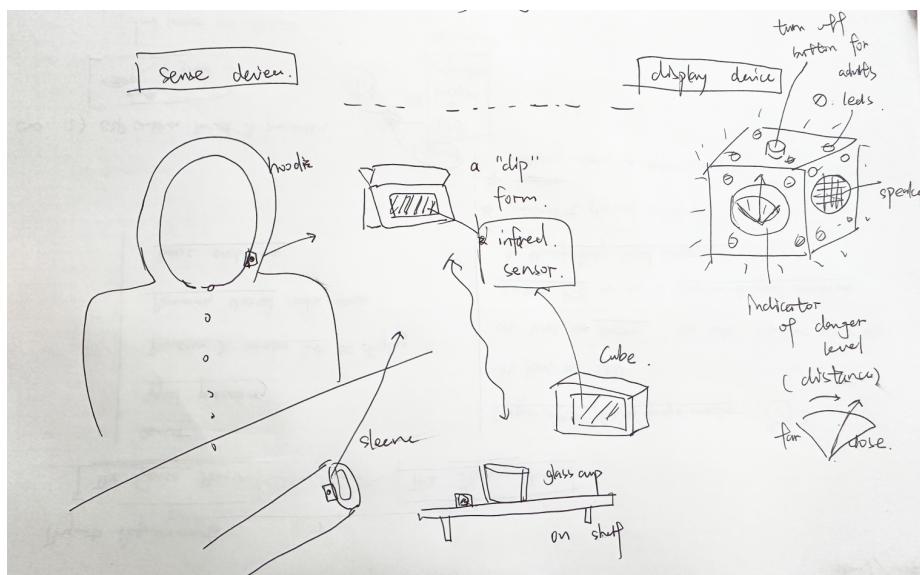


Children's Safety Habit Builder

Freya Yu 2372732

Overview

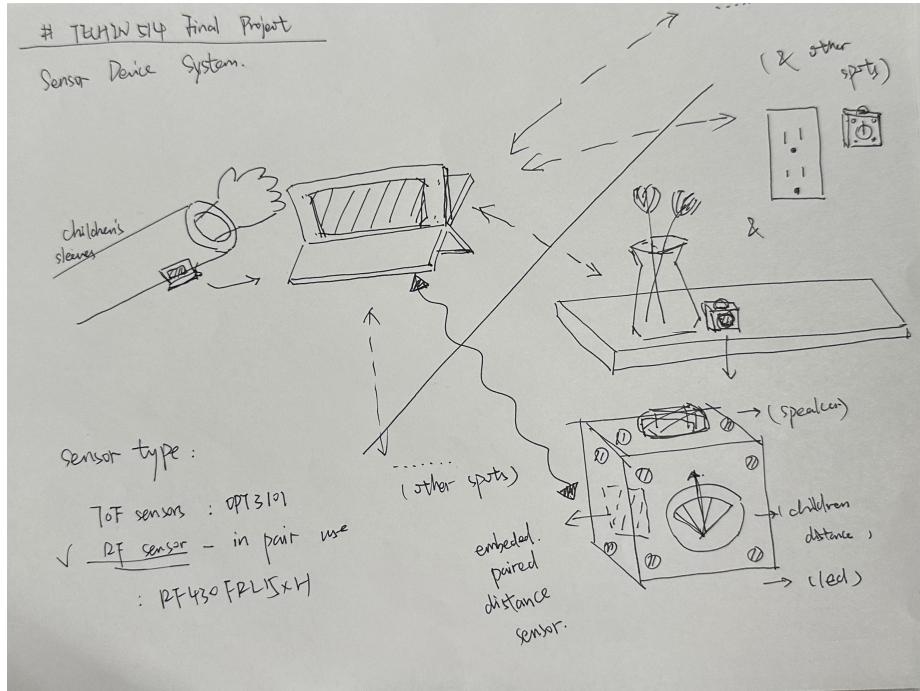
- The project includes wearable sensors paired with a fixed-spot sensor to detect distance between children's hand and dangerous place, using light and sound to trigger children's discomfort to cultivate children's habit to not touch dangerous places.
- Targeted children age: 1-2 year old



Above is a general sketch of the project, highlighting the physical features.

Sensor Device

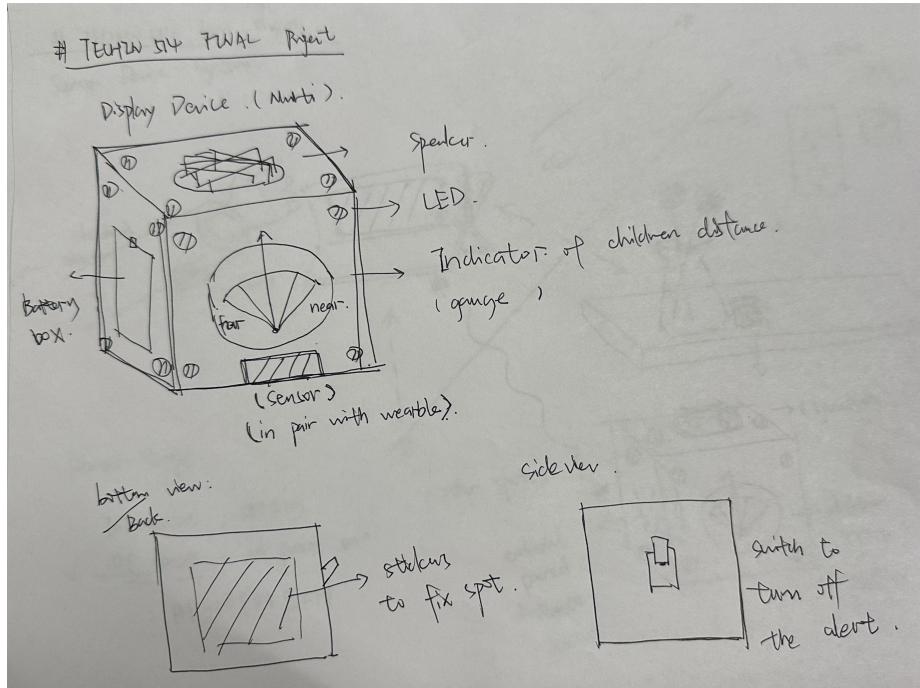
The sensor system contains one wearable sensor paired with multiple fixed-spot sensors around home environment to detect distance between children's hand and dangerous place. - Clip form to easy attach to children's clothes - in pair with the embedded sensor on display device (multiple location) - possible selections: ToF sensor OPT3101, RF sensor RF430FRL15xH - processor: XIAO ESP32S3



Above: Detailed Sensor Device Sketch

Display Device

The purpose of display design is to use beeping sound and red led blinking to make children (under 2 years) uncomfortable and quit action - gauge indicating the extent of danger - turn off switch button - warning leds - embedded speaker - Battery: Chargeable battery, button or AAA size

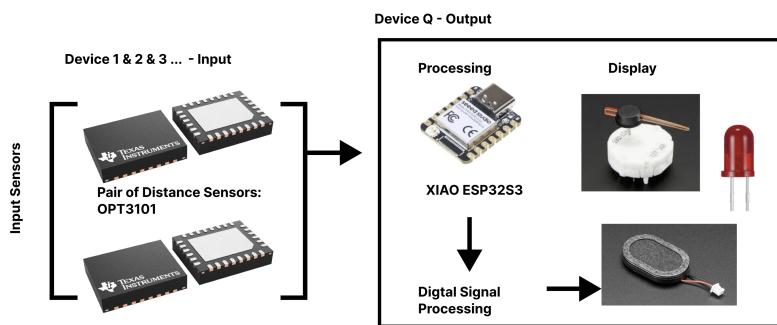


Above: Detailed Display Device Sketch.

Communication and Diagram

TECHIN 514 Final Project: Children's Safety Habit Builder

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System Architecture Diagram