Wearable Technology Designer's Web Tool

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1. Objective

Idea to create an embedded system to enhance early intervention of a wheelchair accident, seamlessly integrated as a head-worn display which can recognize a significant crash in real time. It should sync the user's contacts and notify of emergencies.

2. Design Decisions Insight

The system would be incorporated with biometric sensing and precision.
The tool gave proper focus in tracking biometrics such as heart rate which could help with optimally ensuring accuracy by being in close proximity to the surface of the skin.
The wearable technology designers tool also provided some inspiration in wearable photoplethysmographic biosensors and that showcases how the device maximizes reliability and the volatility of heart rate information based on environmental factors. The tool even gave inspiration to a formulated example of brain activity levels and its degree of precision.The system would also be incorporated with touch interaction and capacitive sensing and the intersection between the two. The tool suggested that this intuitive user control should have certain conditionals for it to operate and it should be a seamless, non-lagging and responsive interface. For potential speech limitations, a voice-emitting system is essential in emergencies, and the tool inspired touch-based communication to enrich usability.I particularly find that quite intriguing as to how that can be implemented. The tool gave inspiration to also use these auditory alerts and compliment with the visual indications.The tool also showed a very distinctive feature of a heat map of target affected areas in light of using such embedded systems.

3. Accessibility Highlights

The wearable technology designer's web tool also provided important accessibility highlights for a diverse range of individuals. One thing to be taken into consideration is referring back to audio output where the speaker should be used (in addition) such that individuals with visual impairments can rely on auditory feedback. Although any visual feedback should be visible for the user and the environment, the auditory feedback can be strategically placed to distribute the weight load (more below). It also provided some insight about considerations to include customizable font sizes which can accommodate users with limited vision or certain levels of color blindness. I can definitely relate to such established guidelines dealing with color choices and font size because sometimes at different light conditions I have a hard time seeing.
The wearable technology designers web tool also gave some insight about perceived size and sensor placement, something which I have definitely overlooked. It gave an example about how the human body naturally has some degree of sense of their size to avoid collisions with the environment. We take this into consideration such that perceived size should be reflected in our system. To follow up on weight distribution for user movement, the tool inspires a strategic weight distribution design that optimizes the movement of the operator. This should also not hinder the user from balance.There were also some notable key points in regards to thermal tolerance especially if the system is in prolonged usage.

4. Impact of Tool

The wearable technology designers' web tool highlighted crucial points that our system may have easily overlooked. We keep in mind the key insights, including weight distribution and thermal tolerance (for prolonged usage), which have sparked immediate considerations from our team for their implementation in our design.