Curing Chamber Project – Building First Design

**Supplies and Costs Outlined**

Now that the initial design is mocked all supplies needed to be bought to build. Below is all the supplies purchased and their costs.

|  |  |
| --- | --- |
| Arduino and joystick accessory | Repurposed from somewhere else/ $0 |
| Breadboard | Repurposed from somewhere else/ $0 |
| SSR | $5, From Amazon |
| DHT22 Sensor | $3, From Amazon |
| Dupont wires | Repurposed from somewhere else/ $0 |
| Soldering Iron | Repurposed from somewhere else/ $0 |
| Solder | Repurposed from somewhere else/ $0 |
| Electrical Tape | $2, From Lowes |
| Zipties | $5, From Lowes |
| Humidifier | $16, From Walgreens on sale |
| Hisense compact fridge | $145, From Lowes on sale |
| Extension cables | $5, Walmart |
| **Total Costs** | **$186** |

For the entire building the total costs were approximately $186, which exceeds the initial low-cost requirements set out previously.

**Building and Coding**

For the building I was a short process as there us only creating the circuit and some level of wire splicing. For both the fridge and the humidifier to not splice the original wiring to them I decided to take extension cords leading from the wall that could then be attached to the SSR. The final circuitry was attached below with only one iteration. Code is attached in a separate document. To maintain the extremely cheap cost I took some disposable plastic containers to create a seal around the parts. For this design the fridges power rating is estimated at an average of $30 per year but should be lower for the curing chamber given the shorter compressor run times given the higher operating temperature. Finally for the accuracy criteria further testing is needed. Code was written and I attached within the GitHub repo separately.

A circuit board with wires

AI-generated content may be incorrect.

A computer circuit board with wires

AI-generated content may be incorrect.

A hand holding a cable

AI-generated content may be incorrect.