

1. Description of Midterm Project

This project senses the change of temperature and humidity so as to control the light of LED Tree and sound. The project is divided into three parts: tree model representing the real tree in nature, circuit and LED tree.

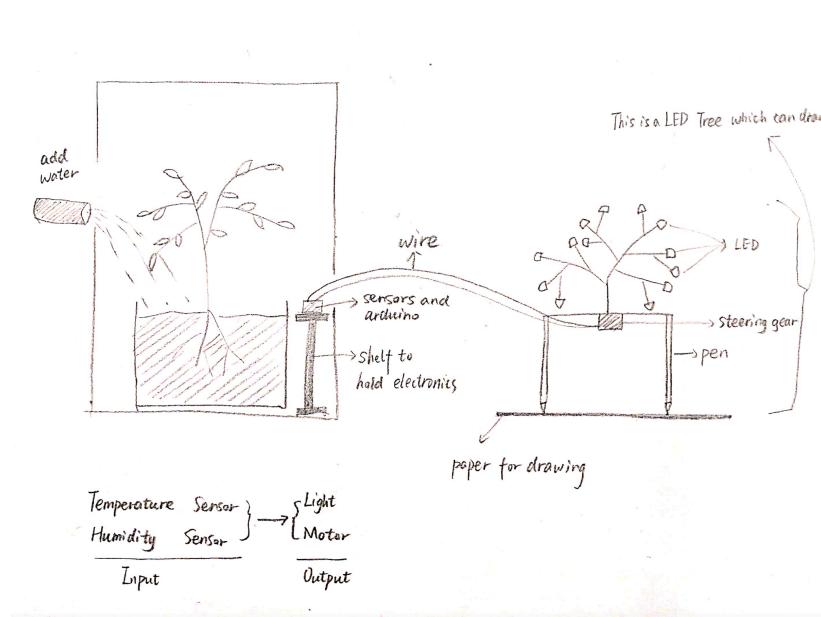
The tree model is composed of a fake tree and a flowerpot. After adding hot water into the flowerpot, humidity and temperature sensor (DHT sensor) can detect the change of humidity and temperature. The circuit includes Arduino, buzzer and other circuit elements.

When the circuit is connected to a 5 volt power supply, the LED tree turns yellow and the buzzer produces sound. After adding hot water into the flowerpot, placing DHT sensor close to the flowerpot/hot water, the color of LED tree and the sound of buzzer will change.

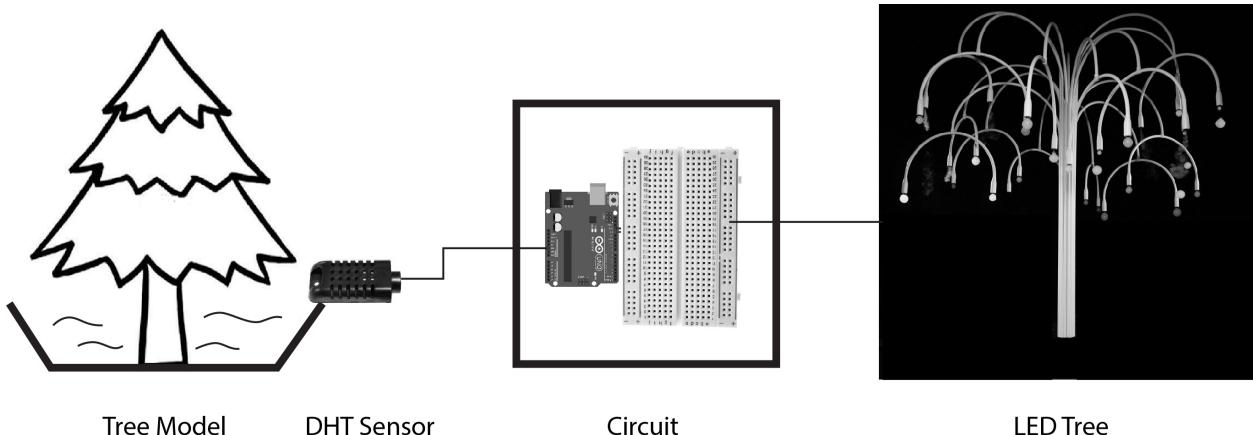
This project tries to transfer the environmental factors to the real tree in nature such as humidity and temperature to the change of LED tree's color and sound. This project is an experimental model of a bigger project that calls for people to pay attention to the greenhouse effect.

2. Drawing of Initial Concept

2.1 Drawing of Initial Concept



2.2 Drawing of Final Concept



Tree Model

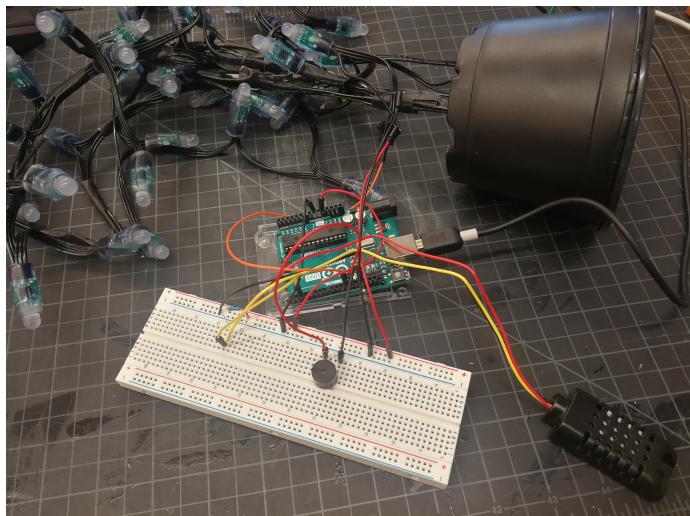
DHT Sensor

Circuit

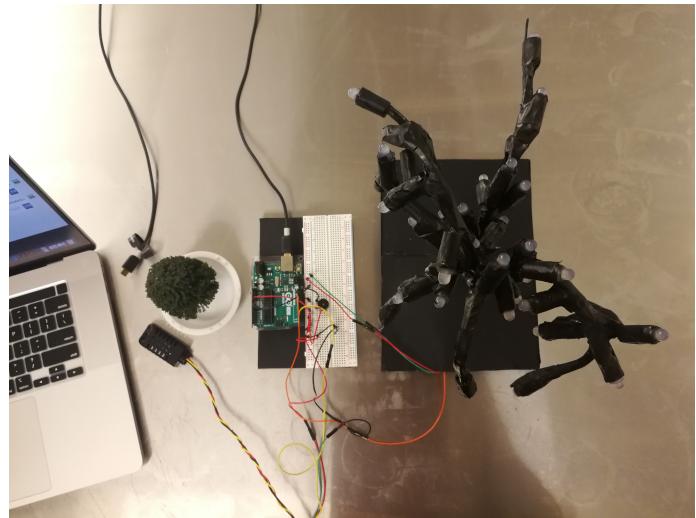
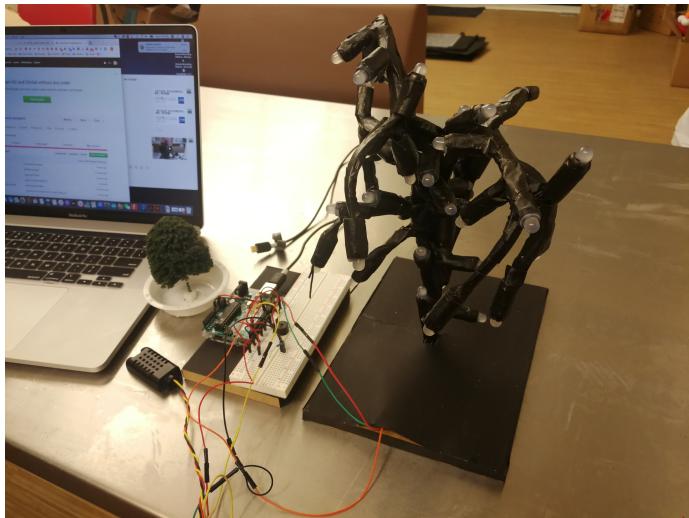
LED Tree

3. Picture of the First Iteration and Final Model

3.1 First Iteration



3.2 Final Model



4. Video of Midterm Project

This is the link of my mid-term project.

<https://youtu.be/PBOirFqleTc>

5. Code

Please look at the file (midterm-DHTsensor_controlling_sound_and_LED.pde) in week 7 folder.

6. Schematic

