

## The Personal Health Information Tracker

My idea combines three existing technologies: fitness trackers, GPS trackers, and alert bracelets into a new device for a new purpose: The ability to monitor health vitals and location, and send out alerts if the wearer has an event where they cannot call for help themselves (ie. Heart attack, stroke, or seizure). Patients at risk (such as the elderly, cancer and dementia patients) often need constant monitoring, which puts heavy stress on families, friends, health facilities and the patients themselves. Constant monitoring from medical professionals can become expensive, as well, with in-home care for seriously ill patients being the most expensive for individuals and health providers.

This device would ease the constant drain on both time and funds that is such a stress on these vulnerable groups by allowing for remote monitoring and automatic alerts. It would allow patients and their caregivers an added measure of independence again, and reduce worry for all parties involved. Most importantly, it would allow for the quick response in the event of a patient health crisis in situations where it might otherwise be delayed by lack of notice.

Here is an example of the product in action: a person at risk decides to go grocery shopping, so they drive to a nearby shopping center. While still in their vehicle in the parking lot, they have a stroke and are unable to call for help. There is no one nearby to assist them, but their PHIT trips an alert based on the large deviation from the person's normal health parameters, and sends a message to their alert team. The team receives text messages with the type of alert and the person's location (hopefully plugged into a mapping program such as Google Maps). The team can then coordinate medical assistance to get to the wearer as soon as possible, reducing time during a critical treatment window and saving the patient's life.

If implemented correctly, this device could also allow for less of a burden on health care professionals, who are already always stretched too thin. And because monitoring is remote, it would reduce costs and environmental impact from transportation of medical staff and caregivers.

FabLab would be vital to the creation of this device. Right now, as a computer engineering student, I can work on the layout of components and the application, but I lack the capability to properly miniaturize and package the components into a wearable device. Your years of experience and manufacturing equipment would be essential to getting a working prototype made.

I want the world to have this technology so that more lives can be saved. I am hoping that by helping me create this, the design will come to the attention of more health technology developers to refine this concept and begin manufacturing it to the benefit of all. Your consideration in this endeavor is appreciated. Thank you!