Rapid Response

Realtime tactical information and command system for Active Shooter Response in schools

Problem

As of 11/28/22, there have been 46 school shootings that resulted in injuries or deaths in 2022, up from 35 in 2021.

School shootings occur in a rapidly changing environment, unfold over a relatively short period of time, and require clear communication across multiple organizations to successfully stop the attacker as fast as possible. When this is combined with panicked victims providing delayed, incomplete, or inaccurate information, it becomes very difficult for first responders to accurately assess the situation and neutralize the threat.

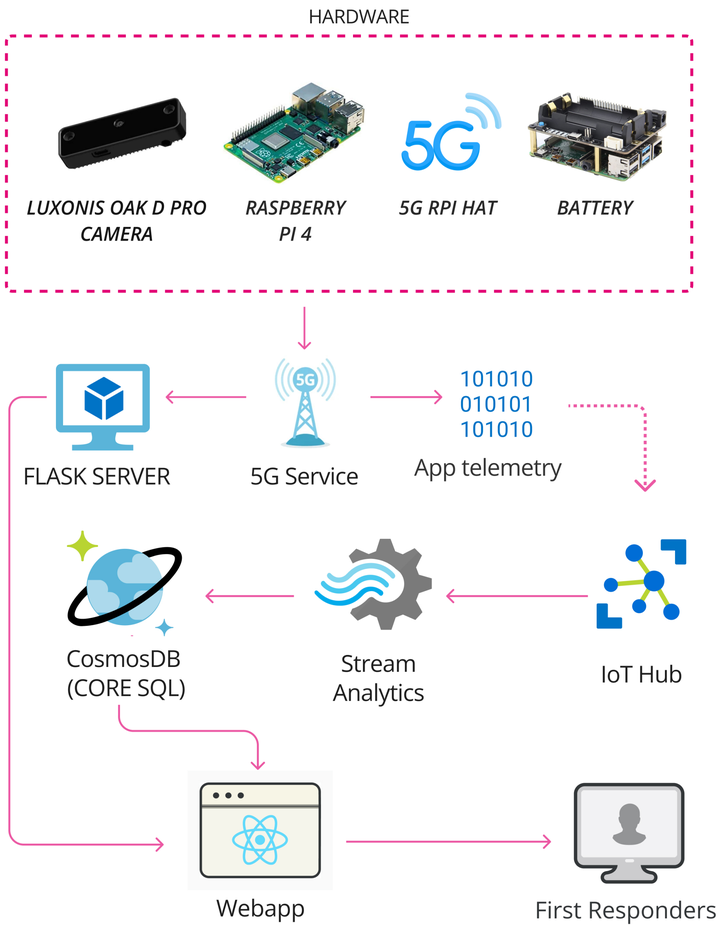
Solution

Our solution consists of two components:

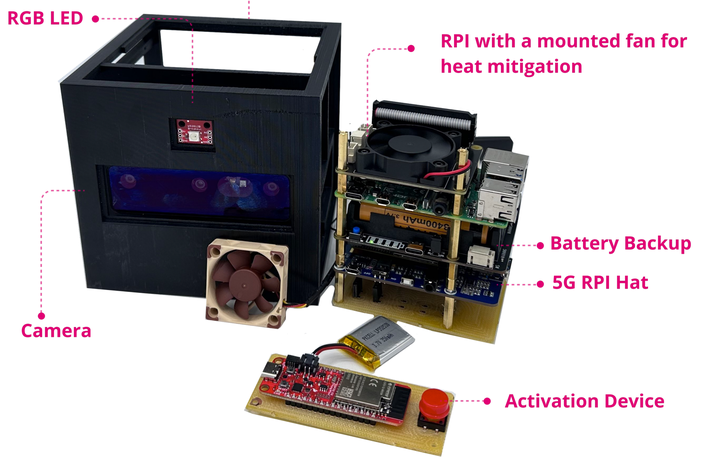
The first component, Rapid Response Lens, will be a device installed into each classroom which can leverage 5G, machine learning, computer vision, and edge computing to accurately identify and count the number of attackers, weapons, and civilians in the room.

The second component, the Rapid Response Web App, is a secure web based application which visualizes data collected by the first component on an interactive and detailed map of the school compound allowing first responders to quickly identify high threat areas, coordinate responses, and ultimately make tactically sound decisions to take control of the situation faster.

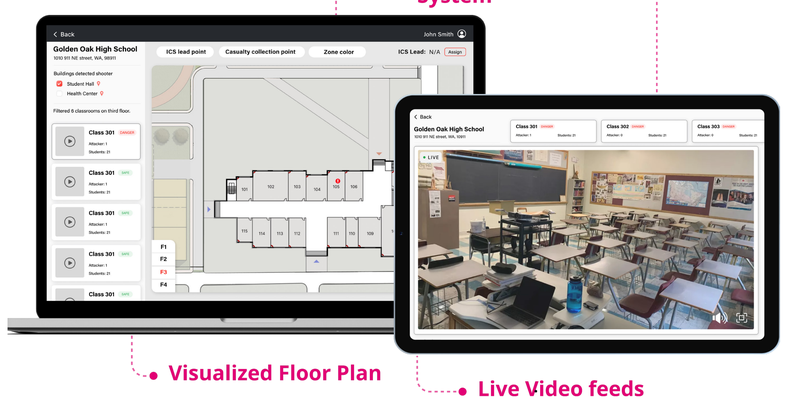
HW/SW Architecture



Rapid Response Lens



Rapid Response Web App



Process

Research

Secondary research and interviews with first responders to narrow down to active shooter situations.

Interview

Primary and Secondary research to learn about mass casualty incidents and narrow our focus on school shooting incidents.

Requirements

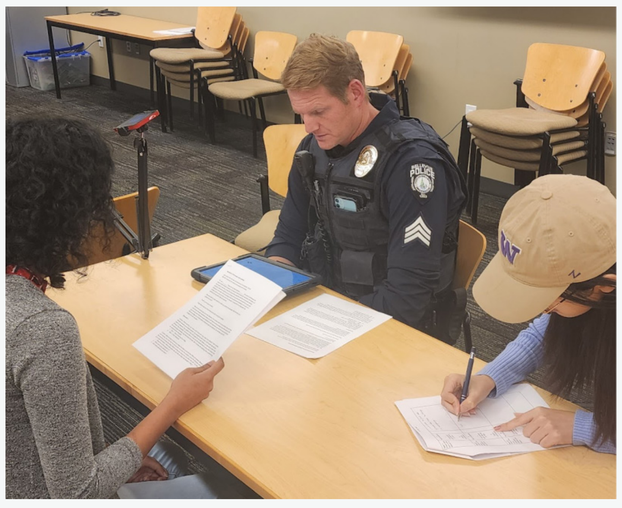
Interviews with 12 first responders to learn about the typical school shooting response and discover challenges when responding to school shooting incidents.

Prototyping

Triangulation of insights gained through research and interviews to develop 6 cored design requirements.

Evaluation

Used digital and physical prototypes to conduct two rounds of usability testing, heuristic evaluation, and functional testing with rapid iteration of both prototypes between sessions.



Usability testing with police officer

GLOBAL INNOVATION EXCHANGE
UNIVERSITY of WASHINGTON

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