Project Proposal
CART 360
Everywhere = Nowhere = Now

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https://github.com/georgegausden/cart360/tree/main/Assignments/Project

Project Description

With the advent of the Internet, more and more people are finding love online. Also, the recent pandemic has shown how important it can be to stay apart from family members or friends in order to keep them safe. Many of us grew accustomed to using computers or cellphones to keep in touch with our loved ones over the pandemic, yet these devices rely mainly on our auditory and visual senses, while ignoring our other senses that are so important to human-to-human interaction. How then can we overcome our need for physical touch in order to rekindle the

The artifact I propose in this document is meant to afford the user a sense of closeness with their partner even though they might be thousands of miles apart. As it stands, I suggest creating a sort of dynamic bracelet that can tighten and loosen depending on different sensor feedback that comes from the other bracelet it is paired to. I haven't decided exactly what type of sensing to use since there could be a wide range of applications. For example, if user #1 sets the bracelet to tighten when user #2's heart rate is elevated (which could be for different reasons, perhaps they are thinking about their loved one or are stressed). I think this sensation of gripping your wrist is unique and has its own communicative applications.

The dynamic bracelet is meant to help people feel closer to each other. A lot of people use their phones or other devices to be in constant communication reach of their loved one. However, to some people, this is not ideal as some people prefer to not be so reliant on having to constantly look at screens.

Non-Technical Evaluation of Sensors

I'm not entirely sure yet which bio data to use in order for the bracelets to be triggered to tighten or loosen. It's possible that I might try to incorporate some type of heart rate sensor or temperature sensor. These would afford the possibility for the devices to be self-regulating. The user wouldn't be required to do anything particular to activate the mechanism of tightening or loosening. They would read the user's heart rate or temperature and make a decision based on that data.

Another possible route I might take is to use some type of button mechanism where one of the users presses it and it activates a response in the paired bracelet of the other wearer. In this scenario, the button allows the user to control the entire system. There are some benefits and losses associated with this. For one thing, the user would have to make a conscious decision to press the button, which is an altogether different experience than the bracelet making a decision based on data the user is not necessarily aware of. In some sense, I think the idea of not being aware of what the bracelet is doing is more true to life.

In order to make the bracelet loosen and tighten I would also need some sort of motor or mechanism to pull the strings closer together.

Similar Projects

There are actually quite a lot of projects/products already on the market that attempt to find solutions to long distance relationships. One such products, the Bond Touch is a bracelet that, when paired with another Bond Touch acts as a bridge between two people that are apart. Essentially, it relies on short vibrations that can be sent by one user to another by pressing on the display. One major disadvantage that this product has is that it has to be constantly paired to a smartphone in order to work.

https://bond-touch.com/products/bond-touch-pair-of-bracelets?sku1=850138008139&sku2=850138008139

Another product that is similar to my project is the HB Ring by the company the Touch. There are a pair rings that are connected via an app on a smartphone. The rings then communicate through a data connection from the phones of the users. This product has a fairly simple/intuitive

design. By tapping twice on the ring, the user can feel the heartbeat of the other user through some type of haptic feedback.

https://www.thetouchx.com/hbring

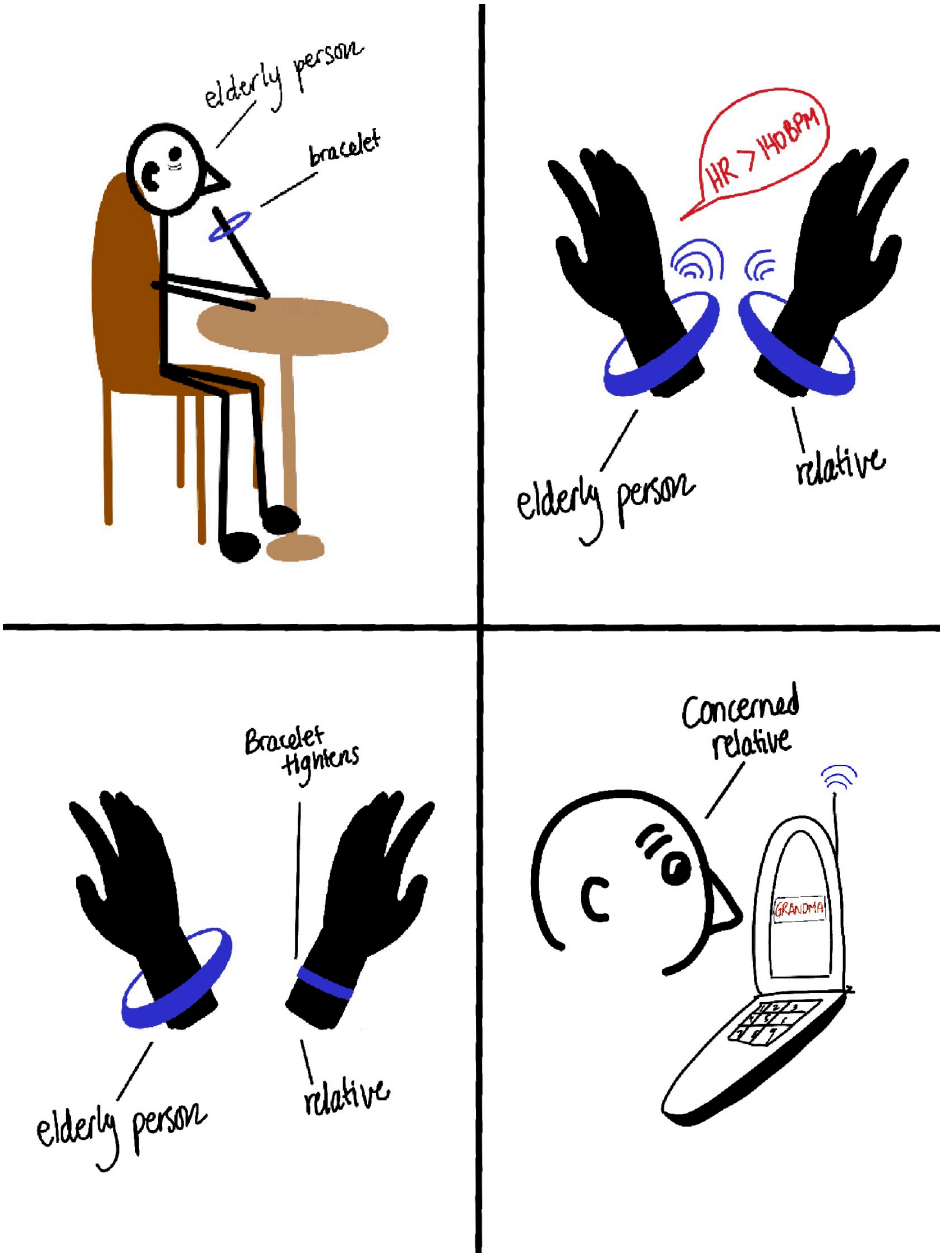
Lastly, the Hug Shirt by CuteCircuit functions by simulating a hug when the user paired to that shirt initiates one (either through an app or by making a hugging motion). The shirt is embedded with various sensors that, according to the seller's website, "capture the strength, duration and location of the touch". Interestingly, there are no wired connections, all of the data is captured in what they call "smart fabric". The data is sent by bluetooth connection to the user's smartphone and the app transmits that data to the other paired user.

https://shop.cutecircuit.com/collections/future-now/products/the-hugshirt

Impact

I believe that my project will be impactful for various reasons. For one thing, I think that my idea differentiates itself from the others in the way the user interacts with the object. I think the idea of a bracelet that loosens and tightens mechanically is unique compared to the other ones that utilize mainly haptic feedback to transmit their message. If I were to go down the path of the bracelets making decisions based on biological data (heart rate, temperature…), it would differentiate it from most of the products I've seen. The majority of those devices require the user to consciously press on a display or imitate a hug to enact a response in the other paired device. Also, I think the idea of not having to rationalize or make a decision that was premeditated, but rather the device acting as a sort of extension of the person's body could be interesting to explore in terms of what that could afford to someone and how they might interpret it. To a lot of people, this device could be a reminder to check up on a loved one that might have an elevated heart rate or body temperature, especially if they are elderly.

Storyboard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bracelet
HR > 140BPM
elderly person
relative
Bracelet tightens
elderly person
relative
Concerned relative
GRANDMA