SmartFreezer

by JarneDemeulemeester

SmartFreezer is a easy way to organize your freezer. This project contains a website that is made responsive so it can be used on any device.

All your products are displayed in a nice overview. A product contains the following infomation:

- Name
- Icon
- Creation date
- Expiration time
- Extra comments

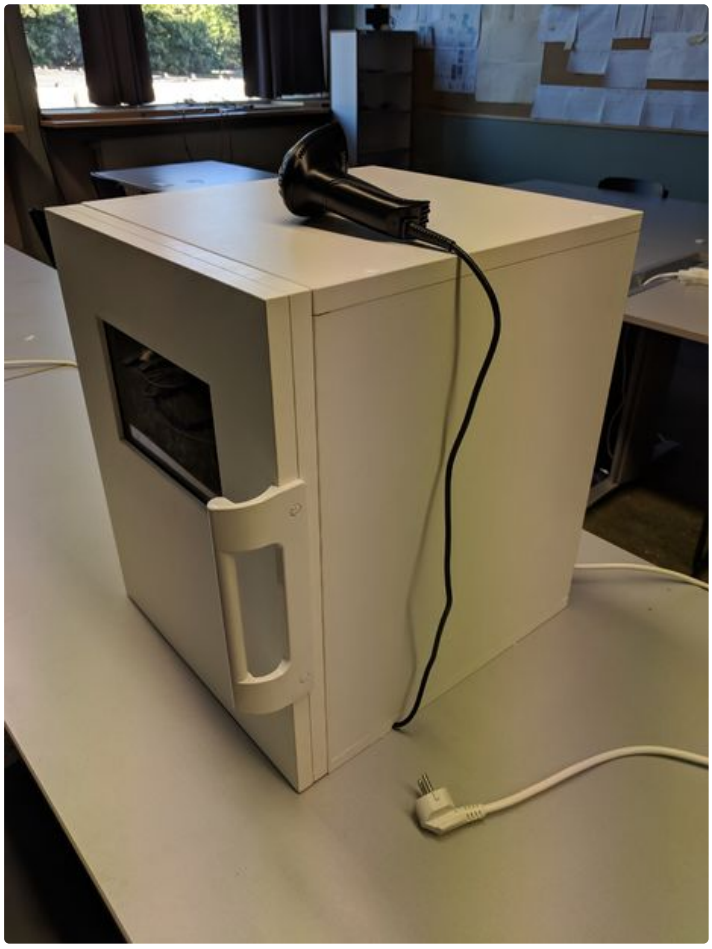
Products can be added to the list on three ways, manually, using a template or via a barcode on the product.

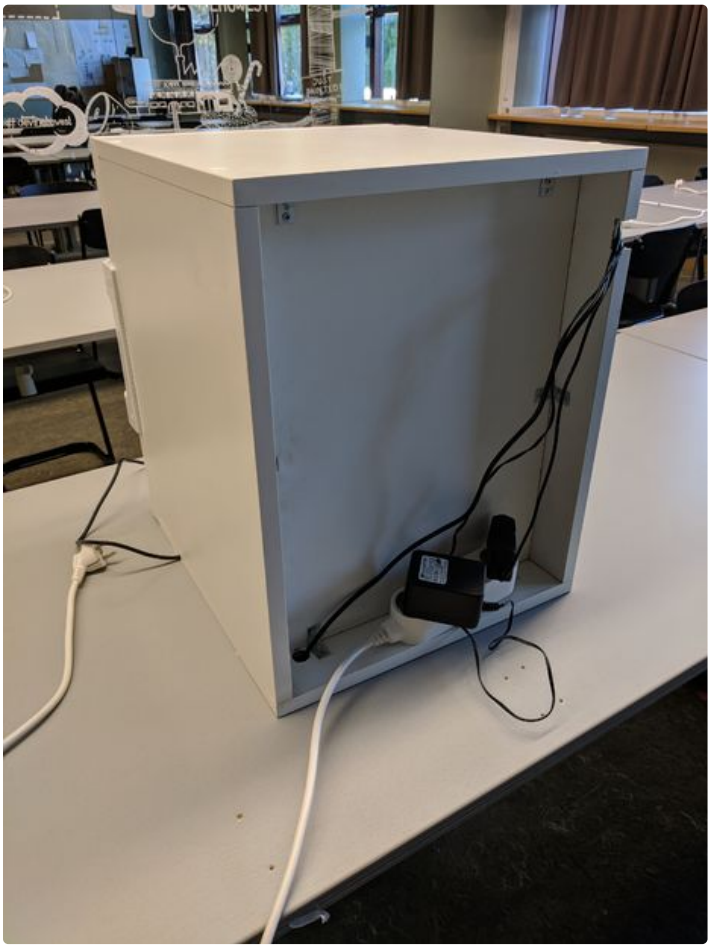
Templates are products which can be added again when needed. So that you don't have to enter all the details of the product every time you put it in you freezer.

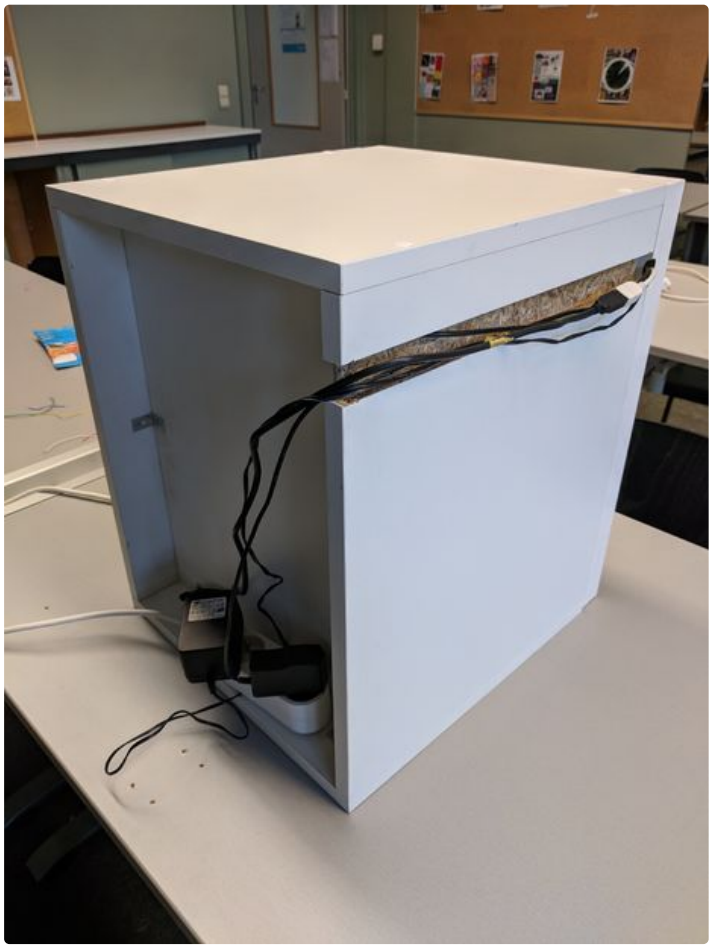
There is also a temperature page which displays the current temperature and lets you change it.

And lastly there is also a settings page, but this is a dummy page. Except for the info page which displays the ip address of the raspberry pi.


AWARDS







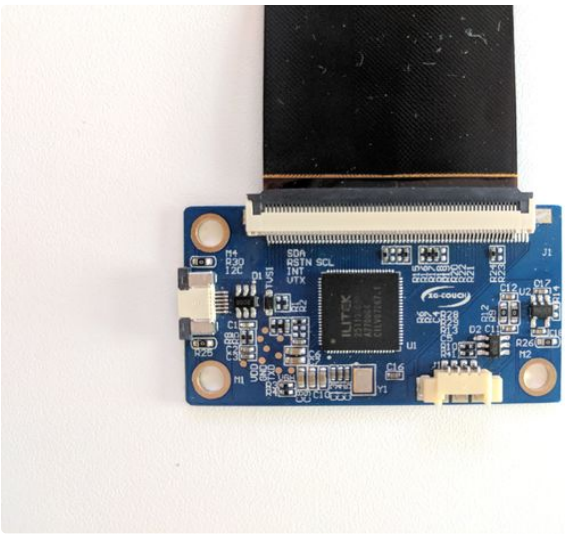
Step 1: Components

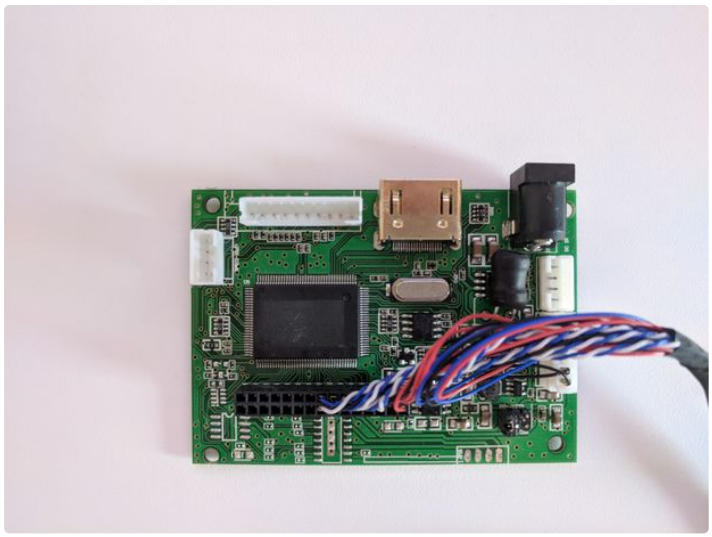
The components you need for this project are:

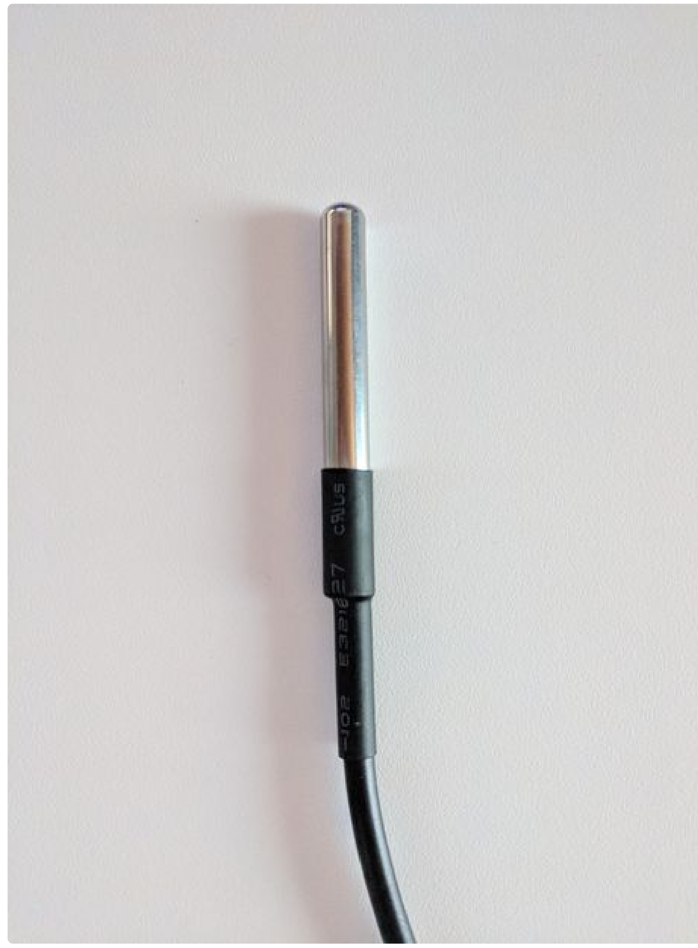
- Raspberry Pi 3 B/B+ https://www.amazon.de/Raspberry-1373331-Pi-Modell...

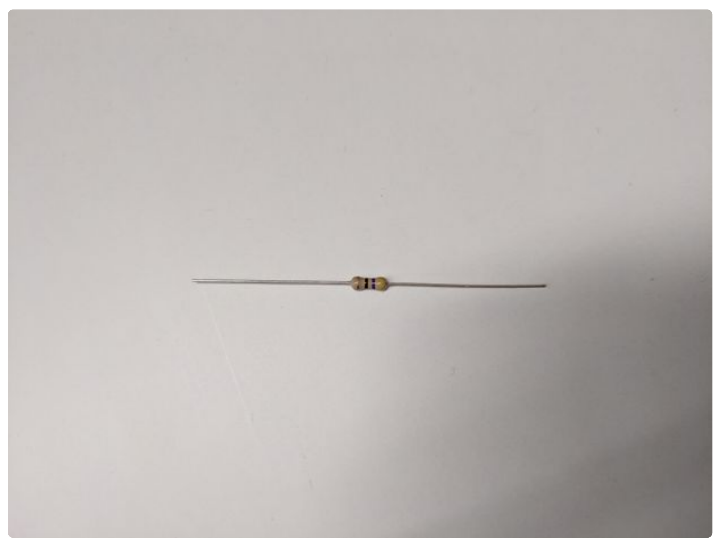
- A touch screen display https://www.amazon.de/gp/product/B06Y2BT8J8
- Barcode scanner https://www.amazon.de/gp/product/B01LXXL9JF/
- Temperature sensor (ds18b20) https://www.amazon.de/AZDelivery-digitaler-Temper...
- Passive buzzer
- 10k ohm resistor
- 110 ohm resistor

For a detailed overview of the costs of my project see: https://student.howest.be/jarne.demeulemeest1/smar...





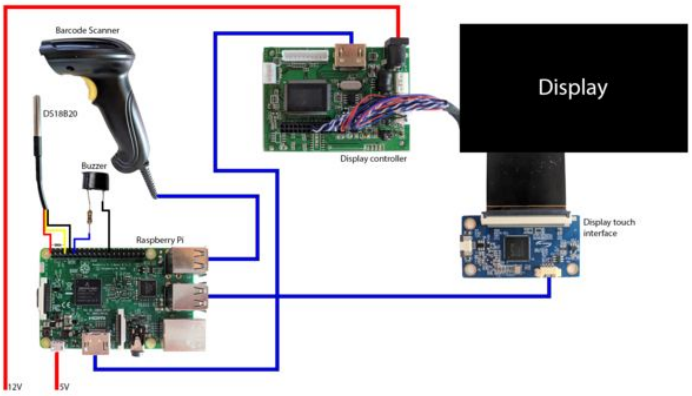




Step 2: Create Circuit

Connecting everything:

1. Connect the barcode scanner to the Raspberry Pi using USB.
2. The display is also connected using USB but also using hdmi to the Pi.
3. Connect the temperature sensor to the gpio pins of the Raspberry:
    1. Red wire > 3.3V
    2. Black wire > GND
    3. Yellow wire > GPIO4
    4. Solder the 10k resistor between the red and yellow wires.
4. Connect the buzzer to the gpio pins:
    1. The plus pole to the 110 ohm resistor and from the resistor to GPIO17.
    2. The minus pole to GND.



Step 3: Setting Up the Raspberry Pi

To start connect a keyboard to the Raspberry Pi and connect the power to the pi and the display. You can also use a other display for this step like a tv or something else.

First step is to download the necessary files:

wget http://student.howest.be/jarne.demeulemeest1/smar... rel="nofollow">unzip smartfreezer.zip

Make the setup file executable:

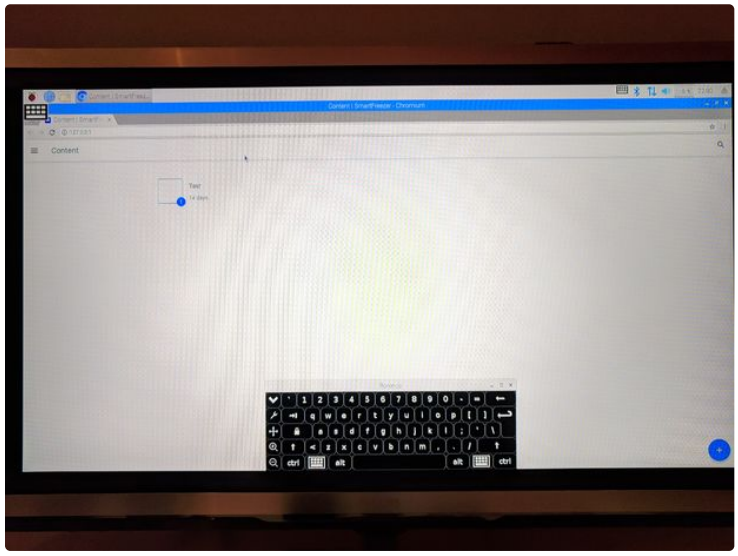
chmod 744 setup

Start the setup:

./setup

Next unzip the archive:

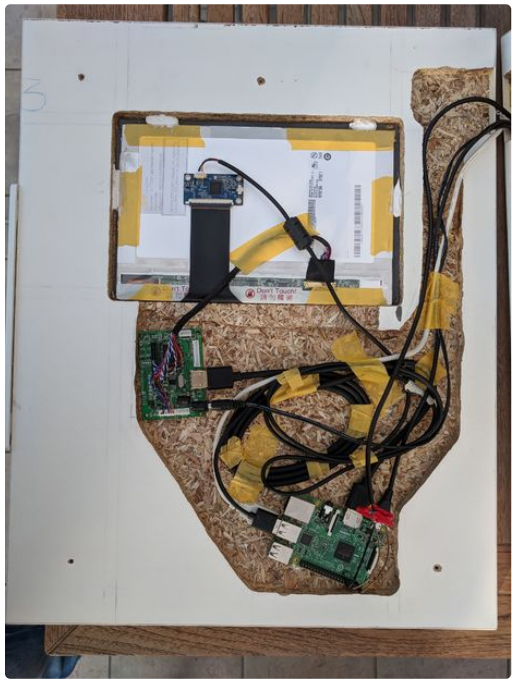
After that everything should be set up

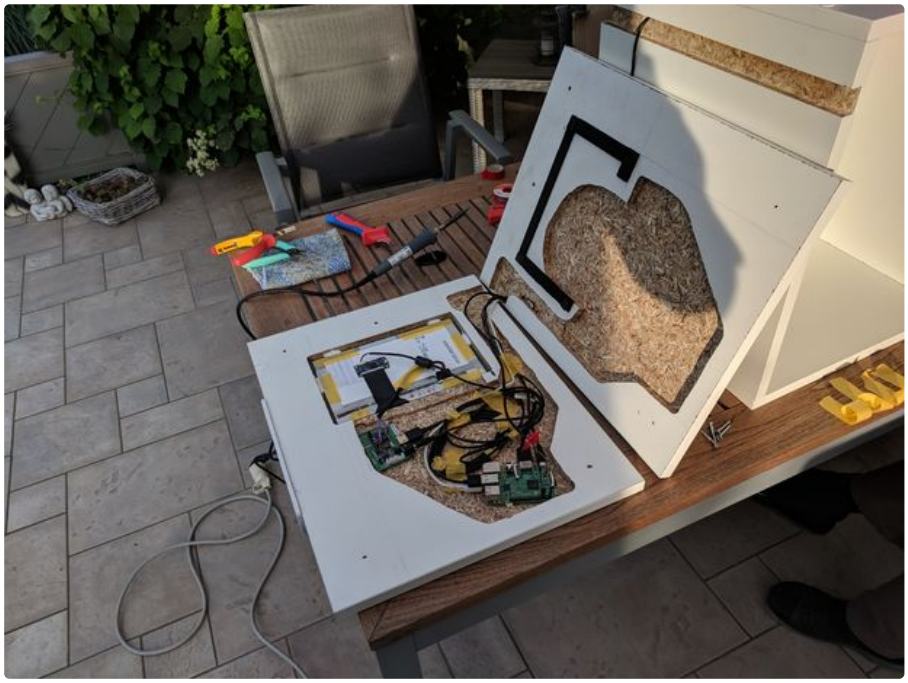


Step 4: Creating Construction

I myself am not very handy so I dind't make the construction myself but I helped designing it.

So let your creativity flow and create a unique case for this project!



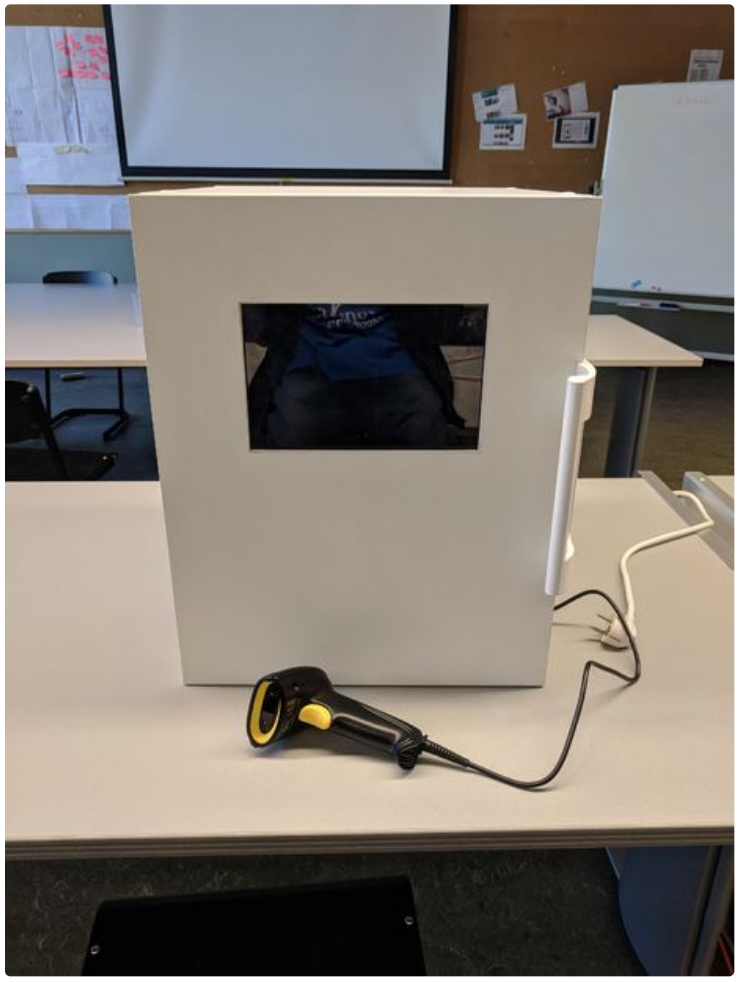


Step 5: Conclusion

This is a very usefull project for people who never know what's in their freezer.

Feel free to edit the files to imporve it!

All files are available on Github: https://github.com/NMCT-S2-Project-I/project-i-Jar...



Wonderful update to a common appliance.