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Website URL: https://mathi330.github.io/cart360/Project/index.html

REFLECTION

Description

Introduction

The idea for the project is to create an object that the user would wear. We want that object to be a wristband or a bracelet that would not intrude on the user's movements and that wouldn't attract their attention. This wristband would modify the surrounding environment. The wristband itself is not the focus of the work, but only a way to get information about the person wearing it to create a personalized environment.

We are very interested in lights and would therefore like to have transformation in the environment's lighting and colors to occur. We want to create a surreal atmosphere that is related to the "main character" in the work, the user, the person experiencing the piece. We want the design of this work to be malleable, and non-static. It will differ from person to person and create a representation of the user according to their body and movements. The goal of this representation is to dive into a person's identity. This piece can be seen as a mirror reflecting the user. In a way, it is to immerse the user into themselves.

Ideally, the project's personality won't be reflected by anything tangible like the wristband. We want the wristband to be something that the person puts on at the beginning and forgets about when the immersive experience starts. The real personality of the work is related to the atmosphere created with the lighting. We want it to correspond to the person experiencing the piece rather than push a premade atmosphere on the user. Therefore, everyone should have a different experience with the work. Different emotions will be triggered because each person interacting with the work will create a different result, but also because everyone understands things differently which is something we encourage.

Think of a context and an environment where you would like to intervene. Where will you present your project? Who is it made for?

The project we have in mind is site specific. The environment needs to be a room where the user can be isolated for a personal experience. The room doesn't need to be big, but it should still have enough space for the user to move around and interact with the environment through the sensors. We will also possibly need an electric outlet and the space to set up the light projectors.

This project is made for anyone. The goal is to transform all the user's that enter the room into a "main character." We want people to be able to enter this room and explore the work and the representation of themselves that is being created.

Think about the kind of relationship you wish to foster among and between your users and the artifact or installation. What will your project afford users and how would the experience make them reflect on themselves, their environment, society and your intentions?

The relationship we wish to foster between our users and the work is one of questioning and exploration. We want our users to get into the process of questioning and understanding the behavior of the environment and their own. The goal of the piece is to help the viewer discover who they are or parts of themselves they might not be aware of. It is meant to trigger curiosity and creativity in someone's actions and thought process.

Think about the notion of empowerment. Is your artifact really helping or challenging users?

With our project, we aim to empower people through bewilderment. We want them to forget about things that bring them down and only focus on their experience of the piece. Through this work, we also want to give everyone a notion of self and importance. We want people to see themselves as unique individuals through the unique representation they will get. We want people to see themselves as beautiful compositions and find pride in it.

Think about how to successfully communicate your intentions - what Interaction Design Strategies will you employ? What are you trying to tell us?

We want to create a unique and interactive relationship between the user and the experience. The wristband makes the user physically connected to the experience allowing him to communicate information to the installations. We have decided to implement Bluetooth technology as a way for the user to feel free within the room without being restricted in movements by wires. The information communicated by the wearable is instantly projected back to the user creating a perceptual loop: A self-regulating relationship is developed between the user and the experience since the user changes his behavior over time depending on the installation's feedback and vice versa.

Our goal is to bring to light the world of the invisible by translating discrete data such as pulse and temperature to the visual. We refer to the paranormal phenomenon of auras as a guideline to give form to the unseen and bring awareness to the self.

Sensors

Analog temperature sensor: this sensor can measure someone's temperature and can be used as an input for the modification of lights. We would have to see if it is possible to explore the sensibility of the sensor and see if it can detect very small changes since humans all have a similar temperature when they are healthy.

ADXL345 three axis acceleration sensor: this sensor measures motion and inclination on 3 axes. This can be interesting to look at someone's movements. Depending on motion and inclination, we can determine someone's movements or at least their degree of activity. Knowing if someone is doing wide movements or small ones, fast movements or slow ones, can be a great indicator of their identity.

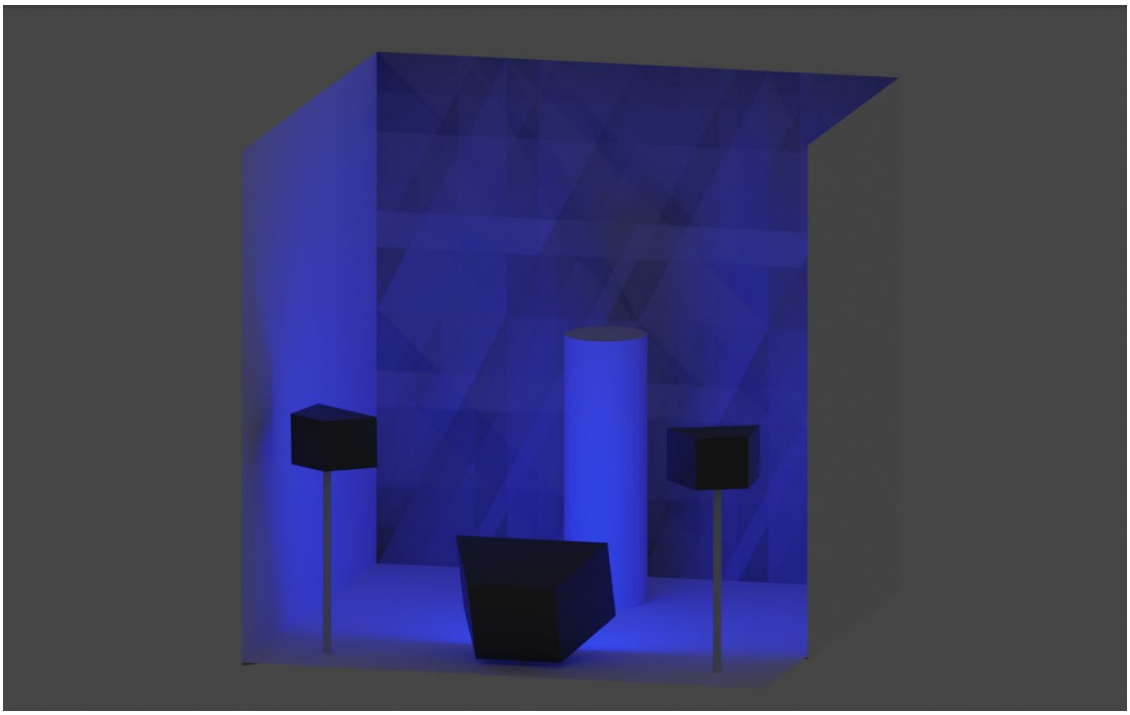
Heart rate sensor (SEN0213 Gravity: Heart Rate Monitor Sensor): this sensor can measure someone's heart rate. In the context of our project, this is interesting to get personalized information on our user. We can use this sensor to modify the light's flickering effects according to the speed of the user's heart.

Analog sound sensor: with this sensor, we can gather information on the ambient sound and by extension, the loudness of the user. This can be interesting as it will tell us something more about the user's way of moving (do they stomp on the floor, do they talk to themselves, are they extremely quiet, …) and their reaction to the environment

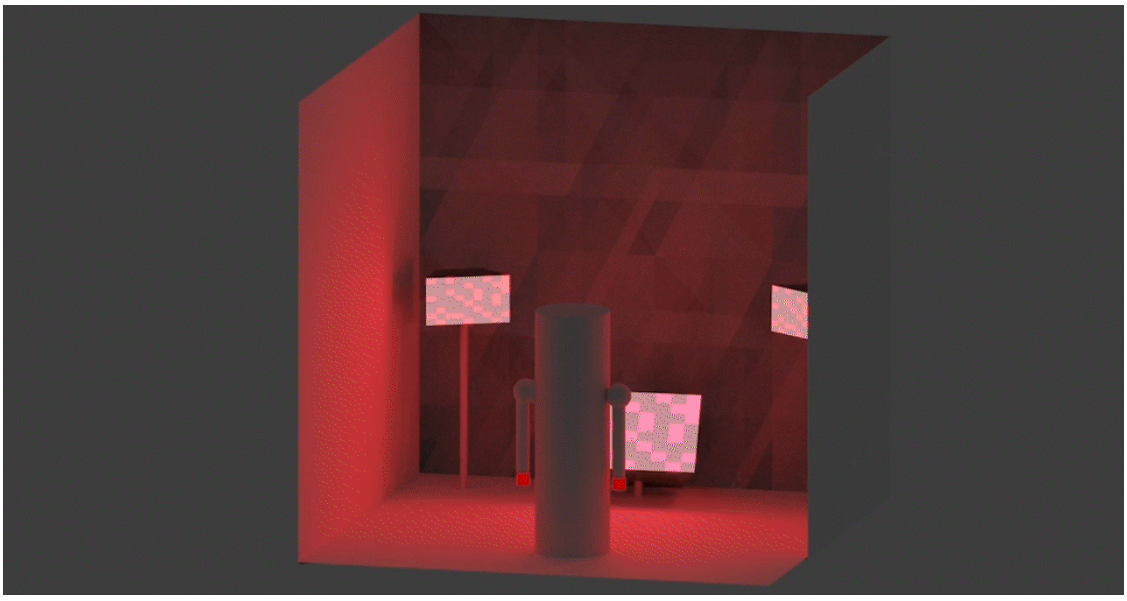
Bluetooth module: this can be used to wirelessly transfer data. It is extremely interesting for our project to transfer the information from the sensors on the wearable to the lighting device in the room without having the user's movements restricted.

In terms of equipment other than sensors, we thought of modifying projectors with LED strips that we could then code on our end.

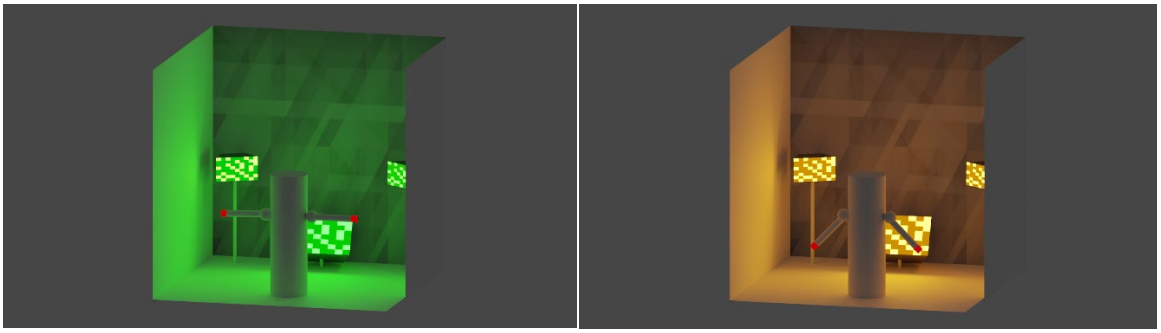
Storyboard

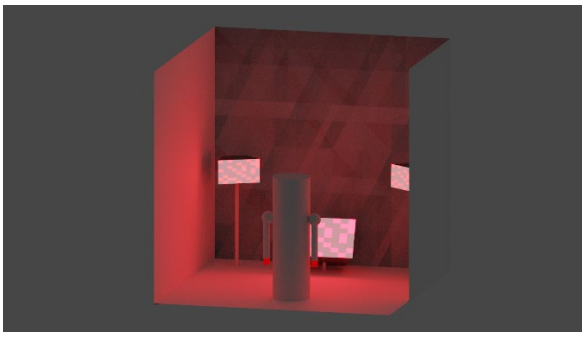


The cylinder represents the user in front of three projectors.

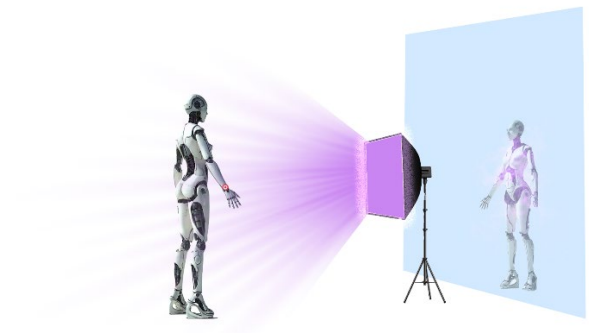


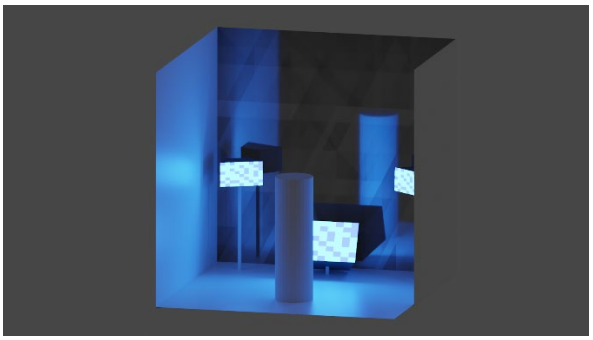
The movements of the use will modify the color projected. The two red elements on the user's arms are wristbands with sensors connected by Bluetooth to the Arduino that controls the LEDs placed inside the projectors. We also want more than just change in color like a flicker in the lights according to the heart rate sensor and the body temperature of the user (it was difficult to show in the storyboard).





We also thought about the possibility of using a mirror so the user can see what the projection looks like on themselves. If we were to do this, here is how we would do it:



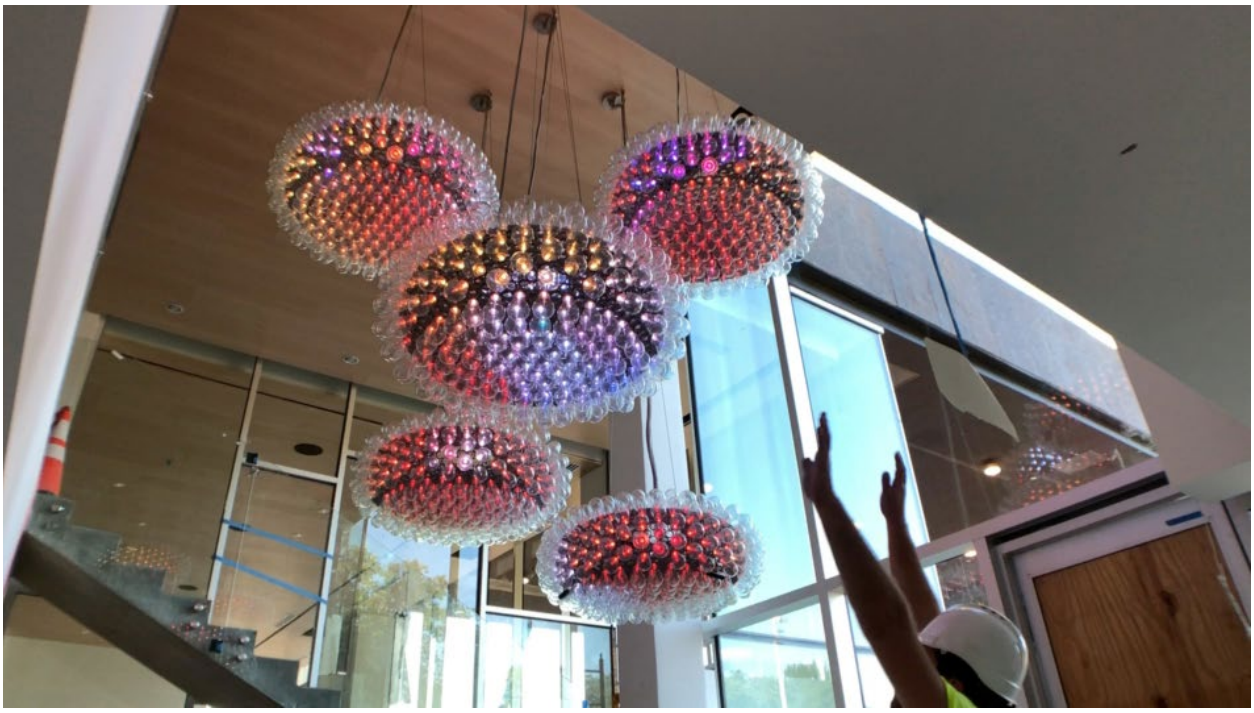


Similar projects

Edison Cloud: https://www.jenlewinstudio.com/portfolio/edison-clouds/

Jen Lewin's Edison Cloud is a project inspired by Thomas Edison's lightbulb and modern LEDs. This project uses light bulbs with LEDs inside instead of incandescent bulbs. This project is interactive and reacts to people's movements. The people's movements are visible on the clouds by changes of colors and light in the LED cloud. Someone's shape is transposed on the clouds and represents the movement.

Something we find interesting about this project is the use of movement to modify light. This is something that we want to apply in our own project, but we would like the movements of our participant to interact with an environment created through projections rather than an object. We also want to incorporate more than just one sensor. In Lewin's piece, only movement is considered. In our case, we would like to use more data to make the experience more personal to the user.



https://www.jenlewinstudio.com/wp-content/uploads/2020/04/InteractiveArt_TulsaGatheringPlace_JenLewin_0002_Layer-1-950x534-1.jpg

Aura Cam: https://www.auraphoto.com/products/auracam/

The aura cam 6000 was invented by Guy Coggins as a way to photograph auras. Two handprint sensors are connected to a polaroid camera. These sensors are purposed to gather biofeedback data and electromagnetic field measurements from a subject, and then an algorithm assigns colors to that data, which are printed onto the taken picture. The result is a colorful cloud around the subject's head.

We especially like the idea of sensors used to gather data inputs that are undetected by the naked eye and translating them into a visual form. We hope to achieve the same kind of results, only in a more continuous and interactive way. The users will be able to influence their results by adapting their behaviors and they will also be able to experience the machine's feedback in real time.

https://www.auraphoto.com/wp-content/uploads/2018/09/image-3-1.jpg

Infinity Mirrors: https://www.youtube.com/watch?v=8VwJMw_fLvI

The infinity mirrors are an exposition that I (Max) was fortunate enough to attend. I was completely blown away by the impact such a simple installation can have. I was in an isolated square room where the four walls and ceiling were full mirrors and, hanging from the ceiling, were small LED light balls. The mirror placements allowed the user standing in the room to view himself and the lights an infinite number of times reaching the maximum of the possible visual horizon.

We want to emulate this experience by creating maximal visual impacts with minimal materials and setup. We also aim to create an introspection within the users by exposing them to stimulating visual patterns and making them question the unseen. We aren't sure if we will get the opportunity to work with large mirrors, but we are staying open to the possibility.

https://www.youtube.com/watch?v=8VwJMw_fLvI timestamp 0:51