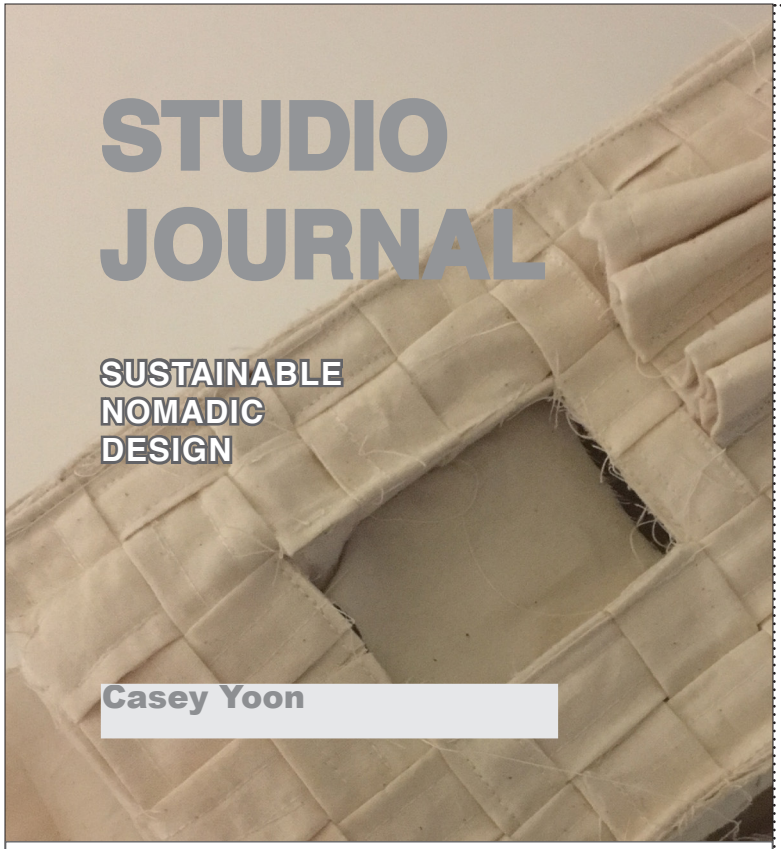


STUDIO JOURNAL

SUSTAINABLE NOMADIC DESIGN

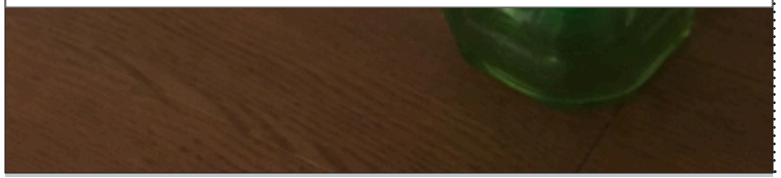
Casey Yoon

GLUE STRIP

SUSTAINABLE SYSTEMS

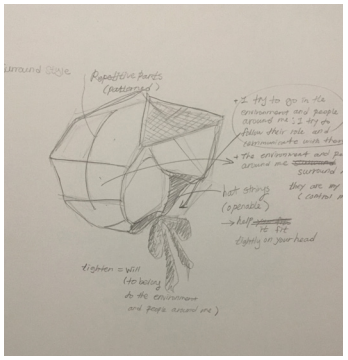
PARSONS THE NEW SCHOOL FOR DESIGN , FALL 17
INSTRUCTOR: CAROLIN MEES

SOCIAL & SYSTEMS

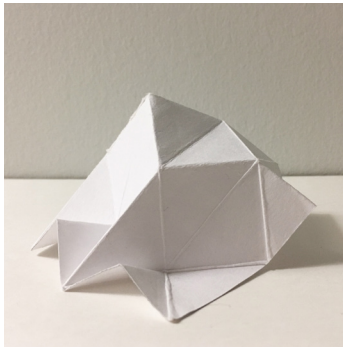


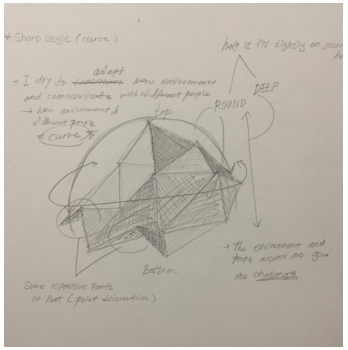
GLUE STRIP

Two Different Models



This is the first model. I try to express that I go in the environment and people around me or I try to follow their role and communicate with them with the shape of cover (round) and the string on the bottom part. The sape of round represents the environment and people around me and the string on the bottom represents my will to be in thoese environment and people that are all new for me.

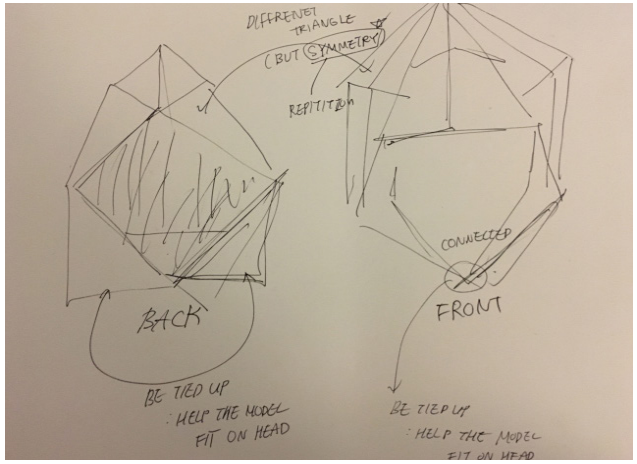




This is the second model. I try to express that the environment and people around me are all new and different so that it is difficult to be in them. This sharpe shape of the hat represents the coldness of new environment and people. And, all of triangles are all differnet size, it means that there are different hardness around me by different environment and people.

GLUE STRIP

Final Design



This is the final design. I pick the first model as a final design because I think the first model is what is expressed well with my purpose. But I change two parts of the model to make better hat.
Firstly, to make it fit to the head, I make empty part on the back of the head and some parts on the bottom of the back of the head to support the head. Also, to make the har more fit to the head, I decide to not use string, but parts that are made with bristol paper.
Secondly, I use different triangles for the hat but I foucus on making it as symmetry because it is also represented as repitition.

The round shape of the hat that wrapping the head represents how the environment and people around me correspond with me. Environment and people around me tighten me; I can not get out from them.

The part on the bottom of the hat that fixs the hat represents how I correndpond with the environment and people around me. Pulling down and fixing means that I try to accept the environment and people around me even though they are stuffy for me.

GLUE STRIP

Final Work

FRONT

BACK

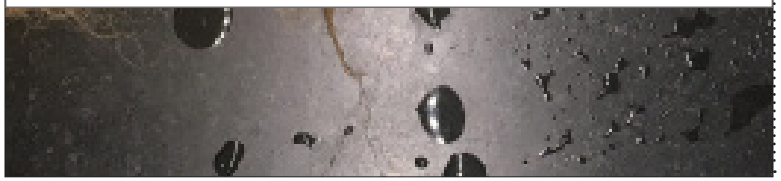
SIDE

SIDE

I use bristol papar and thread only.
I saw papers to make papers connected.

GLUE STRIP

WATER & MATERIALS

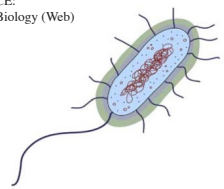


GLUE STRIP

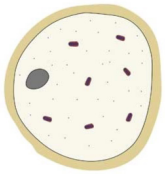
Research about bioleather

A. What does the SCOBY consist of (be explicit)?
It is symbiotic culture of bacteria and yeast. SCOBY is the living home for the bacteria and yeast that transform sweet tea into tangy, fizzy kombucha.

REFERENCE:
National 4 Biology (Web)



BACTERIA CELL



YEAST CELL

B. What conditions does it need to grow?
The Scoby need to be used with a clean jar, covered perfectly, located away from direct sunlight, and not jostled by others.

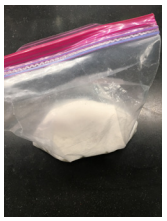
C. What is necessary for the metabolism of the bacteria?
Bacterial metabolism is the study of the uptake and utilization of the inorganic or organic compounds required for growth and maintenance of assimilation reactions.

D. How can a SCOBY and Kombucha tea become bio-leather, i.e. a sustainable material grown under specific climatic conditions?
Kombucha tea is drink that is made from the fermentation of sweetened tea by a symbiotic culture of bacteria and yeast, affectionately called a SCOBY. The SCOBY is a tiny ecosystem of microorganisms consisting of a number of species, bound together by a jelly-like microbial mat made of mostly cellulose. When placed in sweetened tea, these microbes go to town eating the available sugars and converting them into ethanol, acetic acid, gluconic acid, carbon dioxide and cellulose.

GLUE STRIP

Bioleather Experiment

Kobucha SCOBY


sugar


lemon tea


a plastic box

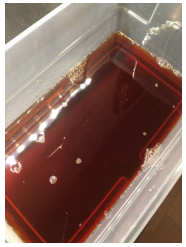
1

2

3

4

5



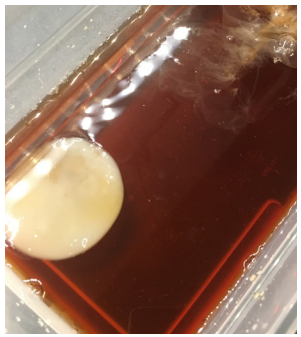
6

7

1. Boil 1 liter of water
2. Put 6 packs of lemon tea in water
3. Put 1 cup of sugar in water
4. Cooling down water; making it same room temerature
5. Put water in plastic box
6. Put Kobucha SCOBY in water
7. Cover plastic box and Put it on somewhere is away from direct sunlight

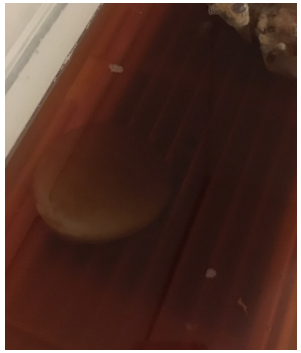
GLUE STRIP

9/29 73℃



10/2 74℃

10/3 75℃



10/4 74℃

Research the Background of Natural Dyeing Celluous fibers

A. How is the color pigment extracted from the plant and fixed to the cellulose fibers? What is a “mordant”and what can be used as a mordant? Does natural dyeing work without a mordant?
To extract pigment from plants, I need to put ½ cup salt in 8 cups of water and then put fabric and vinegar fixative together in water and boil for one hour. Mordant is a substance, typically an inorganic oxide, that combines with a dye or stain and thereby fixes it in a material. Alum, iron, copper, tin, and chrome can be used as a mordant. Basically, natural dyeing work does not work without a mordant.

REFERENCE:
Popsugar (web)

B. What do you find out about dyeing and water pollution?
I find out that about 20 percentage of total wasted water flow is from dyeing. To make enough fabric to cover one sofa, 500 gallons of water is needed. According to The World Bank, 20 percentage of industrial water pollution comes from textile dyeing.

C. Why is natural dyeing healthier for the environment and humans than chemical dyeing?
Simply, natural dyeing does not contain chemicals harmful to the environment and humans.

List of Natural Dye Sources

Roots

Leaves

Bark

Flowers

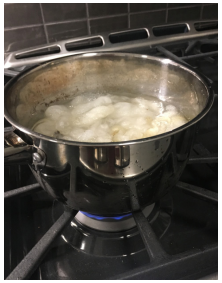
Fruits

Husks

Natural Dye Experiment

What I choose and why I choose them:
I choose mulberry and onion skin for natural dye experiment. This is because I think kind of berry is easy to extract its pigment because berry has strong color and I curious what color comes out if I dye with onion skin. Mulberry comes from somerest, United Kingdom and it is ecologically important as the sole food source of the silkworm and onion is no conclusive opinion about the exact location and time of birth because it is small and their tissue leave little or no trace but lots of archaeologists, botanists, and food historians believe onions originated in central Asia.

How to waterproof wool and bioleather:
Wool can be waterproof if it felted finely so that I will put efforts on felting wool. And, also, bioleather can be waterproof if it is covered with wax. Wax halps it to be not wet.

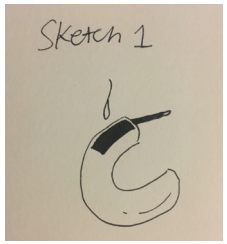



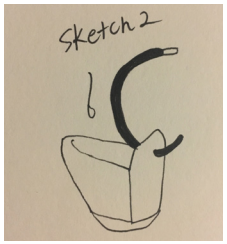


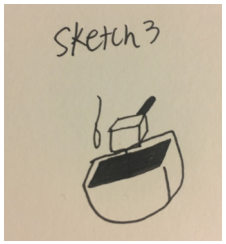


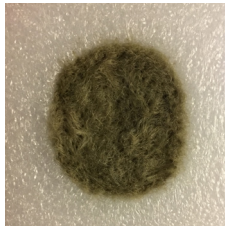


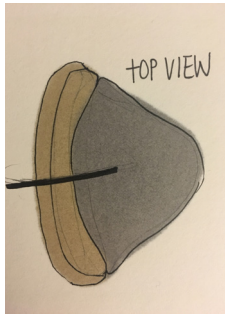
A Wearable Object that Collect Rainwater

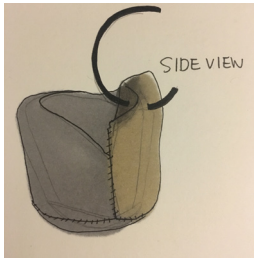




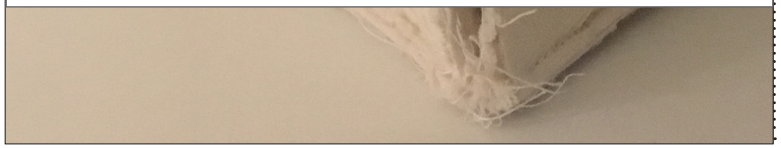






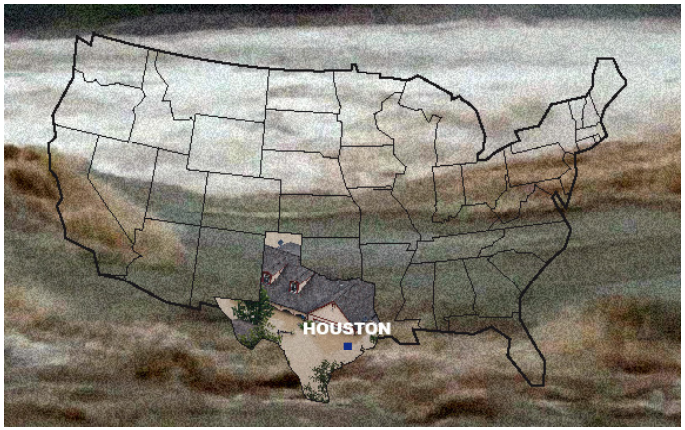


CLIMATE CHANGE & ENERGY



GLUE STRIP

Flooding in Texas, Houston

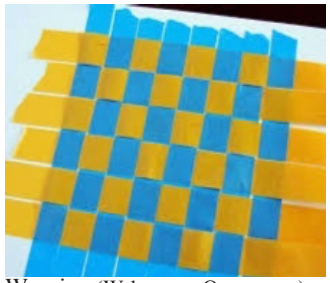


She was attacked by extreme flooding in Texas, Houston. She lost everything; her house and car flooded. She will be provided with temporary shelter.

This shelter is something combined with a boat and a tent; the bottom part is same with a boat and upper part is same with a tent. To set up this shelter, only air is needed so that it is easy to be installed. It floats on the water so it provides protection from falling into water. There are dehydrated foods and a water filter; it is temporary shelter so that lots of heavy food are not needed and there is already huge amount of water around so she can drink clean water use of only water filter. And, this shelter can be adapted to another structure to join more person, there are two more hidden shelter on both sides of this shelter so two more person can use if owner in the main shelter open extra shelters on sides. It is not difficult to open extra shelters because only air is needed; owner need to let air in.

Making a Climate Shelter

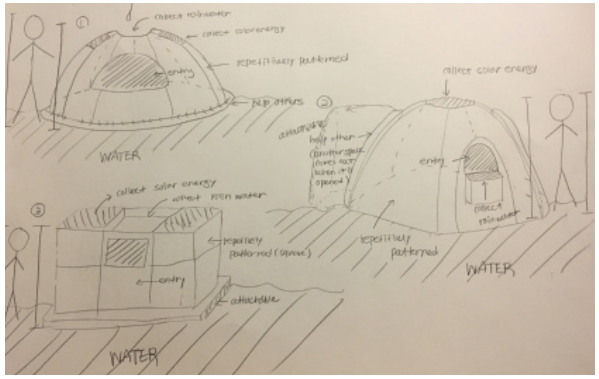
TECHNOLOGY



Weaving (Web. www.Quora.com)

To make a strong shelter, I need to make strong surfaces of a shelter. So, I decide to use weaving technology with muslin which is sustainable fabric to construct the shelter. I plan to cut and sew musline to make long rectangle shapes and weave them. By weaving, muslin will be strong to be stand.

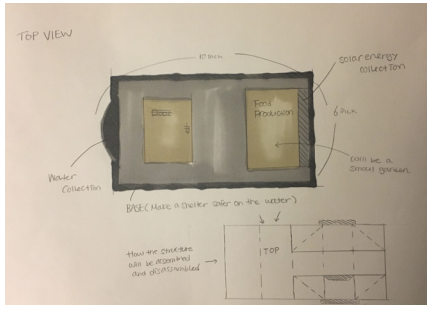
THREE SKETCHES



A STRUCTURAL PIECE

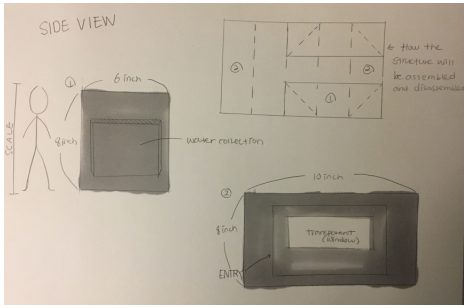
MATERIAL
- Muslin
- Thread

20 % of Completion



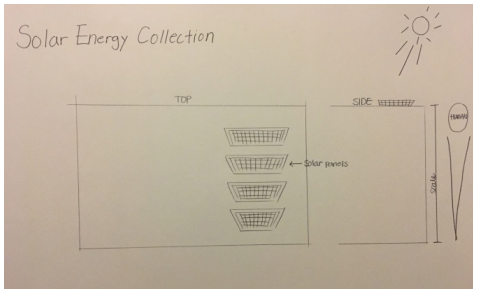
TOP VIEW

SIDE VIEW

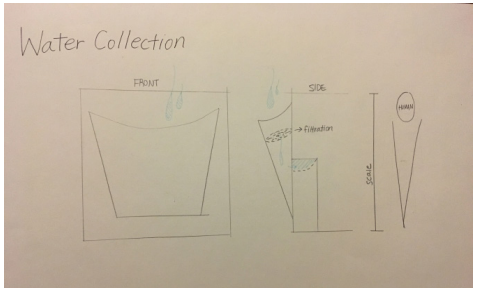



50 % of Completion

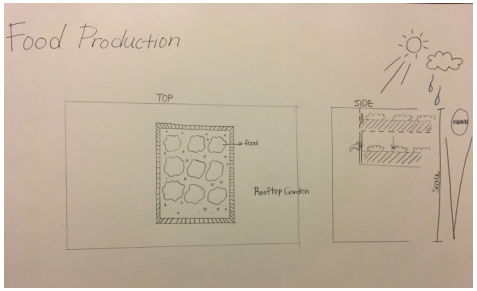

75 % of Completion



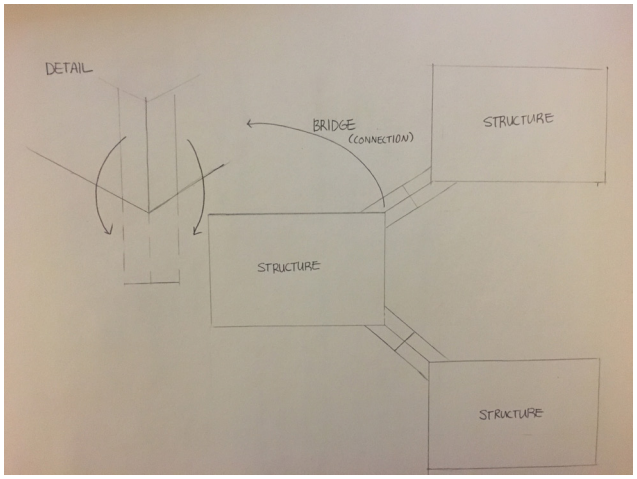
- I set up four solar panels on the top of the structure to collect solar enerygy.



- There is something that collect rain water on the side of the structure. And, there is the filter inside of the collection to get clean water. Tere is something that provides water from collection at the inside of the structure.

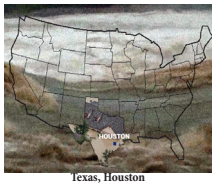


- I set up small garden on the top of the structure (rooftop garden). You can supervise food easily by pulling it down in the inseid of the structure.



COLONY

1OO % of Completion

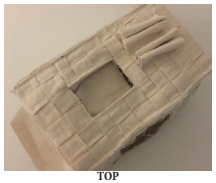


Texas, Houston

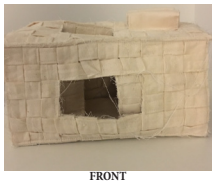
There was a huge flooding in Texas recently, so many people got damage in some ways. This project is desinging a structure for flooding. This strucuture is similar with the container car which is float on water. It is composed with a place for food production, solar panels, and the pocket which collects rainwater with a filter.

I use muslin which is sustainable fabric to construct the structure, and I use weaving technique to make it stronger.

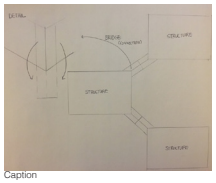
SIDE



TOP



FRONT

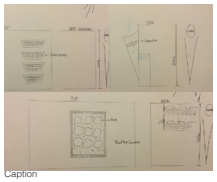


Caption

Structures all have bridges which can open and close on the edges. These bridges connect structures together.

STRUCTURAL

STRUCTURAL

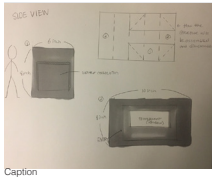


Caption

There is the pocket which collects rainwater on the side, and there is a filter inside of the pocket. Also, there are solar panels which collect solar energy and a small garden for food production on the top. A small garden is located in the gap of the top side, and human can pull it down.

SOLAR ENERGY COLLECTION

SOLAR ENERGY COLLECTION



Caption

This structure is collabsible because it is constructed with a way to fold a box.

WATER PROOFING

WATER PROOFING

Climate Change & Energy Casey Yoon

SUSTAINABLE SYSTEMS, PARSONS THE NEW SCHOOL FOR DESIGN, FALL 2017, INSTRUCTOR: CAROLIN MEES