

IAT 320 - D101

# Sketch Project 2

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# Concept

## e-Textile & Nature Systems

A fashion piece taking inspiration from nature's ecosystems, flowers bloom, die and represent various stages of growth and decay. Like in nature, the flowers do not always bloom instead they retain a stark white until the right conditions that are set by the wearer. The wearer has a direct impact on the system as they control certain activities such as walking outside and exercise, ideally movement in the outdoors which after a certain time span trigger different light colours and patterns which are dispersed from flowers on the hat.



# Research & Inspiration

## David Suzuki



Nature is our home. And just as we take care of our house, we also must take care of nature. But nature takes care of us too. Nature cleans our air and water, makes the soil that grows our food and provides the resources to make all our material goods.



# Research & Inspiration

## Beating heart headband

The headband uses a pulse sensor to sense the user's heartbeat, and flash the red LED's in sync with the heart beat. A fast beating heart is a universal symbol for feelings of love, or the "butterfly" feeling when approaching someone you fancy.

### What we liked...

Simple aesthetic as a fashion accessory.

The pulse sensor is attached to the ear minimizing the number of visible circuit components and wires.

### What was lacking...

Purpose as to why one should need to display their heart beat.

Erratic heart beat and changes in can mean various things not just affection for another person such when afraid.



# Research & Inspiration

## Skirt Full of Stars

The skirts takes the movement of the wearer and creates wisps of light like that the designer refers to as stars. It is meant to exentuate movements such as twirling, dancing and walking.

### What we liked...

Usage of the leds and fibre optic materials along with the skirt create an interesting visual.

The placement of the accelemtoter and implementation of it was interesting as it was placed on a strip of ribbon allowing for it to move with the wearer.

### What was lacking...

Although the lights were interesting they were not as strong or as visually enticing over time and did not keep the attention of the wearer.



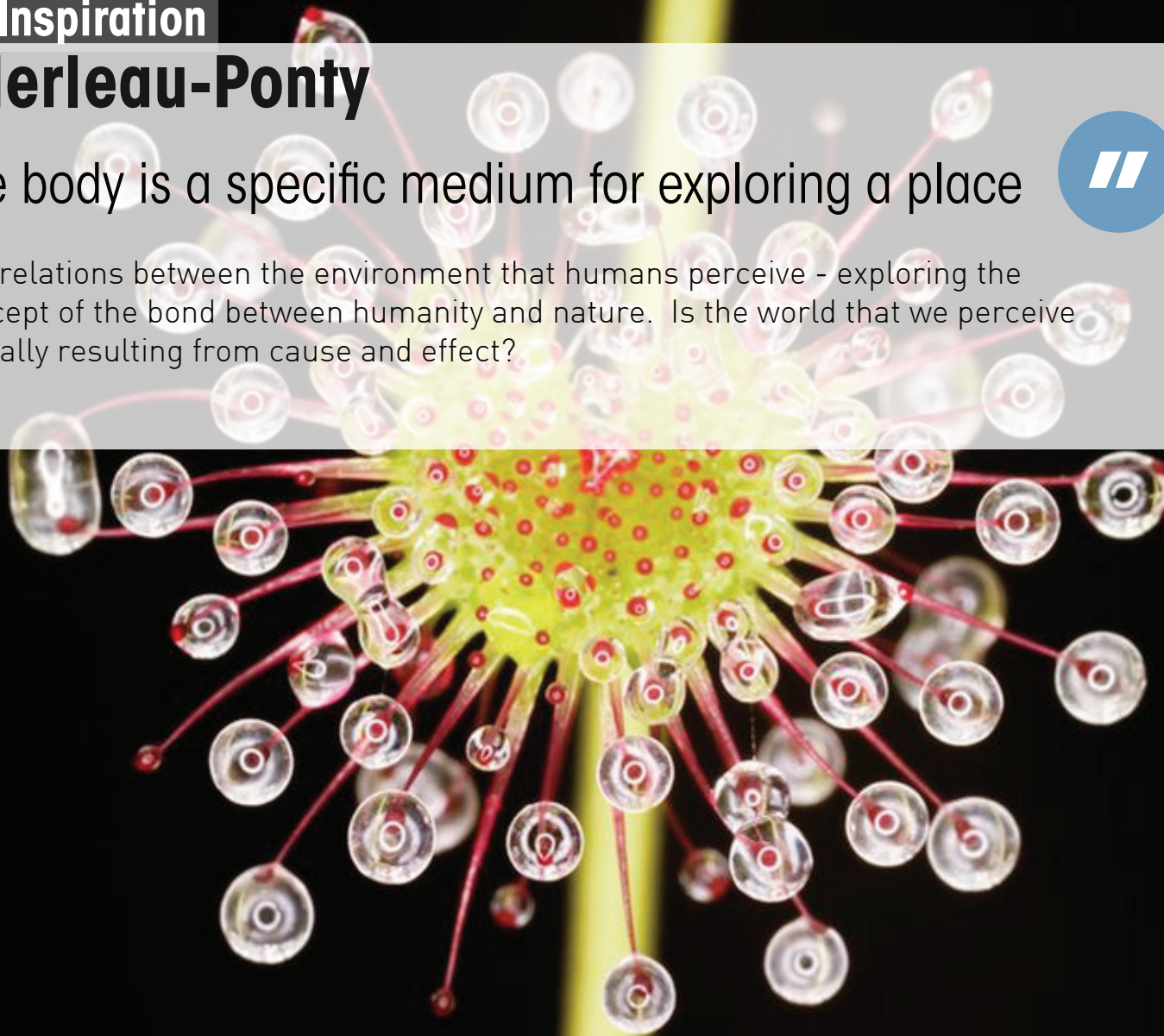
## Merleau-Ponty



The body is a specific medium for exploring a place



The relations between the environment that humans perceive - exploring the concept of the bond between humanity and nature. Is the world that we perceive actually resulting from cause and effect?



# Research & Experimentation

## Diffusing the light



We explored the various types of materials and forms in which we could diffuse the light created by the leds.

The initial concept called for petals that would contain an led, although we liked the diffusion of the light we found that it would be difficult to implement and had to adjust our ideas for technical reasons. We also explored different types of materials such as a fibre like paper. We ended up deciding on a flower that could easily have an led embedded in it and diffused light in an interesting fashion.

# Implementation

## Limitations & Changes



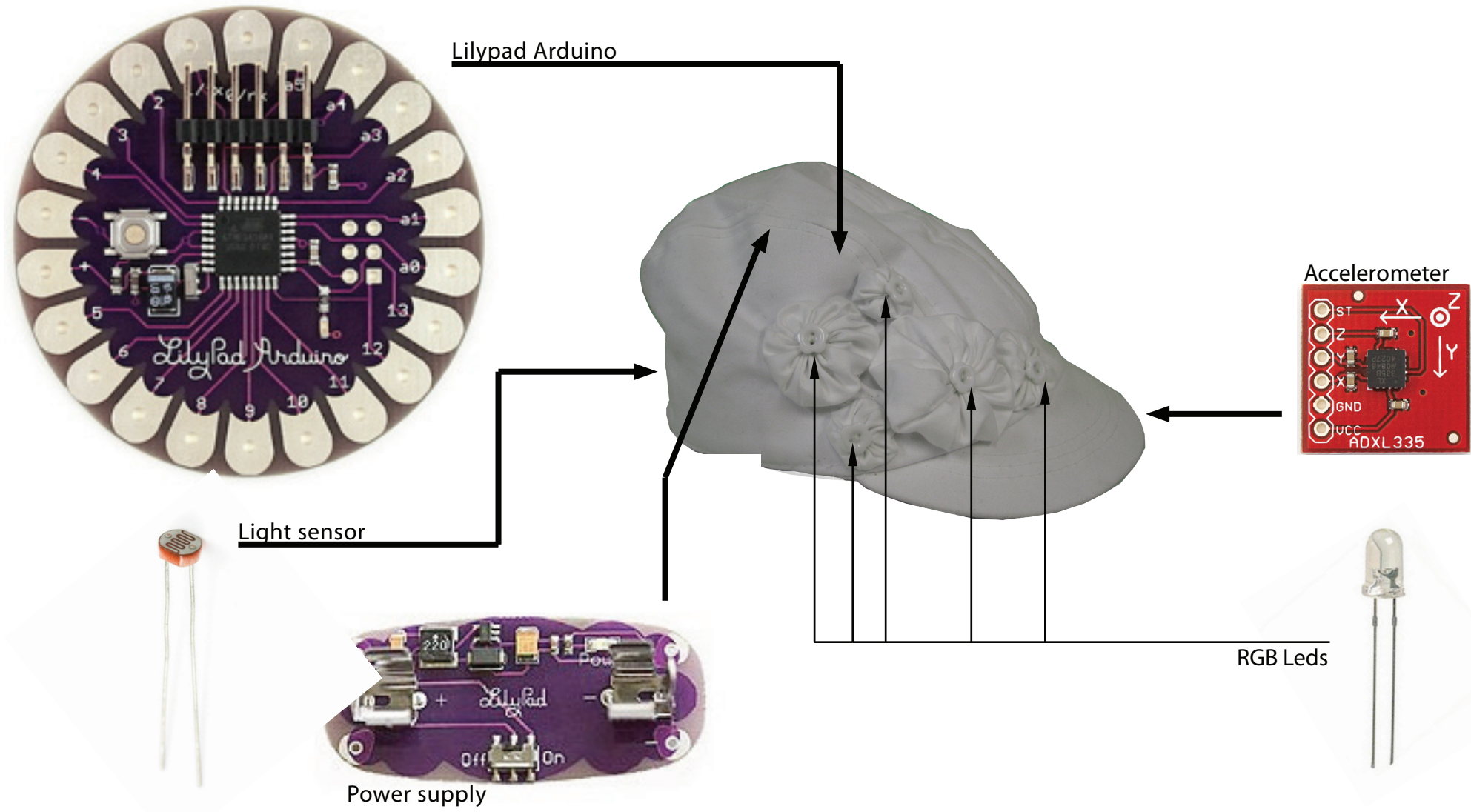
## Change in Final Form

The finalized form of our project resulted in a hat versus a headpiece, our intended form. Even with the small scale of the lily pad arduino and other components like leds, the battery pack was too large to incorporate into the rest of the design. It would have resulted in too much excess material and hindered the fashion aesthetic we were looking for. In turn we found the hat was much less bulky and much easier to integrate the arduino while not compromising our aesthetic.



# Implementation

## The Components



# Implementation & The Result

## “Day”

During the day, the hat remains in a neutral state and collects input of the wearer through the embedded accelerometer and photo sensor. The more frequently the wearer moves and goes out into the light getting mild exercise.



# Implementation & The Result

## “Night”

After collecting data from the user, lights are triggered in the hat when “night” comes around the lights turn on in the hats flowers. This is in part because the lights are most visible and aesthetically pleasing in the night.



# Final Thoughts & The future



## Areas of Improvement

### The lights

Expanding the visual display of the lights, exploring alternative circuit routes in order to optimize the number of lights we can connect to expand the visual output.

### The final form

The final form was not the intended aesthetic, and we would have explored other options if we had more time.

### The circuit

There were challenges in using conductive thread and we had to use make shift solutions that were not the most aesthetically pleasing.