

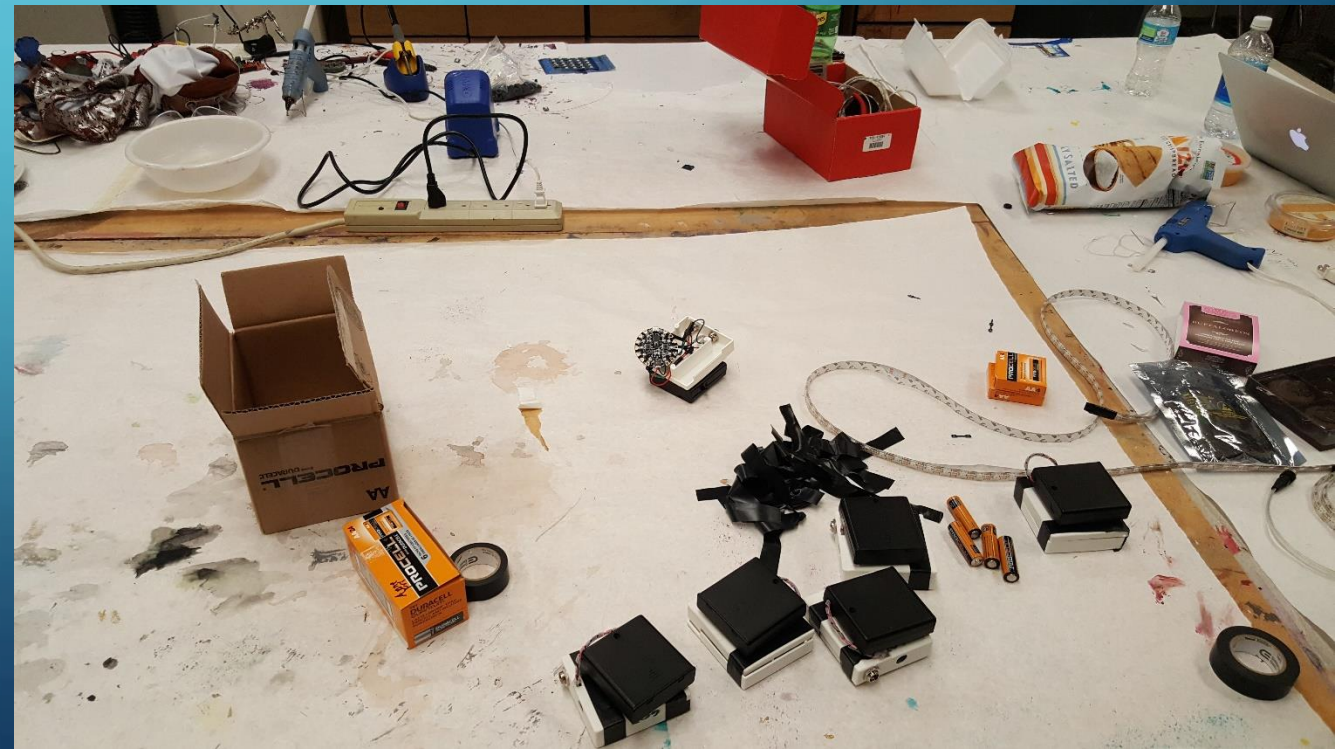
A decorative graphic on the left side of the slide consisting of white and light blue lines that resemble a circuit board or a stylized tree. The lines are vertical and horizontal, with small circles at the ends, creating a complex, branching pattern.

INTEGRATING LEDS INTO ZODIAQUE

A PORTFOLIO BY ZACK BOWEN

CHALLENGE

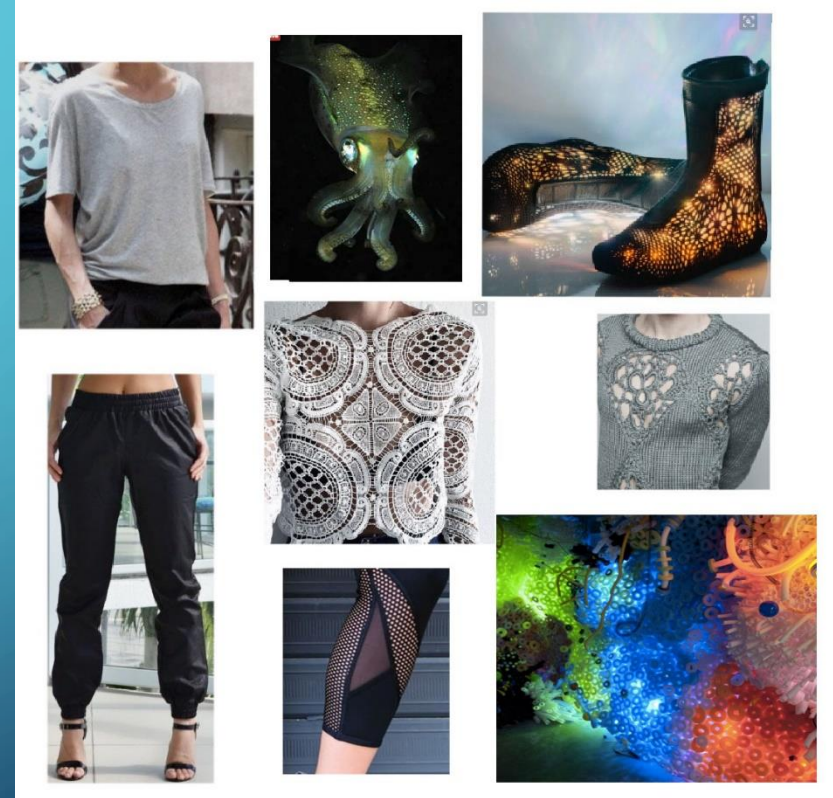
- Integrating LEDs into costumes for two dance pieces
- Having two different functionalities based off of how the affects are triggered.
- Durability



INSPIRATION AND COSTUME DESIGN



- Anne's Piece
 - Bioluminescence
- Kerry's Piece
 - Nature (flowers and rocks)



TRIGGERS

- Anne's Piece
 - Arduino contains the info for the ques/looks
 - RC4 connected to the light board advances the looks by changing its dimmer levels
- Connie's Piece
 - Movement is what changes the looks.
 - Twinkles or sound reactivity (depending on movement).

IMPLEMENTATION

- Inside of a 3d printed box lies
 - 1 Arduino
 - Fuse
 - Cables connected to battery boxes
 - Differences
 - RC4
 - One or two mini dmx/xlr
 - Wrist and Ankle
 - LED Types

[Incomplete parts list here](#)



```
// -----  
  
/*  
 * This section is edited for the channel check from Emily Wlaker's code for the NeoPixel LED Strip Tape  
 * Edited by: Zack Bowen  
 * Edited on 2/19/17  
 * Comments added in on 2/20/17  
 * Last Edited (at all): 2/20/17  
 */  
  
// this determines the delay between LED Colors in the test  
int hold = 500;  
  
//standard Arudino Loop function. It is essentially the "main" method of the code, except it loops instead of returning '0'  
void loop() {  
  
    //Turns Pixels Green  
    colorWipe(strip.Color(127, 0, 0), 0);  
    delay(hold); // Holds so you can check a pixel  
  
    //Turns Pixel Red  
    colorWipe(strip.Color(0, 127, 0), 0);  
    delay(hold); // Holds so you can check a pixel  
  
    //Turns Pixels Blue  
    colorWipe(strip.Color(0, 0, 127), 0);  
    delay(hold); // Holds so you can check a pixel  
  
}  
// -----
```

WHAT I NEEDED TO GET DONE

- Find some parts
- Figure out a basic system for creating cues in Anne's Piece
- Help Diagnose issues, and help with research
- Writing LED check
- Designing, creation, and repair of minor portions of the costumes
- Diagnose and repair issues
- Pre and post show, like batteries, and power checking

RESULTS

Kerry's Piece



Annie's Piece



photo©jimbush

IF I COULD DO IT AGAIN

- Start earlier
- Allot more time in my schedule when scheduling possible conflicts, like class
 - More involved
 - More time dedication
 - Wider understanding
- Try a bit of everything
- Be more knowledgeable of the coding aspect