Title: DESN2010 Blog
Category: Making Creative and Critical Technologies
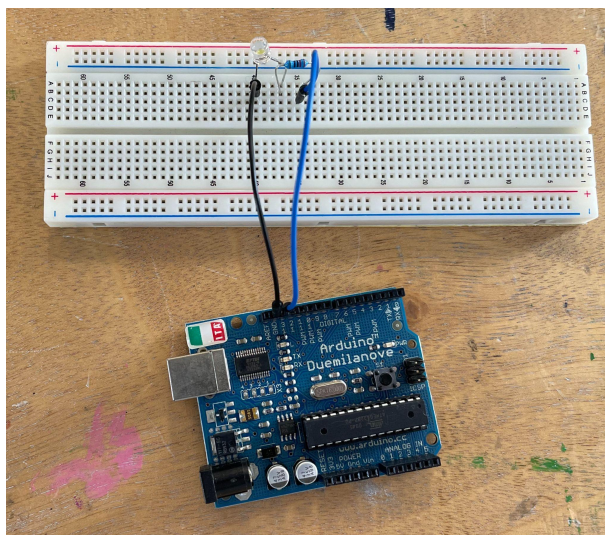

<u>Brynn Williams Blog</u>

Hi! This is my blog for DESN2010 Making Creative and Critical Technologies. My name is Brynn Williams, a student at Australian National University studying Design. I have a small amount of coding experience from previous courses done at the university however I am by no means an expert especially when it comes to using Arduino and circuit boards. I am definitely going to try my best though and see where this course takes me!

Week 1: Introduction to the Arduino Environment

In week 1 we were introduced to the basics of physical computing and an introduction into the arduino environment. We then discussed electricity and how it interacts with its surroundings whilst also learning about all the different components involved within physical computing (Breadboard, LED's, Resistors, etc.).

The circuit activity that we participated in during class was the blink circuit. This was a great start and introduction into using an arduino uno and it helped me understand how electricity moves around a breadboard and creates the blink of the LED.

Image and Link for video

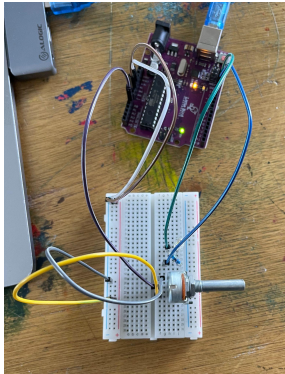https://youtu.be/ndaU2rJV9JI - Watch video here

Week 2: Digital and Analogue Inputs

In week 2 we discussed circuits that have multiple components in parallel or series. We also discussed what kind of inputs there are for arduino whilst touching on digital signals and analog signals and how to use these signals.

The circuit activities we did during today's tutorial included a simple button circuit, inverting that button, then being able to read a pot, we then faded an LED with the pot. I enjoyed these activities this week as it allowed for a bit more variation and a bit more of a challenge while still making it manageable. I still haven't quite figured out how and why everything works just yet but I hope to become more competent in the future.

Image and Link for video

https://youtu.be/FEc4muT_v5s - Button
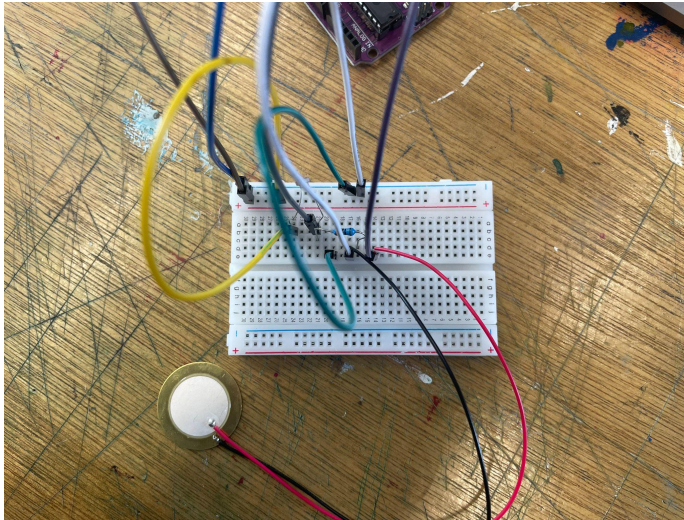https://youtu.be/GpF5MUynhSI - Pot

Week 3 - Outputs and Actuators

In week 3 we talked about what outputs we can use with an arduino, how we start making media and movement and direct current (DC) vs alternating current (AC). We started by discussing some outputs and actuators that could be used in different aspects. Today we were more focussing on sound, making things talk and making sound instruments and different types of motors that could be used.

The first activity we participated in was trying to make light into sound, this was pretty similar to last week however we just changed the actuators and outputs to suit our needs. We then played around with the code a little bit in order to see how we can manipulate the sound in different ways. This week's activity wasn't too hard for me as most of it was similar to last week's setup. I also feel like this could be exciting to explore in the future.

Image and Link for video

https://youtu.be/B0kxqyAZi_E - light to sound video

Assessment 1: Project Proposal

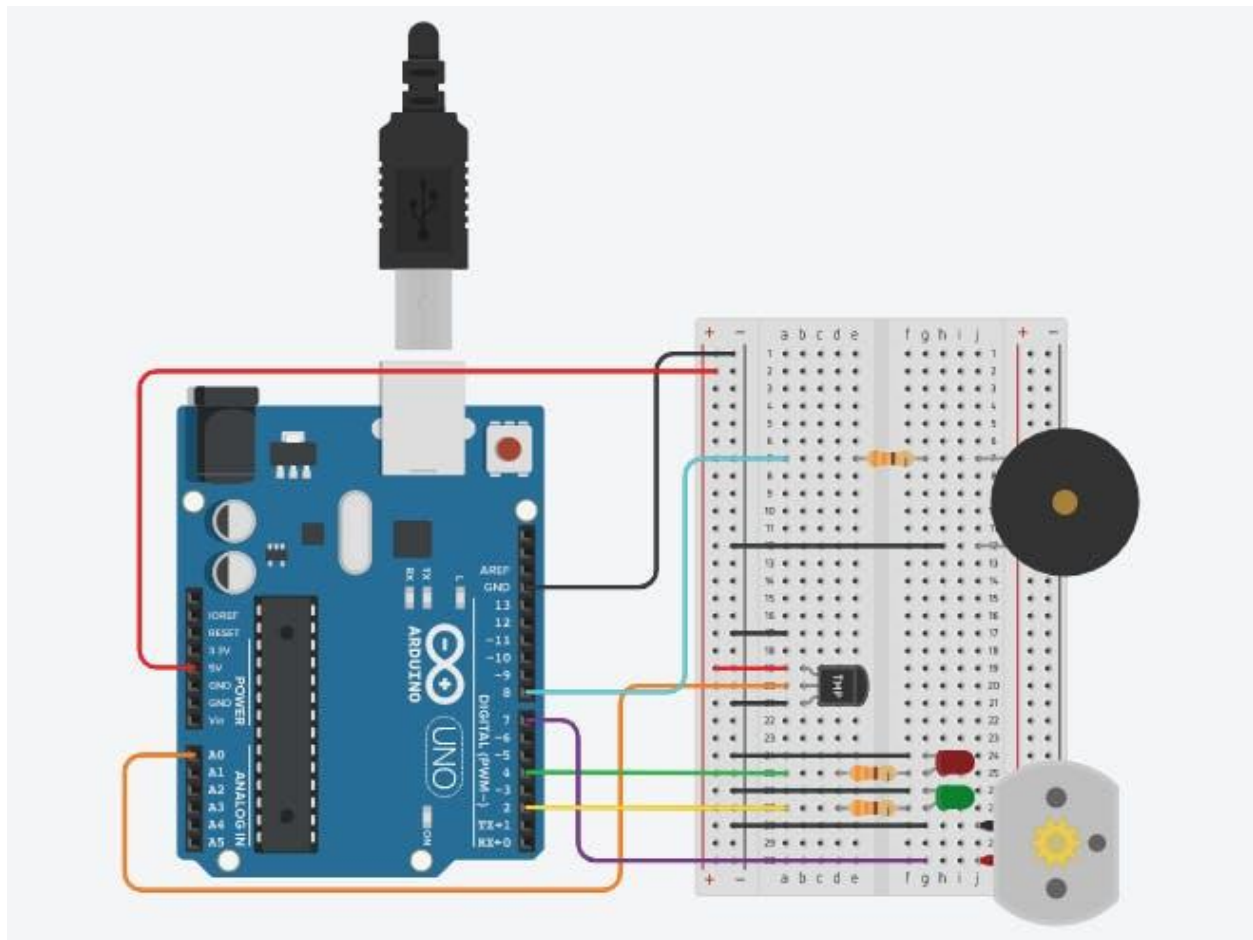Some Ideas that I came up with in regards to assessment one include:
- A light sensor for rooms: By using multiple light sensors and lights if one of the sensors is triggered an LED light corresponding to the sensor would be turned on.
  - The real world application of this would be room sensors to save electricity and to make it more convenient for the people using them.
- Metal Touch Sensor: when touching the metal touch sensor it activates certain outputs anything from a light to a fan, This would be ideal for older people as they would be able to carry a "touch pad" that has all the controls to everything in the house on them at all times
- Temperature controlled Fan: when it gets to certain temperatures the fan gets turned on higher or lower. This is perfect for controlling how long a fan is on or off and resulting in the perfect amount of cooling for the conditions. This is also the one that interests me the most and the one I've decided to do my project on.

The temperature cooled fan provides usability for people with physical problems as it doesn't require any attention or any input from the person, It would also be accompanied by a remote just in case as well. This project is also perfect for schools, offices, houses or anything that needs a fan, it will cut the cost of electricity as well but using only the amount that is needed to cool the area rather than putting the fan on full blast all day.

Inputs And Outputs

- Input: Temperature sensor reading the temperature in the room and adjusting the output at the right pace
- Output: 12V DC motor powering a propellor fan

Proposed Circuit Diagram

In the long run it would need to be on a bigger scale and have different types of fans as well but this is perfect for this project.

Assessment 1: Reflection

For assessment 1 I made a temperature controlled fan, while making this project I had a few ups and downs but overall I think it came out alright. I think I could've made it a little better while working a bit more of my own code into the project, however my capabilities at the time didn't allow for that to happen. Personally I think the idea of a temperature controlled fan is great and has lots of benefits to society.

I had a few troubles with my project, mainly revolving around my dc motor. I don't know if it was the motor that didn't work or if it was my wiring that didn't make it work. However, the lights to indicate the temperature worked quite well.

If I was to do this project again I would like to get a bit more practice at wiring and doing the code as I feel as though these are areas that need a bit of improving. I have gotten better over these first weeks but I still have a ways to go if I want to be proficient.

Overall I think this project was a success as it opened the door for what could be done and also can give people ideas for the future even if it was on a small scale. I had a blast making this project and I genuinely believe that this idea could help a lot of people out if put into production.

Video

https://youtu.be/4koKVc71v1c

Assessment 2: Reflection

Assessment 2 was a group project where we were to make intelligent interventions. Our group, made up of Saf, Arthur, Helen and myself, we made a very good group as we all complimented each other's weaknesses and strengths. I think we definitely managed to split our work evenly and we were all able to contribute to the group and I feel like that went a long way and played a big part in why we were successful.

For our project we decided to source a lot of our materials second hand, for example the clothes that we used during the presentation, were all sourced from Vinnies where we got a whole bag for around $10. This also helped us portray our critical intervention as well as we talked a bit about waste in fast fashion and fashion in general. We also had second hand wires from computers that we repurposed to hang the clothes up on the black wire racks, these wires helped make the connection between the internet and fashion.

Although our concept changed quite a bit throughout the 6 weeks we were working on this project we ended up with a concept that both had meaning and also attacked a critical intervention within the world that is still very prevalent. I like how we ended up using both fast

fashion and social media as our critical intervention as it allowed us to expand and adapt our presentation very well.

After lots of testing within arduino we came up with some very good actuators and outputs that helped us interpret our wicked problem of fast fashion and social media. We ended up going for a distance sensor to fan, A motion sensor to sound and a button to servo motor. We had some troubles with some of our components, for example the distance sensor to fan we had needed to be a little bit more powerful as the fan just didn't blow the clothes very well. On the other had our motion sensor to mp3 player worked very well, we decided to go with a 'mean girl laughing' as the sound bite and it was designed to make the viewer feel uncomfortable and that is exactly what happened. Finally we had a "like/dislike" button that worked very well as an interactive piece and added a lot to our presentation, this allowed the viewer to interact with our project while also highlighting the waste that goes into fashion especially on social media.

Overall I found this to be a huge success and an extremely fun project to be a part of, I loved working with Arthur, Saf and Helen and would happily do it again. I think our project did exactly what it needed to as well, bringing to light the issues within the fashion industry and with fashion on social media. I feel as though if we had a bit more time we could have made our installation seamless and a lot better but for the time we had and the scale of our project I think we did an excellent job.