

ECE 411 Group 6 Project Ideas & Descriptions

LED Light Tower

Brief project description: A light display tower that utilized audio input to create a unique and exciting light show. The tower will change light color and intensity according to the music in order to always create the perfect vibe.

Photo:



Sensors: Mic / Aux input

Controllers: ESP-32, LED controller

Actuators: LED's

We like this project because: This is a practical and fun product that we could all see having in our homes. We liked the customizability and the fact that we could produce several different shapes and designs. This seems like the perfect balance of ambitious and feasible and therefore we will be pursuing this project.

Bath Time Water Temperature Sensor

Brief project description: A light up bath toy that indicates the temperature of the water with leds. Similar concept to the photo below, but with more utility as it will react to its environment and let the user know temperature.

Photo:



Sensors: Temperature sensor

Controllers: ESP-32

Actuators: RGB leds

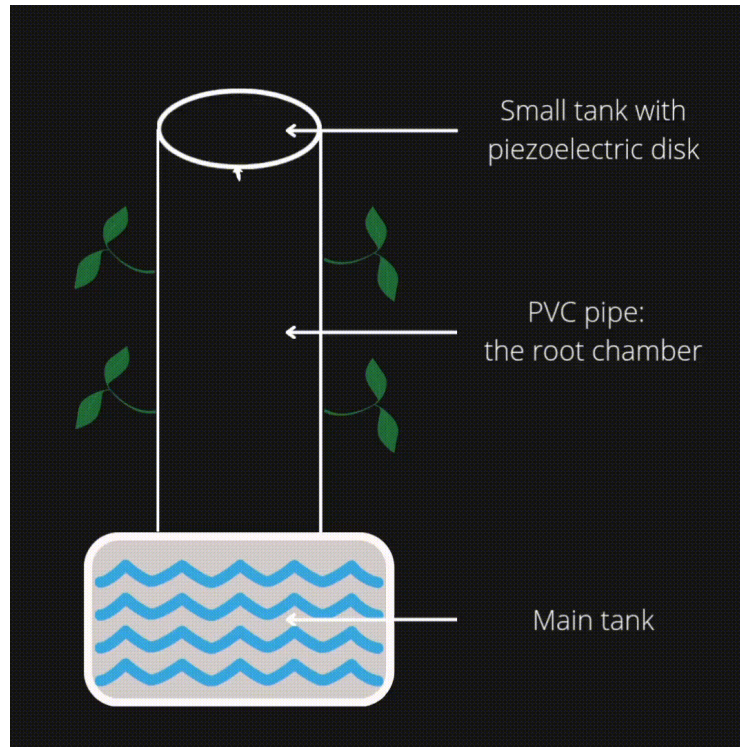
We like this project because: This project is a fun and exciting way to incorporate light and temperature to create a helpful product. This toy could be used to help parents indicate the temperature of the water for small children, or to help let bath enthusiasts know when it is time to grab a glass of wine and settle in.

Smart Aeroponics Setup

Brief project description: This product is a self watering plant tower. The plants will be placed at different heights along the tower and the desired amount of water will be

dispersed from the main tank as depicted below.

Photo:



Sensors: PH sensor, Moisture sensor, Light sensor

Controllers: ESP-32

Actuators: Water pump, Full spectrum LED bulbs, nutrient pump

We like this project because: This is an exciting project that combines the passion of growing plants that each of our group members have, with an integrated electronics project. This would also be a fun project to use after this class is over, and would be something that we would like to keep around.