DIP GROUP P004: iLight

Aim: Individual efforts needed to sustain biodiversity. Save the world, Save the trees!

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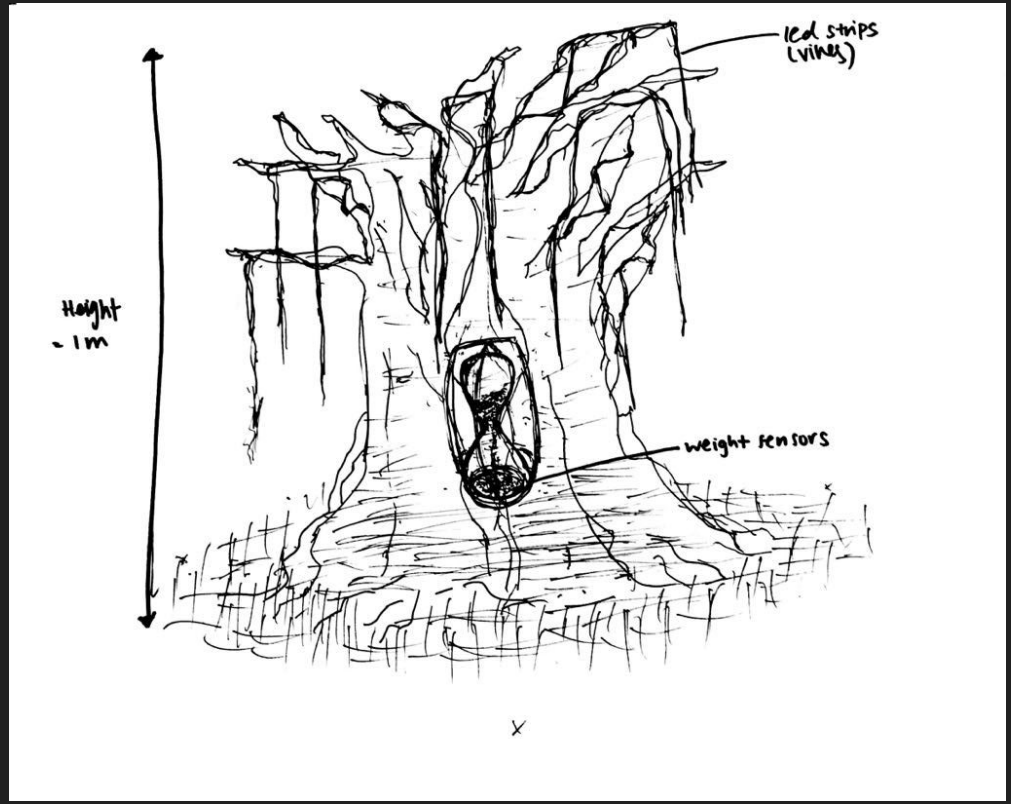
IDEA ONE: Hourglass

How it works:

- Rotating hourglass in the middle of the tree trunk (a tree without leafs)
- Hour glass with luminous sand inside → attract users to view
- Vines with LED lights are hung around the tree
- Motion sensors around the tree



Interactions

1. Hourglass → Lights

- When spinned, the vines with LED lights on them (base colour red) will turn green → as the hourglass sand decreases, the led lights will turn back to red

Technical aspect

- Load sensors in the hourglass will detect the weight of the sand in the lower part of the hourglass → triggering the change in LED colours

2. Crowd → Sounds

- Number of audiences trigger the intensity of sounds

Technical aspect

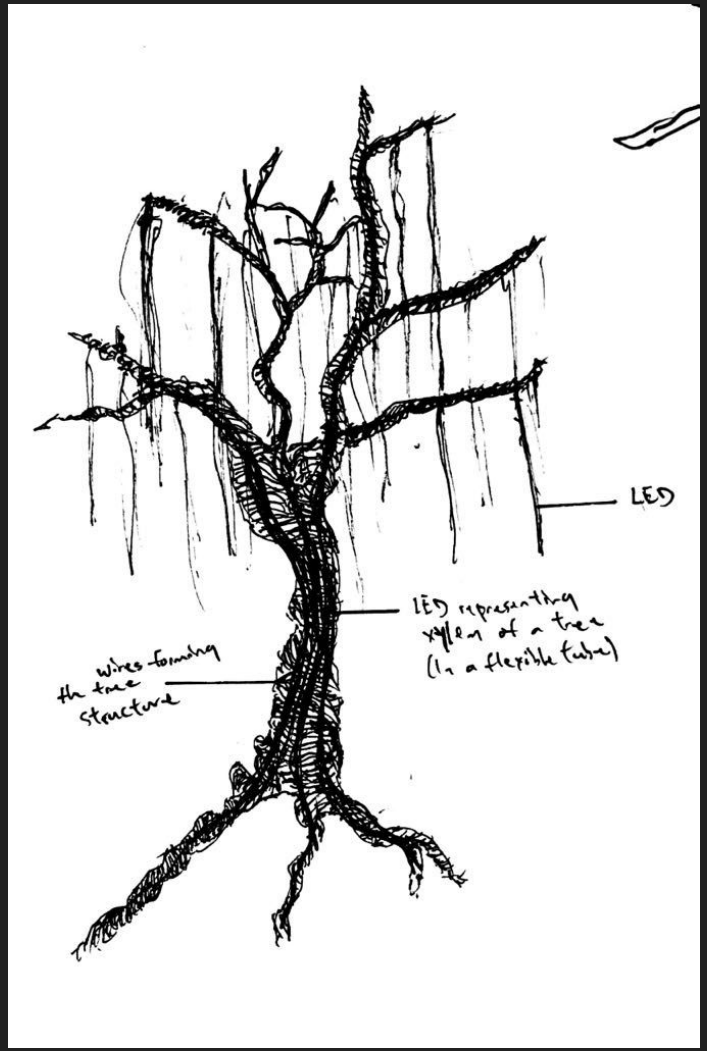
- Motion sensors around the tree detect the increase in viewers → crying sounds of animals volumized

Note: The change of color from green to red and the lowered intensity of the lights represents the dying state of a tree.

Materials

Materials considered:

- Prototype size: 1m
- Paper with waterproof coat
- Motion sensor at the outer ring of the tree (path)
- Weight sensors in the hourglass
- Hourglass: Acrylic/Transparent
    - Luminous sand



IDEA TWO: Xylem & Phloem

How it works:

- Motion sensors around the tree
- Strips of LEDs in the tree to portray the Xylem and Phloem of a tree
- Vines with LED lights are hung around the tree
- An increase of viewers detected by the sensors will cause the LEDs lights to fade out and change colours.

Interactions

1. Xylem & Phloem → Lights

- When triggered, the tubes with LED lights in them (red for Phloem, blue for Xylem) will flicker to enact the flow of water and food
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Xylem (blue light) - Upwards motion
Phloem (red light) - Downwards motion

<u>Technical aspect</u>

- Motion sensors around the tree will detect an increase in viewers which triggers a transition in the lights→ triggering the change in brightness and rate of flicker of the LEDs.

2. Crowd → Sounds

- Number of audiences trigger the intensity of sounds

<u>Technical aspect</u>

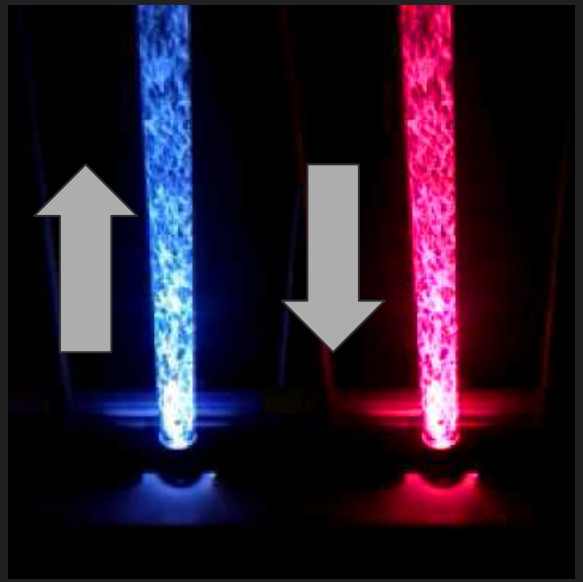
- Motion sensors around the tree detect the increase in viewers → crying sounds of animals volumized

Note: The slower rate of flicker and the lowered intensity of the lights represents the dying state of a tree.

Materials

Materials considered:

- Prototype size: 1m
- Metal Wire for the trunk and branches
- Motion sensor at the outer ring of the tree (path)
- Flexible clear tubing to house the LED lights for the representation of the Xylem (blue) and Phloem (red)



IDEA 3 Rainforest

Materials:

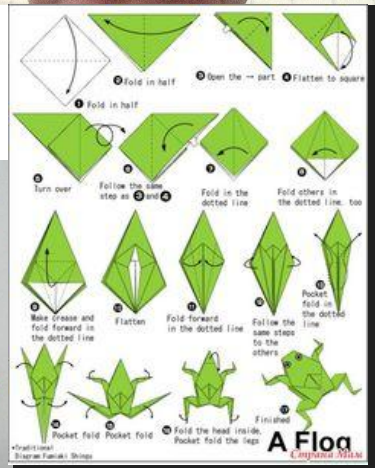
- Plastic bags
- Cardboards
- Plastic bottles

Trigger:

- Base light colour (white): detected by presence of people and turns when they walk around the tree.
- LED lights in each ornament will light up in different colours

Purpose:

To show that we need to reserve forest as they are habitats for the animals.



More details of the structure:

- The animals will be made out of recyclable materials such as plastic bottles, metal cans and paper.
- The structure will be switched off when there is no one near the tree.