



A woman in a glowing blue dress walks through a vibrant night market. She is seen from behind, moving towards a brightly lit stall with large yellow lanterns. The scene is filled with colorful lights and flowers. In the foreground, there are several buckets of flowers, including red and yellow ones. The overall atmosphere is magical and ethereal.

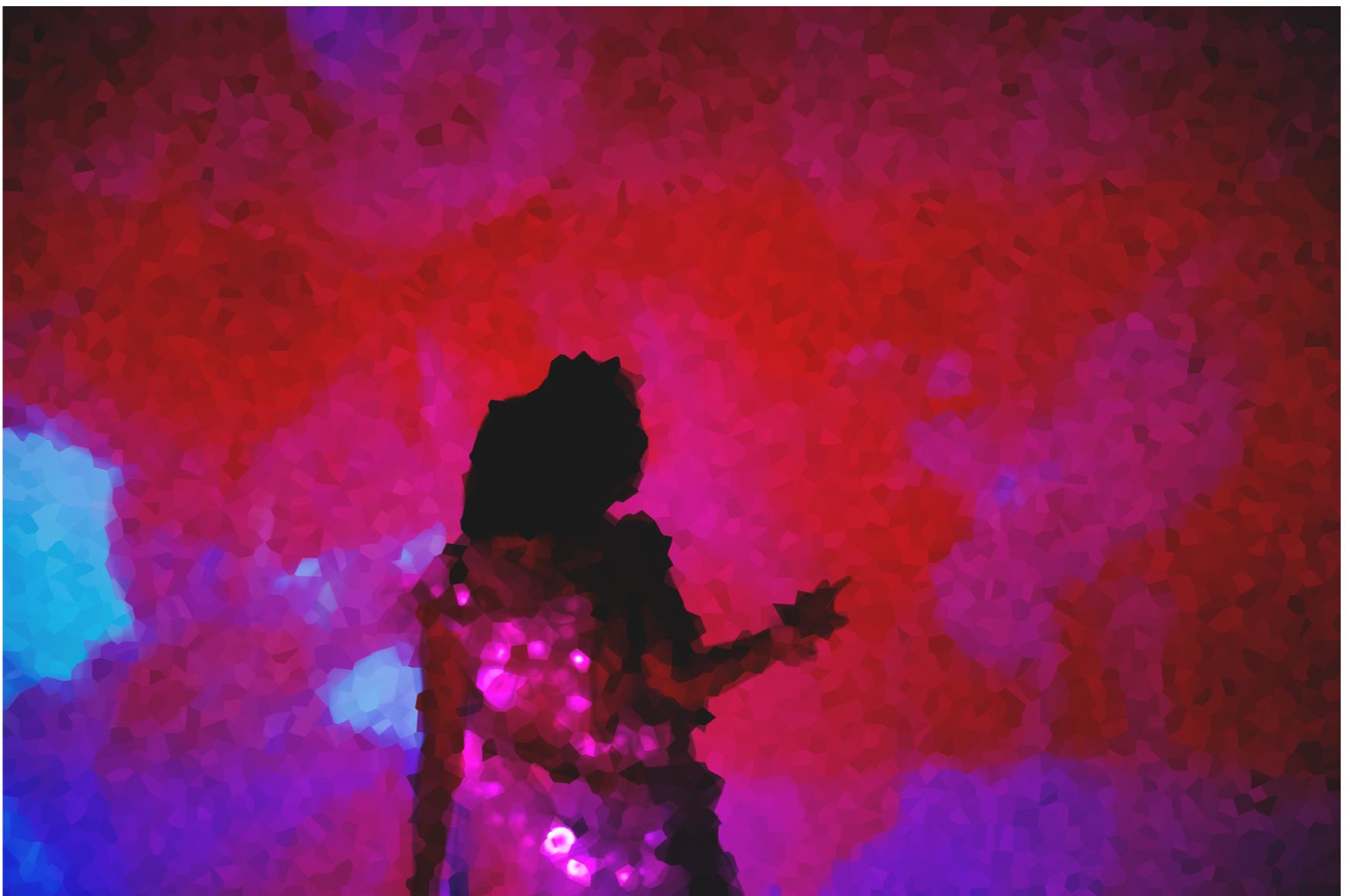
Orphism Poetry

Beauty and Chameleon

The Chameleon is as beautiful as its surroundings
So the surroundings affect the chameleon's beauty.

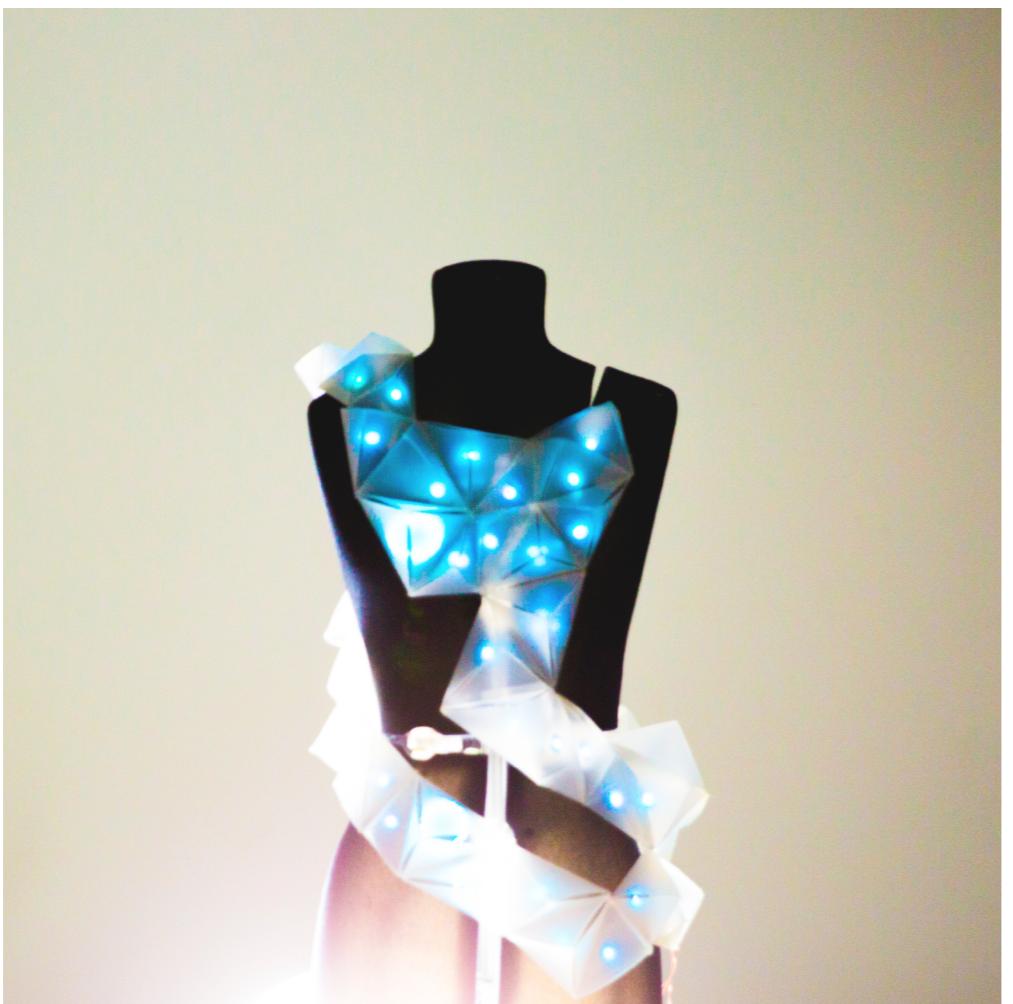
Yet, if there is no beauty around,
it'll be the chameleon who interferes with
the surrounding, being now the
"beautiful chameleon in a beautiful place"

-----BY Oscar Fuentealba de la Vega



Intro

Orphism Poetry is an experiment on how to use wearable technology as a tool of self-expression and communication. In this project, clothing becomes both a canvas that captures the surrounding ambient light as its paint. Users can use it in a playful way to explore the environment and to express their mind through colours in the environment. Besides, it was also an experiment on how the aesthetics of modern art may shift from the static canvas to self-learning, ever changing smart wearable costume. The ambiguity of this project can most likely trigger impromptu interaction that leads to a wide range of speculation and imagination. Through this way, emotions, such as beauty, awe, surprise, sadness, anger, and even disgust can be generated and transmit through users and their audiences.



Reading Assignment

Once upon a time, there were the tailors who made every clothes by hands. As a result, clothes were crazy expensive, especially, when you tried to keep up with the newest trends if it had existed before the dawn of the creation of fashion. But they are worth it for they can show the distinction between social classes. Anyway, humanity had passed this phase and enter the new age of almighty capitalism and industrialisation. Machine and cheap labour have reshaped the textile industry. What the past pioneers of textile would have never imagined is that the giant multinational retail-clothing companies like H&M have made as much as \$21.73 billion revenue last year alone which is even higher than what Bank Mandiri has made which is only \$17.6 billion. Making clothes actually make more money than running a national bank. It is due to the fact that people in the digital age are more and more obsessed with self-expression. To be unique in the crowd or simply to show the etiquette, clothes is chosen to express personal feelings, such as joy, calm, admiration, respect, hostility, and even despair. Considering people's feelings shifting quickly, Automatically the wardrobe collection is growing and the stock is ever-changing. However, People used to value clothing and keep them for a long time for they were not very easy to be made or purchased and essential to their life. But, nowadays, on the contrary, clothing becomes more like a disposable. People purchase the hot items and follow the trends. Clothing is becoming a choice for self-expression rather than keeping warm, which leave tonnes of "out of fashion" clothes behind. At the same time, firms in the fashion apparel industry such as Zara, H&M, and Benettonó have increasingly embraced the philosophy of fast fashion retailing. Basically, clothes are designed, produced and sold within a very short time, to enable new clothes to replace them in a similarly short period. This method maximises the profits of these companies by combining quick response production capabilities with enhanced product design capabilities.

As a result, textile industry has made more pollution than before. What's worse,"out of fashion" clothes becomes a major waste of valuable resources and burden on the environment.

However, the growing strong wearable technology can offer an alternative solution to the traditional textile production. "Expressive wearable" is an award-winning installation made by

Sanli Li from Art Center College of Design. Expressive Wearable explores clothing as a communication tool. With multiple sensors that detect light, sound and approaching objects, the programmed mechanical servos that control the open and close of Chinese fans(the main aesthetics and physical components of the clothing) will response to the external stimulus.

This project imagines a scenario in which clothing expresses the wearer's attitude directly without the concern of adhering to social conventions.

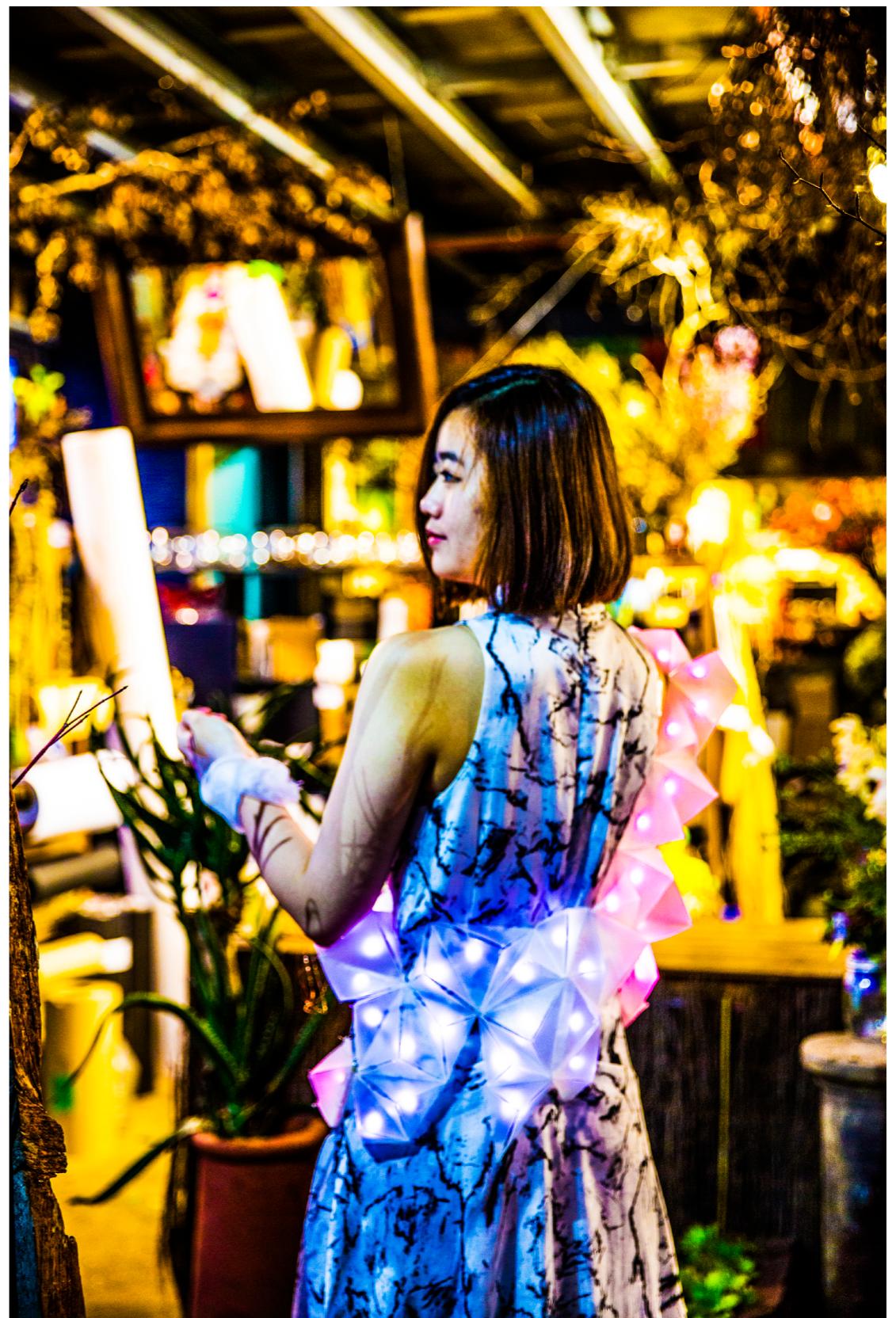
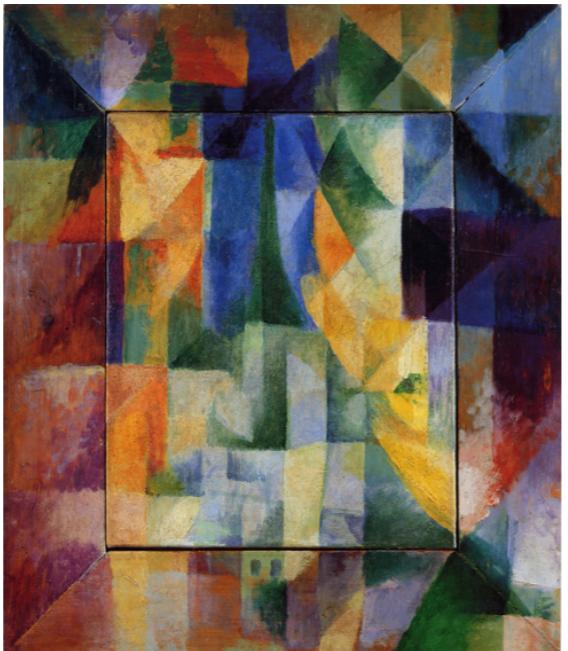
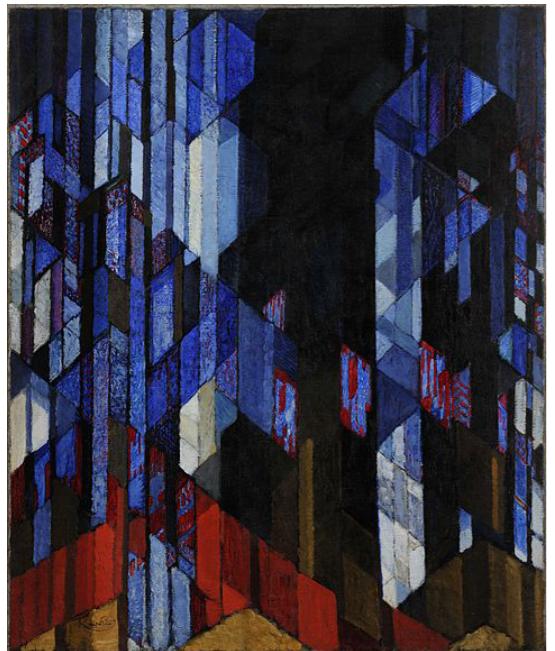
More broadly, the project explores how people might playfully use wearables that move and gesture, what the aesthetics of these will be, and how wearables might interact with each other in group situations. For example, when the people around you are getting really close to you which makes you uncomfortable or when people around you are getting really noisy, instead of starting a discomfort conversion, the fan on the hat will respond and open to express the feeling of disagreement. The interaction of this project may seem a little impromptu and people may get the wrong ideas sometimes. However, it sends an accurate message about the concern of the users. The design of the hat expressively delivers messages from the users to the public. It provokes social conventions by speculating on the complexity of human psychological behaviours. Expressive wearable is an excellent example of how interactive wearable technology would be applied to express complex expression.



(http://cargocollective.com/sangli_mdp/Expressive-Wearable)



According to this, wearable technology can use ambiguity to express complex self-expression through speculation and other psychology behaviours. Ambiguity is also inherent in images because visual perception is an interpretative act involving memory and imagination. Especially, modern art has made this aspect of perception crucial to its relationship with the viewer. Orphism or Orphic Cubism was an offshoot of Cubism that focused on pure abstraction and bright colours. Orphism aimed to dispense with recognisable subject matter and to rely on form and colour to communicate meaning. To combine this two together, a Minimalism and geometry forming outfit(to fit in the collection of people's perception of modern art) are needed and the colour of it should change to the environment or user's need(derived from the curiosity and activation of the nature of human action).



Making of the project

step1:

- Investigate existing wearable technology precedents
- Prepare Arduino components(Neo-pixels, Adafruit Flora, copper wire, Flora Color Sensor with White Illumination LED - TCS34725)
- Soldering all the electronic components together

step2:

- Writing code on Arduino IDE
- User testing
- Improve prototype
- User testing

step3:

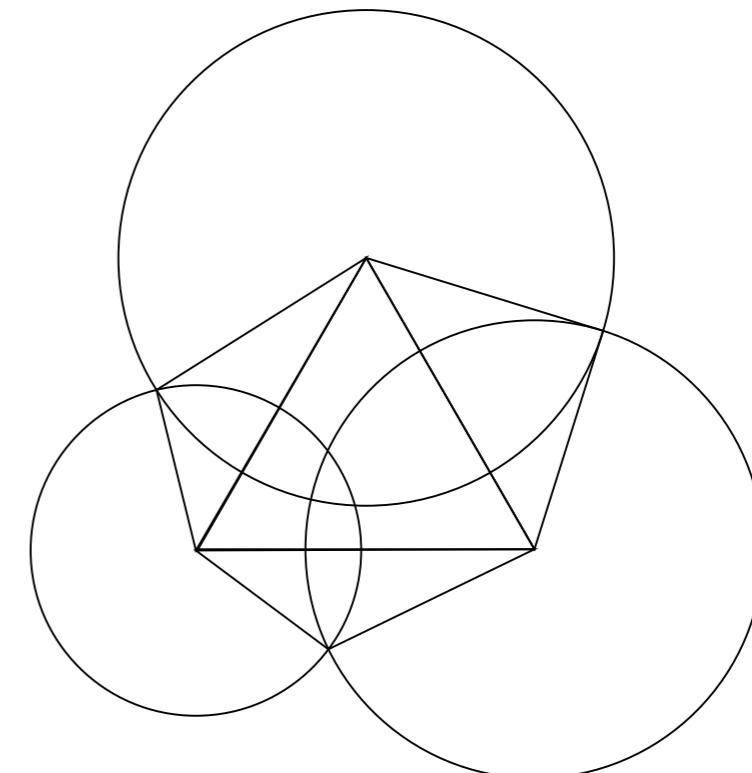
- Design tetrahedron
- Working with math to make a perfect edge fit tetrahedron (draw a random triangle first and draw a random dot in the triangle . draw three line the connect the three corners to the dot, then use a radius longer than the line connecting the dot to every corner and use the corner as the centre to draw three circles. connect all the three Points of the intersection to the neighbour corners. we have a perfect tetrahedron to fold)
- User testing
- Improve prototype
- User testing

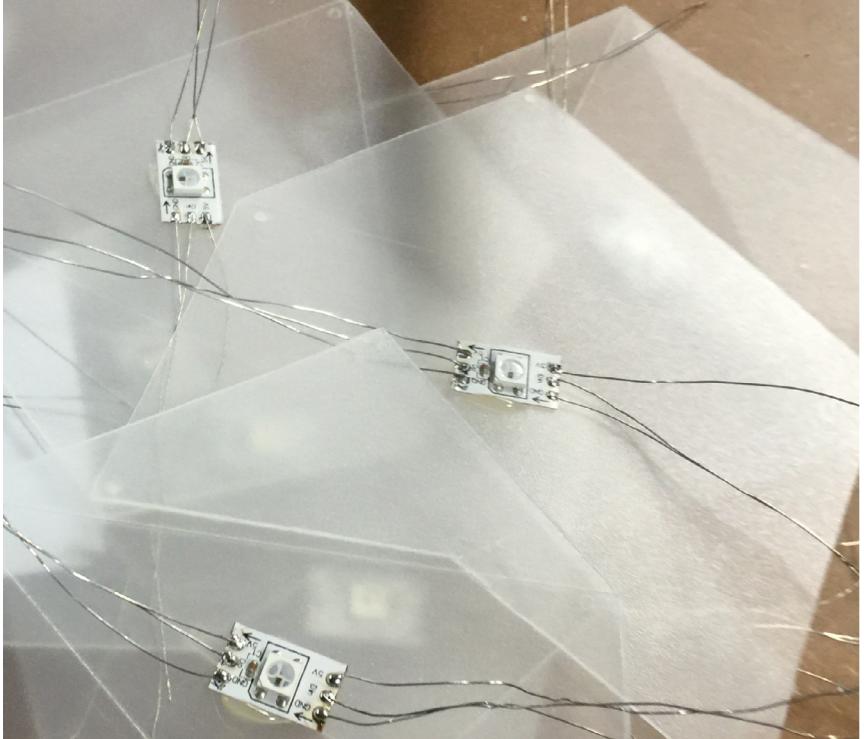
step4:

- Laser cutting components
- 3D printing diffusers
- Assemble components

step5:

- Soldering components
- User testing





Unfolded shapes with soldered LEDs
attached to them



Folded shapes with soldered LEDs
attached to them connected together



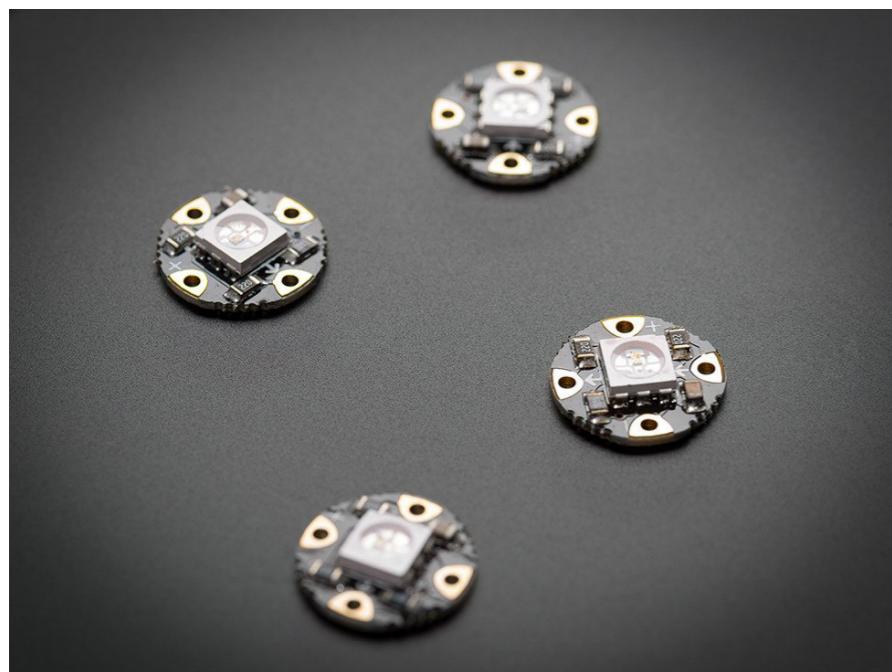
Connect the whole piece with
fishing wire



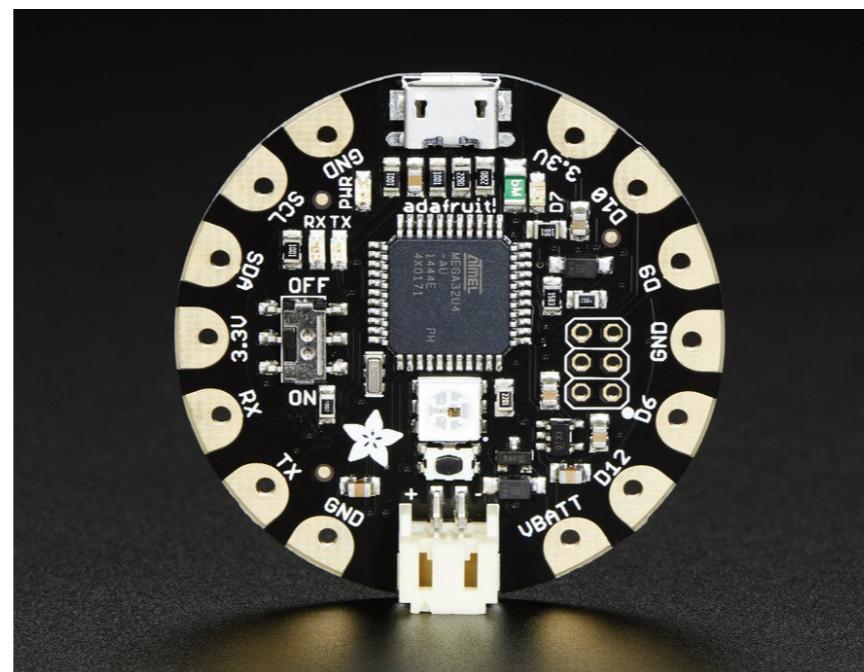
< Unfolded shapes with
soldered LEDs
attached to them

Finished >

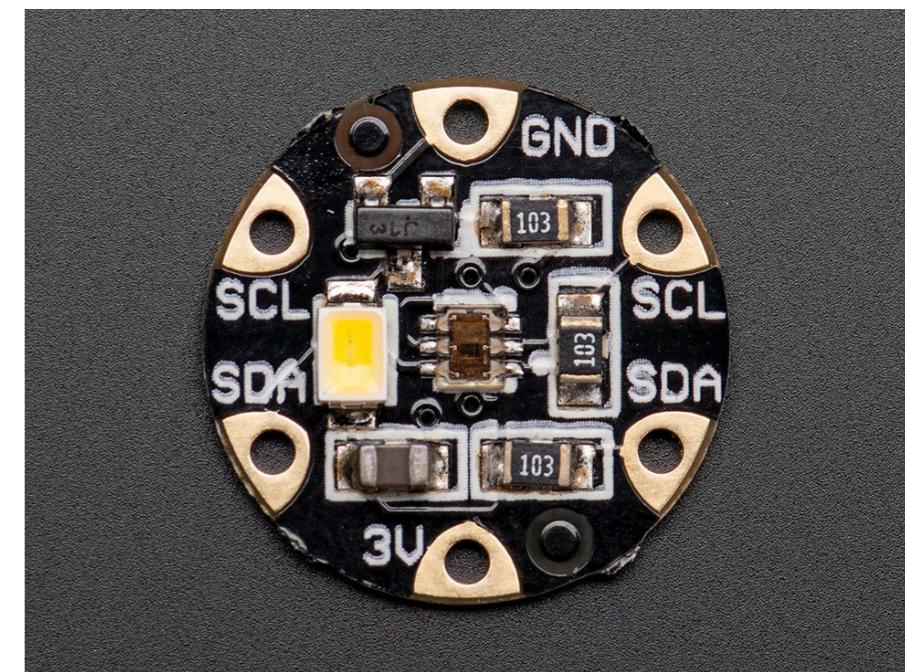




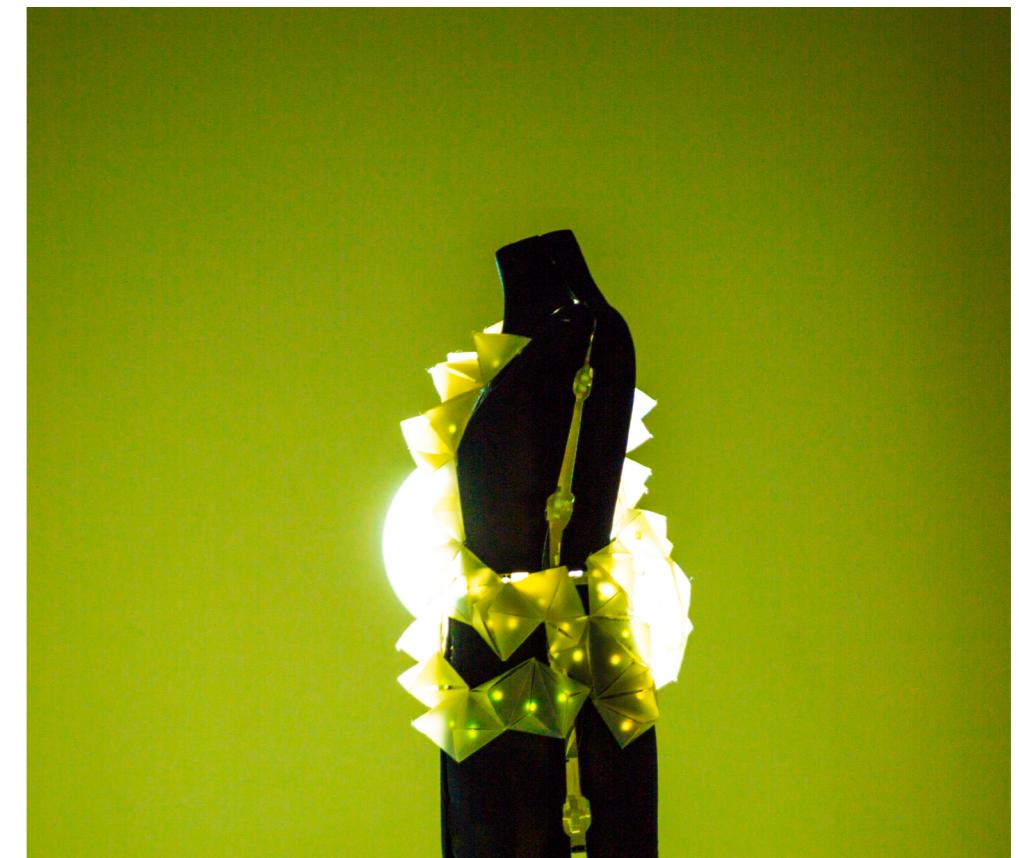
Smart NeoPixel

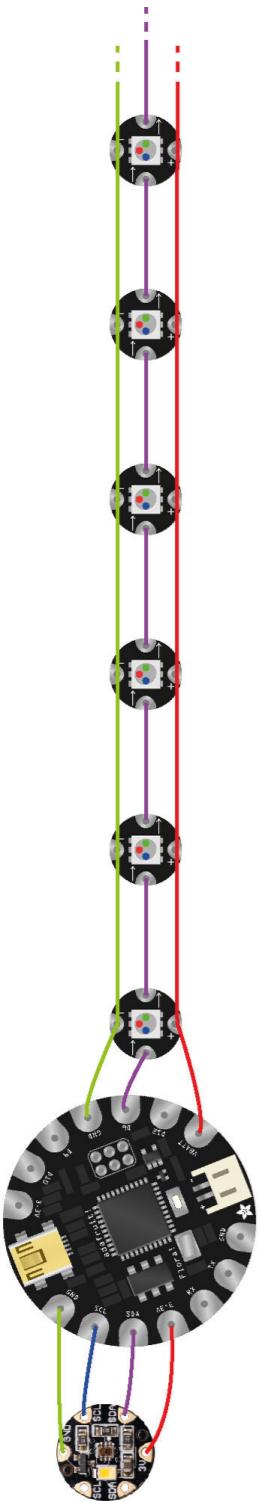


FLORA - Wearable electronic platform

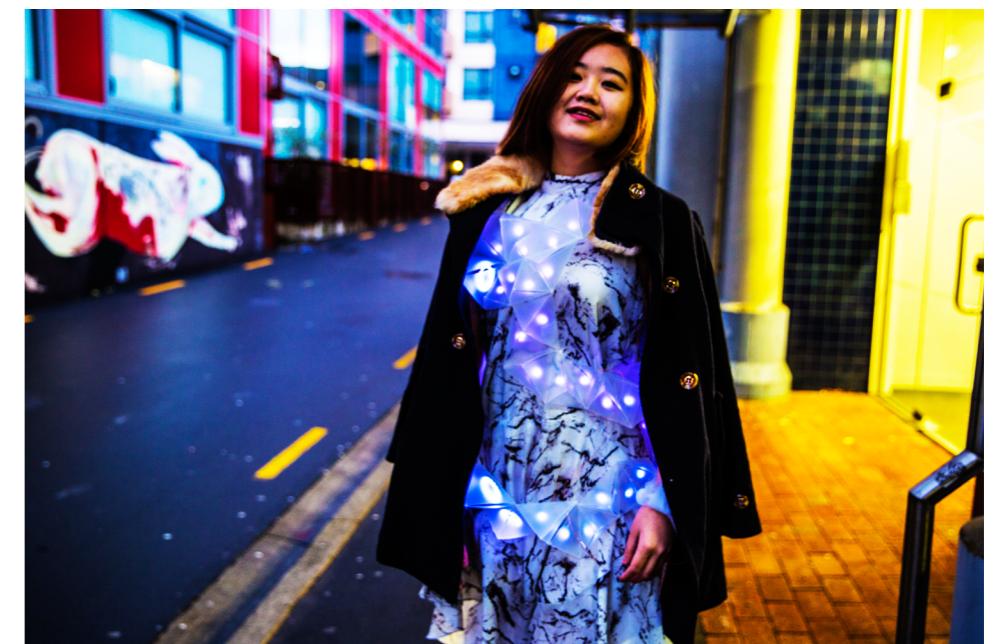
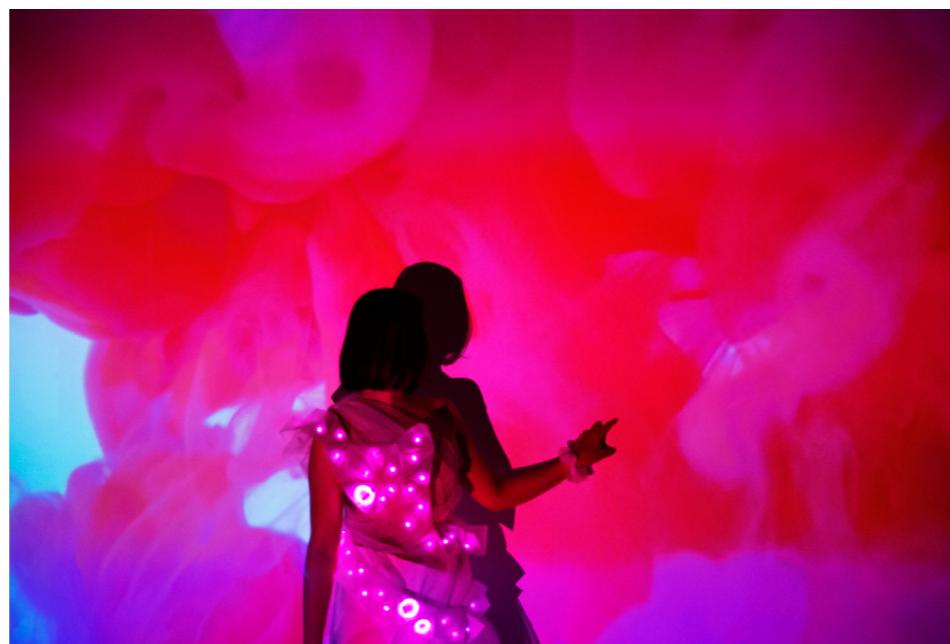
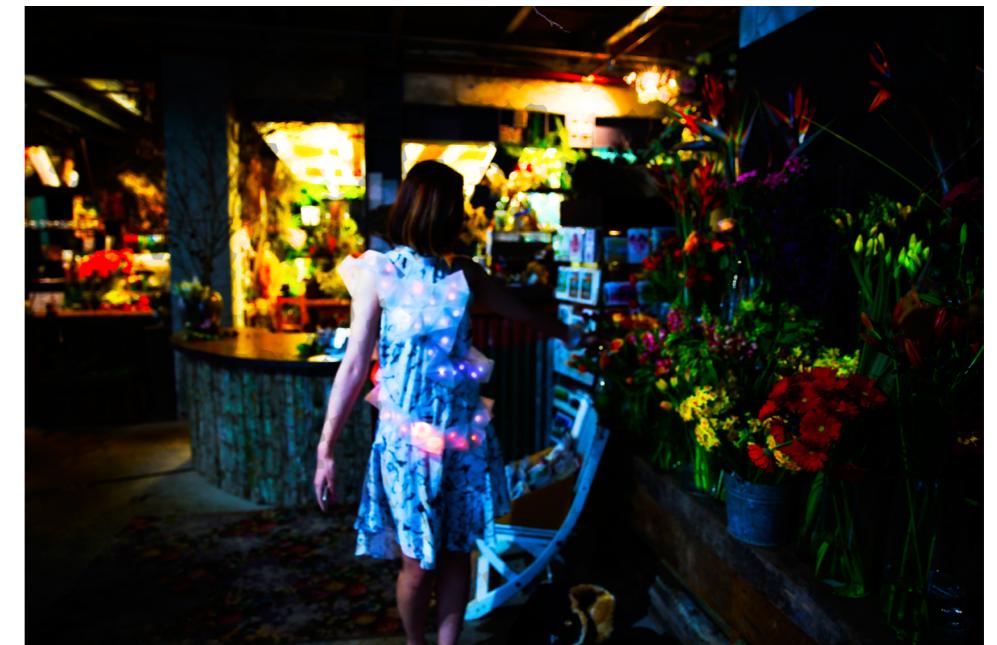


Flora Color Sensor with White Illumination LED -
TCS34725

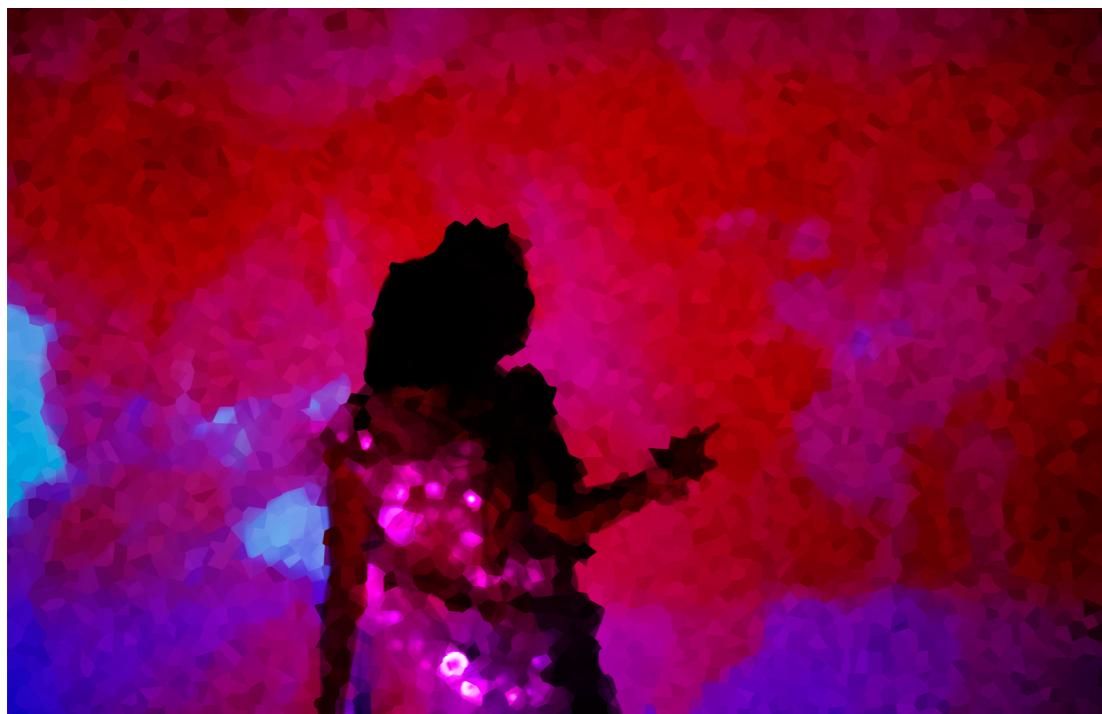




Layout & Circuit Diagram



User testing in different scenarios & environments



Photography inspired art