

Water Purifier Project

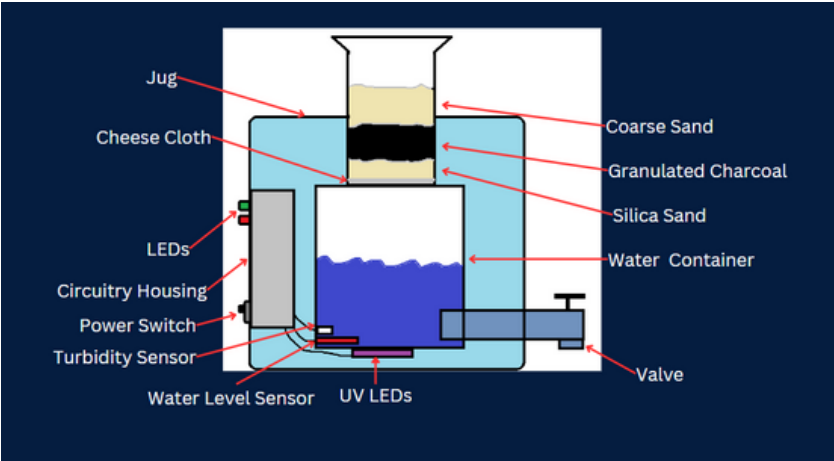
When deciding on a project we had 3 topics to choose from;

- Design a STEM project for school children in developing countries.
- Design a project that is aimed at helping people to be more eco-friendly at home.
- Design a low-cost assistive device to help people with an impairment or disability.

The project we have chosen is STEM.



(PNGTree, n.d)



Researching Ideas

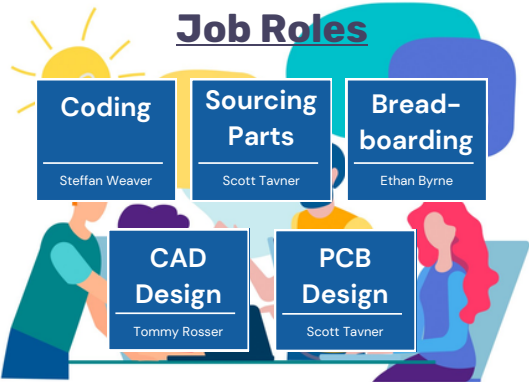
The first task was to choose which of the three topics to build the project around. Below are some examples of project ideas:

- A water filter as a STEM project for school children in developing countries that filters dirty water into clean water.
- A water quality monitoring system for being more eco-friendly at home that monitors many different things like p.h. and turbidity levels.
- An air quality monitoring system to be more eco-friendly that monitors the pollution in the air.
- A braille bot to assist people that are blind by helping them learn braille.

What is the Project?

The project that was decided was a water purifier system that uses a combination of natural resources and UV light to filter out bacteria, making water safe to drink.

This project idea was inspired by water quality monitoring systems, and also the LARQ self-cleaning water bottle that uses UV light to clean itself. (waatr, n.d)



Progress

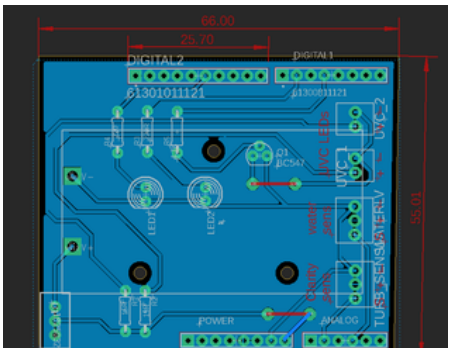
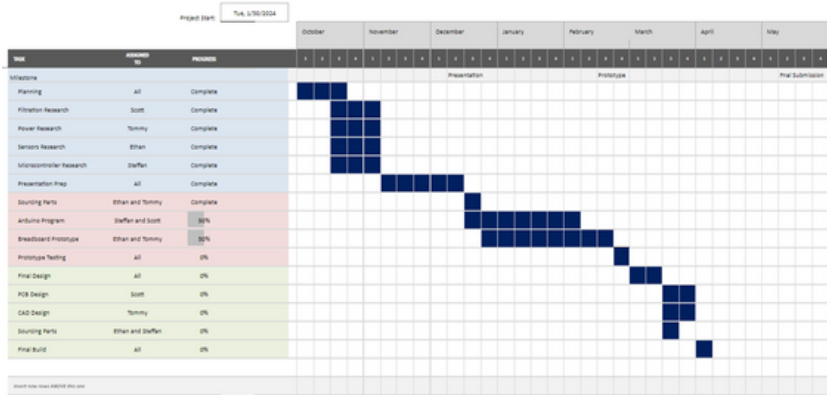
When designing the project, we used Arduino software to code the Arduino microcontroller, and for the CAD-designed circuit container was created using Autodesk Fusion, and so was the PCB schematic.

There were many setbacks over the course of designing, but we overcame them and were successful in creating a working water purifier.

Problems and Solutions

When designing our project, there were a few problems that needed to be dealt with in order for the water purifier to work properly. Below are some of these issues along with solutions.

- We had difficulty coding the turbidity sensor, as there were limited resources online, so we resorted to video tutorials on websites such as YouTube.
- We also found that we weren't able to print double sided PCB boards, therefore the board needed to be redesigned with this in mind.
- We were unable to use Tech Soft CAD software on the laptops, so we had to use another software instead being Autodesk Fusion.



Conclusion

In conclusion, There have been many hurdles when constructing our project, but although we may not have stuck with our original plan in accordance with our Gantt chart, we have succeeded in designing a successfully working Arduino-controlled STEM project that helps to introduce school children from developing countries to the possibilities that engineering can accomplish.

References

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