CIA – Wearable Fashion Technology

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Objective

The objective of this project is to develop an innovative wearable device for the CIA, featuring an integrated gas detector, and additional technology to aid in building collapse search and rescue missions.

Background

The device was developed to assist in scenarios following numerous earthquakes and natural disasters causing buildings to collapse.

Assumptions

- Helmet can be worn over optical equipment
- All users will wear the same device
- Team 506 will calibrate their device accordingly

Main Components

Helmet	Head-up Display
Gas Detector	Vitals Sensor

Project Overview

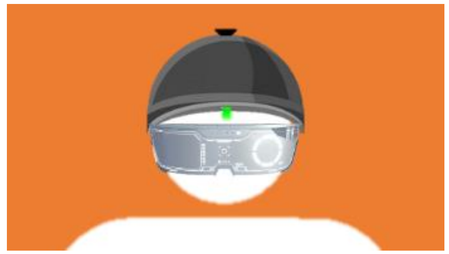
Internal View

External View

HUD Mock Display

How it Works

1



Team begins mission all connected to each other and in standby mode shown with a green light

2

When gas is detected, the user will be alerted on the HUD via a message and the green light will change to red

3

The user's helmet will also transmit an audible noise when gas is detected to alert surrounding users

Key Targets

- **Power:** Device should run for 72 hours with intermittent use
- **Weight:** Entire device should be less than 40 lbs.
- **Wearable:** Device should accommodate users to the 95th percentile.

Polarized Visor

UV Exposure — Shade/Inside

Future Work

- Gather feedback from CIA operatives and rescue teams
- Use better materials to make the helmet certifiable
- Add more sensors for detecting different dangers
- Upgrade HUD to communicate data back to a central area