Apr 9th, 9:45 AM - 11:45 AM

Aqua Band

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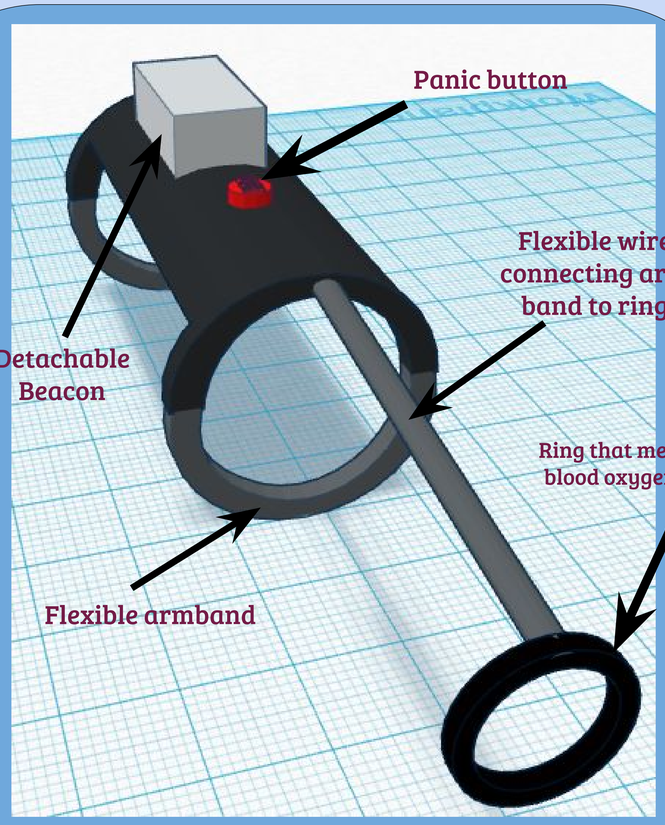
Problem

People drown all of the time.
Whether it's a young child playing in the river or a college student partying on a boat, there is always the danger of drowning. It is not always easy to tell if somebody is drowning. If you are a parent, you won't always be watching your kids. When you look away and they start drowning, there is no safe way to be alerted of your child's situation.

Solution

The solution we came up with was an armband that can detect when a person is drowning using a blood oxygen monitor and other technology such as an accelerometer. When it does, the device will release a beacon that floats to the surface and creates very noticeable lights and noises. We hope that this will make the victims obvious to onlookers.



The Product

The device is a band that contains a beacon that is released when triggered by distress. The beacon contains several pieces of technology to alert onlookers to the danger such as flashing lights, speakers, and potentially a Bluetooth enabled antenna to transmit a distress signal to nearby devices. Additionally, it will contain a blood oxygen sensor which will release the buoy when the person is unconscious.

Field Study

In our field study, we consulted professor of electrical and computer engineering, Andrew Greenberg. We discussed the problems associated with transmitting various waves underwater and the issues of wearability.

We conducted a survey asking a multitude of questions based around the use of our product to get a better idea of how it would be used in the real world.

See the survey here:

Next Steps

The field of wearable monitoring devices is wide open. Exploring the possible ways to determine if someone was drowning led us to many more questions about how such a device could help alleviate other health problems; for example, no device exists that can accurately determine whether a person is conscious or not. Given more time and resources, we could potentially expand the functionality of this device to many different uses both medical and recreational.