## ■ week6

At the beginning of my work blog, let me briefly recap project concept. Through brainstorming, I identified the basic elements of "performance" and "conductor". On the basis of this I have further redesigned the concept. Replacing the initial concept of piano, violin, drums and other band members with vegetables such as tomatoes and potatoes. I also experimented with the use of vegetables to create sounds

As my partner and I were working in a group, I only had to be responsible for one input and one output. For the programming part I was responsible for the photoresistor and the Oled screen, so the first objective for the first week was to run the photoresistor successfully. The role of the photoresistor is to recognise if the user is picking up the 'baton'. All interaction processes in this project will only start when the baton is picked up.

The process of testing the photoresistor started with a problem: although the code part and the arduino wiring were fine, the photoresistor never worked properly. After checking all aspects I found that the photoresistor was broken, so after I replaced it with a new one the program worked fine.
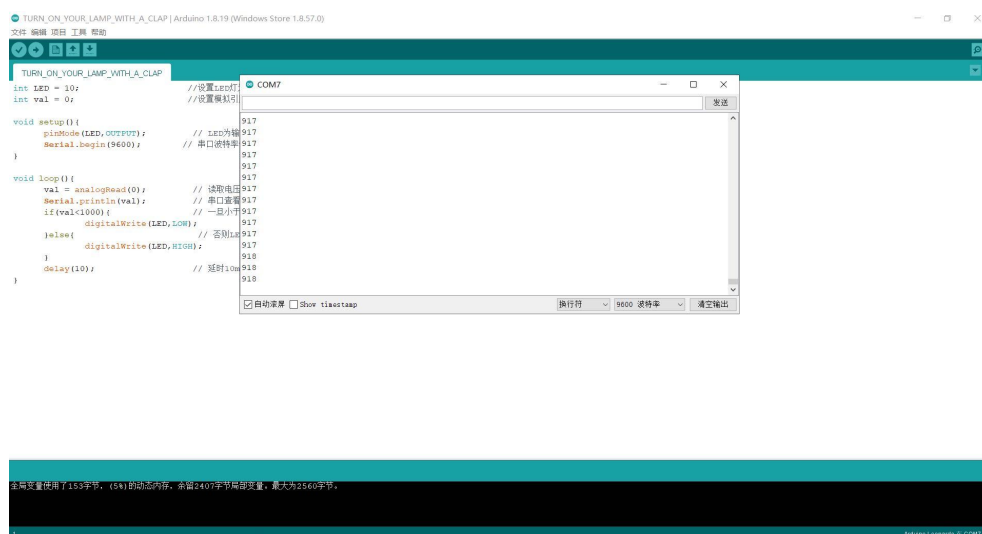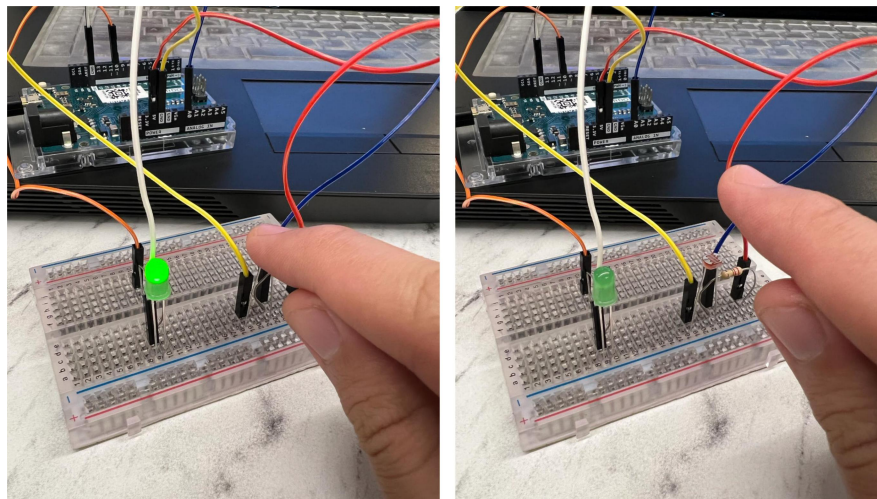
The second major job this week was the drawing of the screen emoticons. The second programming job I was responsible for was the Oled section. But before the programming work could officially begin, I needed to draw what was going to be displayed on the screen. In our concept, if the speed is too fast, the Oled will show a very anxious expression (the inner feelings of the vegetable musicians). Conversely, if the speed is just right, the Oled will show a very happy expression. This means that I need to draw two states of facial expression.

I drew a number of versions of the emoji for iteration and eventually selected the two cutest ones.
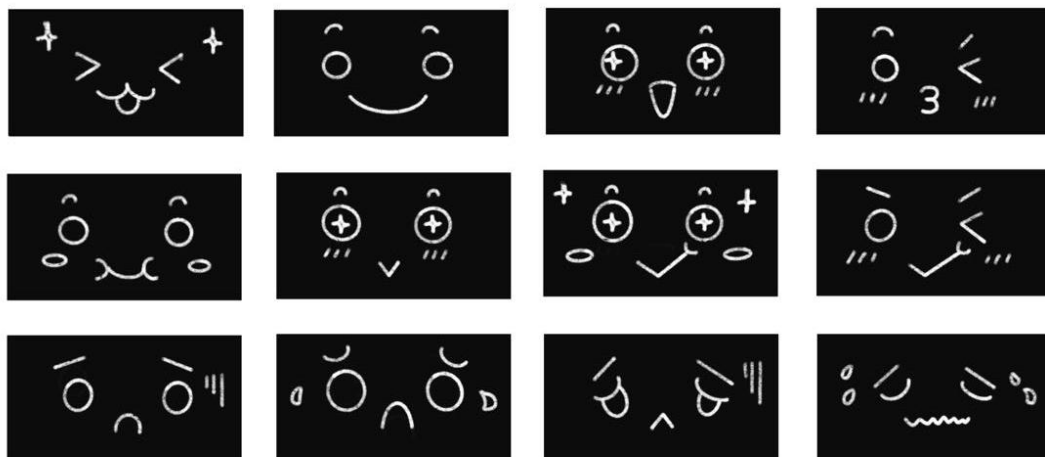
■   **week7**
The main goal of this week's work was to successfully convert the patterns drawn in the previous week into arrays via special software and import them into the Arduino code, and eventually to get them successfully displayed in the oled. Another task was to complete my collection of vegetable sounds and try to design more interesting sounds by editing the collected sound sources through Adobe Audition.

Displaying the pattern I drew on Procreate to the oled was a difficult process.
Step1.
I need to draw the expression again in Illustrator in the aspect ratio of the oled to get a clear photo in PNG format.
Step2.
Convert the JPG format photo to a bmp file by using special software.
Step3.
Import the bmp format file into PCtoLCD software and convert the photo into a large array.
Step4.
Copy the array into the Arduino code for editing.

The 4-step process seems clear and easy enough, but I spent a lot of time reading tutorials online and solving various inexplicable problems during the process. One of the most

difficult parts of the process for me was Step3. When I tried to import the array of photos into the Arduino code, the oled screen would not display the images properly. I am not sure what is wrong, maybe the image aspect ratio is not right? Maybe there is something wrong with the array? Maybe the bmp is in the wrong format? Or is there a problem with the Arduino code itself? I wasn't sure, so I had to check each possibility and try to find out what the problem was. In the end I found that the problem was with the PCtoLCD software parameters, specifically with the way the pixels were scanned. Although it took a lot of time (about three nights), the problem was eventually solved.
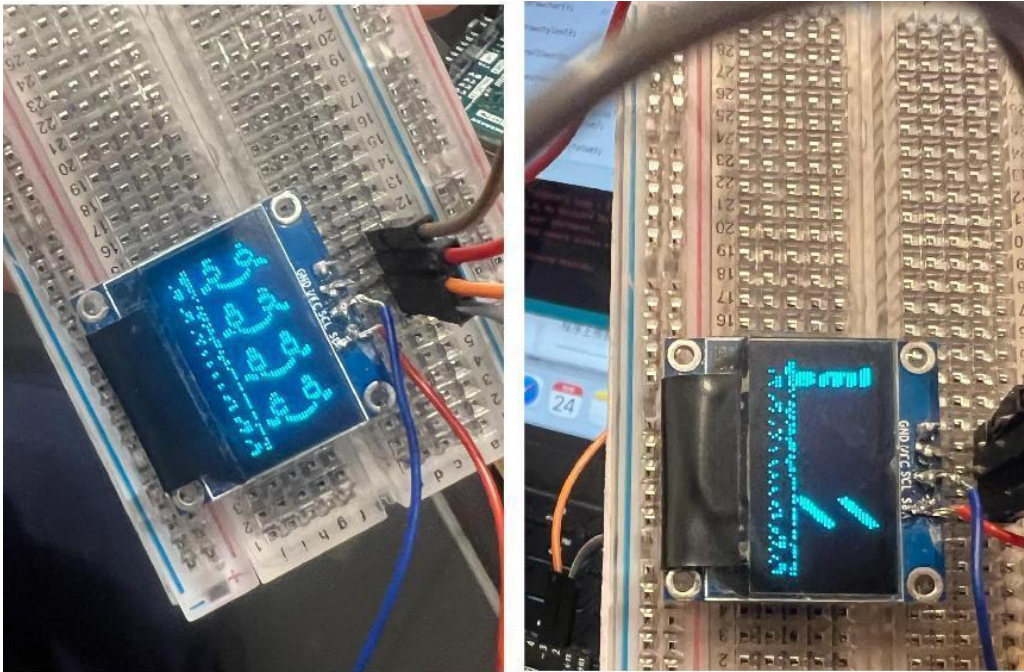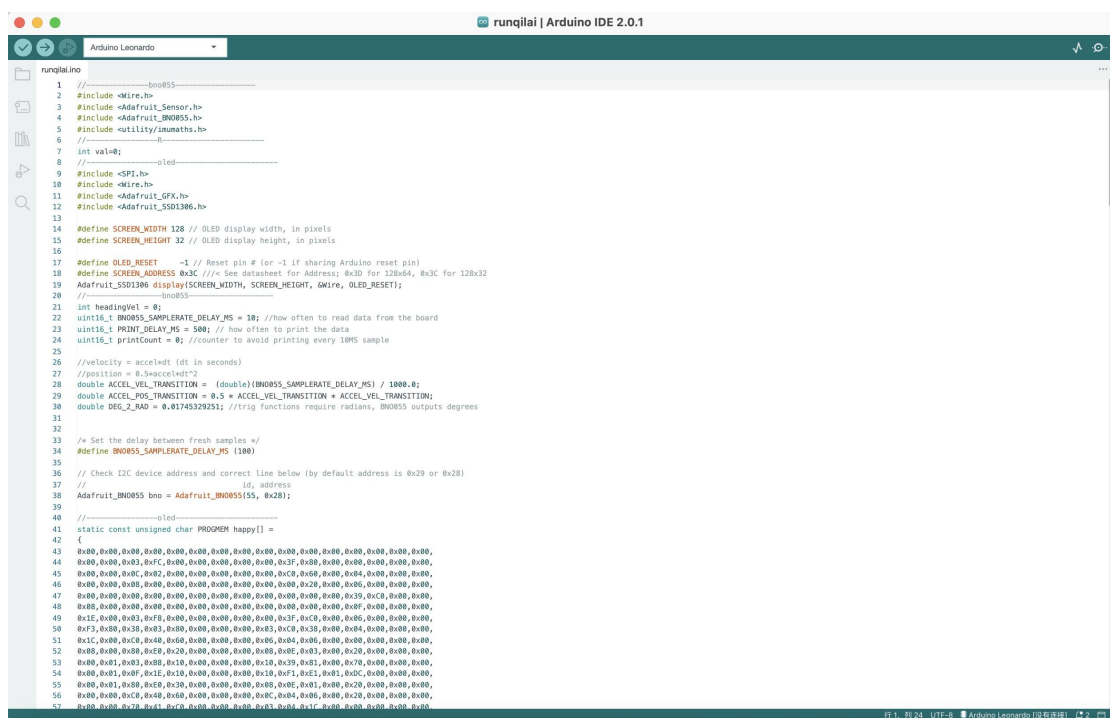

-Various screen failures
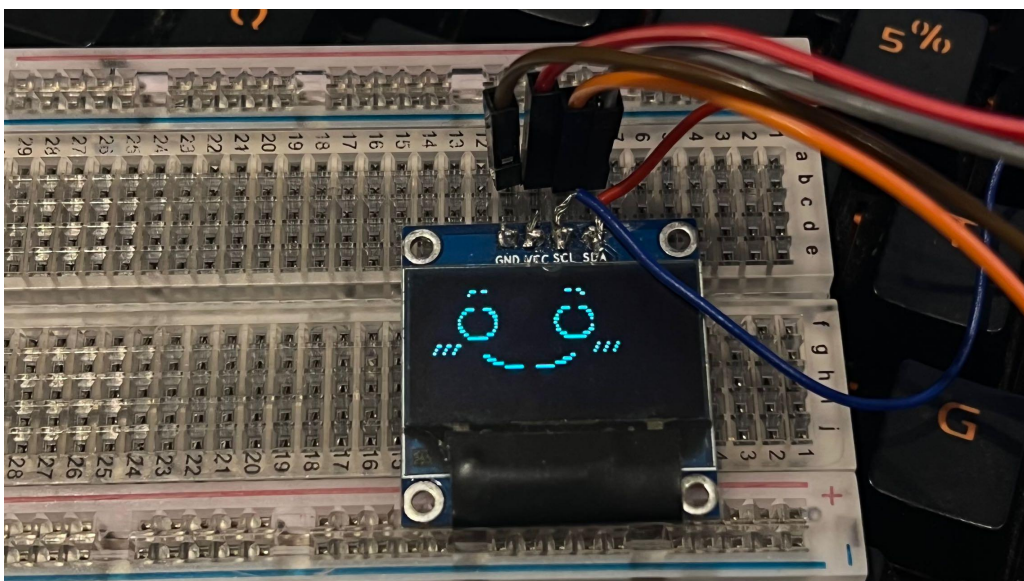
-Successful display
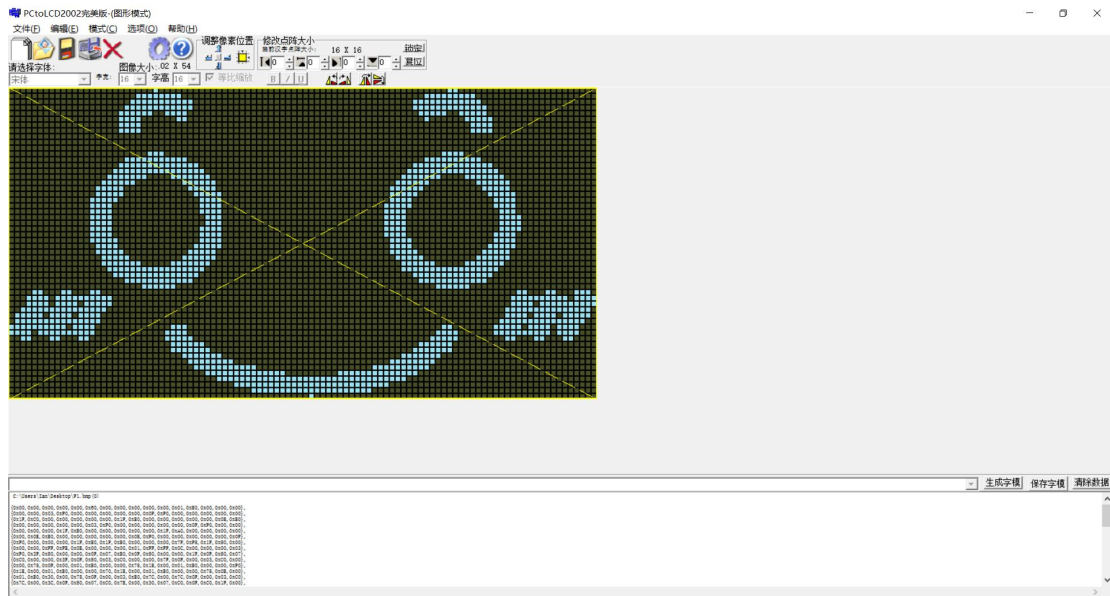
-Images to Arrays

-Oled Code

Another important task this week is that I need to get the sound of the vegetables captured and edit them in post.

First I went to Testco to look at a wide range of vegetables, trying to find a few that made a distinctive sound and to make sure they were clearly recognisable from each other. Initially I chose tomatoes, cucumbers and peper, but how do you make a vegetable sound? I recorded the sound of a tomato being squeezed, a cucumber being broken, and a peper being hit.

This was my initial choice of vegetables and as I worked on it I realised that the sound of the cucumber was not suitable, so I eventually replaced the cucumber with cabbage.


-Sound Collection

After collecting all the sounds of the vegetables, I imported them into Adobe Audition for the next step. The vegetables themselves sounded relatively boring, so I tried to give the sounds a 'cyber' feel by adding electronic sounds while retaining their original characteristics. Once I had finished modifying each of the three voices I needed to merge the three tracks again as they had an ensemble section.
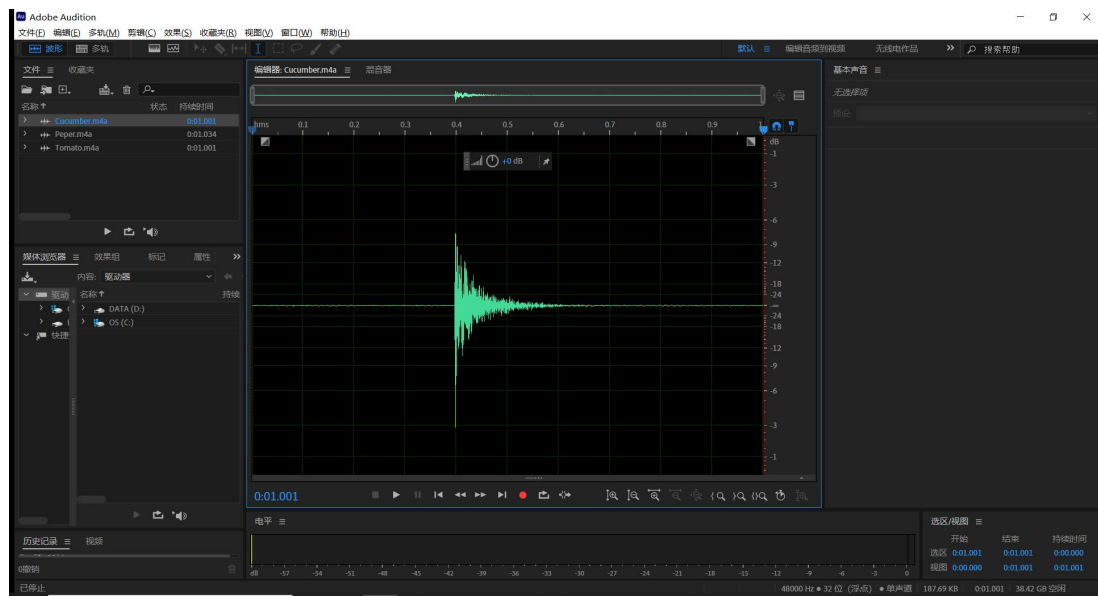

-Sound Editing
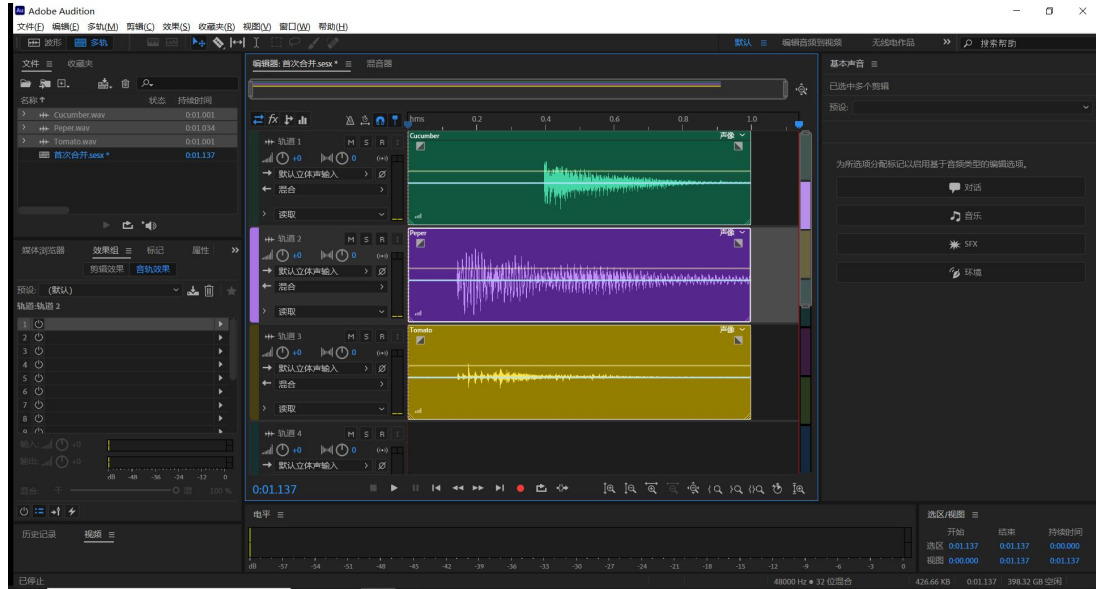
-Track merging

■ **week8**

The first important task of the week was to connect all the Sensors via Tinkercad first in a mock-up. The second important task after checking that everything is OK is to do the real soldering and connect all the Sensors together in series.

This week we have finished testing all the sensors separately and now we need to connect them all together. The first step was to use Tinkercad, which gives a good overview of how our sensors are connected.
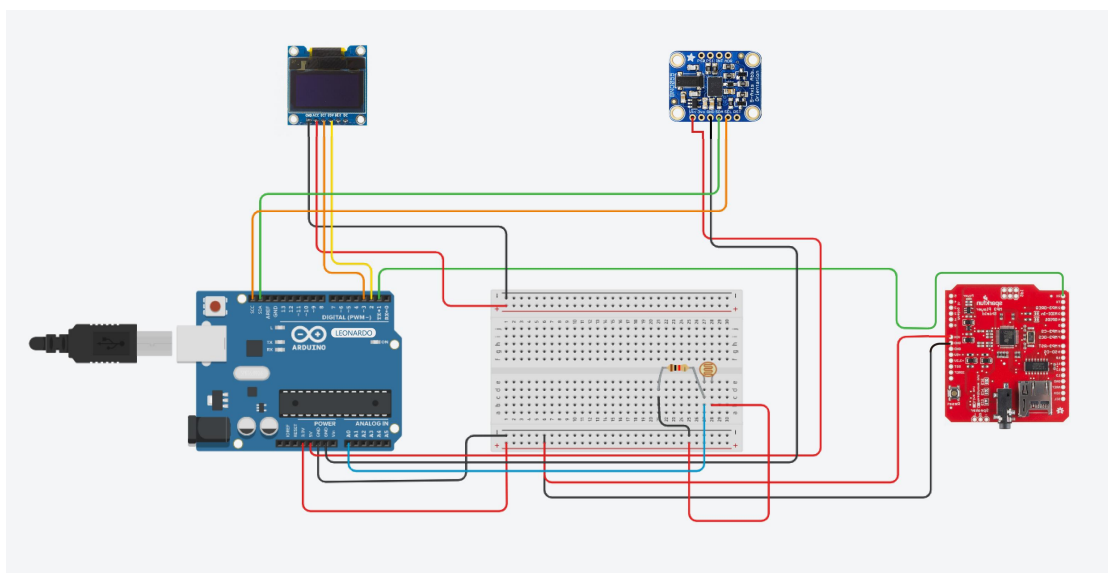
-All connections

After testing on the Tinkercad I went with my partner to the fifth floor of Camberwell to borrow the soldering equipment and start the soldering process. Because many of the

circuits were really small and could be shorted out if a mistake was made, they needed to be handled very carefully. As I have a steady hand and my partner's hands sometimes shake, I was in charge of the soldering for this step.

-Soldering work

■ **week9**

The last week left me feeling very tired, a lot of work I needed to finish this week.
1. Designing the look of the installation, as well as sketching and making the prototype.
2. drawing the graffiti on the surface of the installation and creating the look of the installation.
3. shooting the final presentation video.
4. video editing.

First I did a preliminary design for the look of the installation, which was actually initially a semi-circular box, an idea that came from my partner. But I thought that a simple geometric square would be more formal, so we settled on a square as the final solution. Once this was decided I was responsible for the prototype and in this step I determined the dimensions of the unit (length, width and height) as well as the location of the openings and the size of the holes. The holes were made so that the wires hidden inside could be connected to the oled and photoresistors exposed on the surface. In this step I therefore needed to measure the distance of the opening precisely to ensure that it did not exceed the length of the wire.

To build the installation I first needed to create a square box with only five sides (minus one side for the channels to hold the Arduino and various sensors). In this step I spent a lot of time measuring the dimensions and cutting them precisely to ensure that they would be glued together perfectly.

-Cutting and gluing

I was also responsible for the graffiti work on the surface of the installation and the lettering on the top surface actually says 'Veatles', which is the name of the band. The name comes from the famous band Beatles and I have replaced the initials with the 'V' for vegetable. The drawing of the four sides of the rim I was inspired by various musical elements, this relies on my imagination and these drawings may be a little abstract.
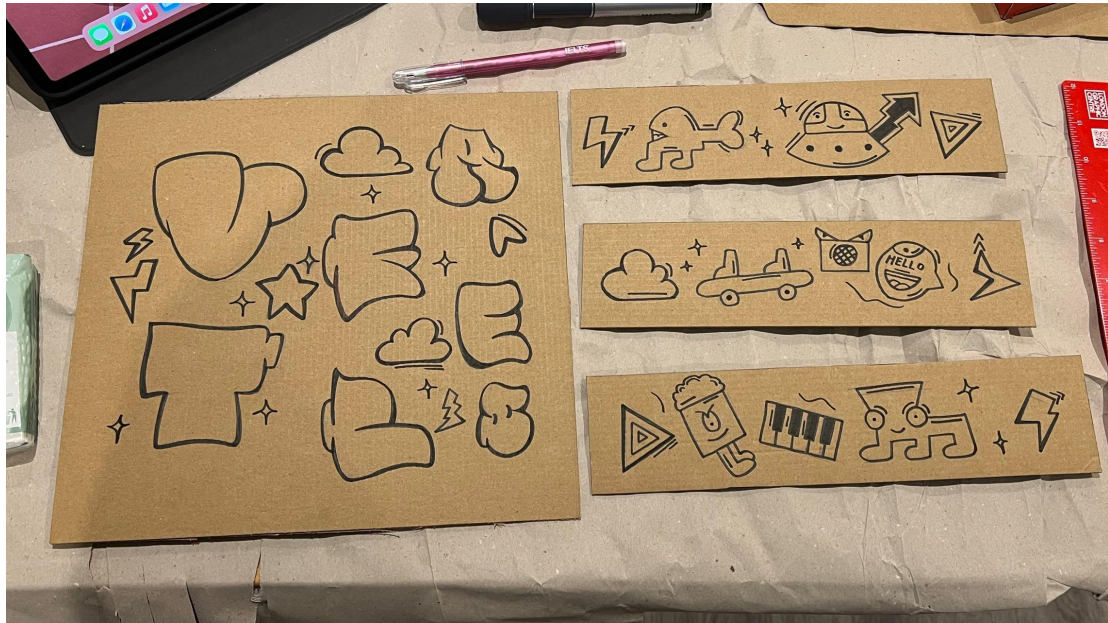
-Graffiti drawing

Once my partner and I had assembled all the installations I took charge of the video shoot for the final presentation. I borrowed a friend's lamp and cleared the table in the hope of creating as good an environment as possible for the shoot. The filming process was relatively smooth. Once I had finished shooting with the camera I started the final video editing and the voiceover for the presentation.

-Shooting process
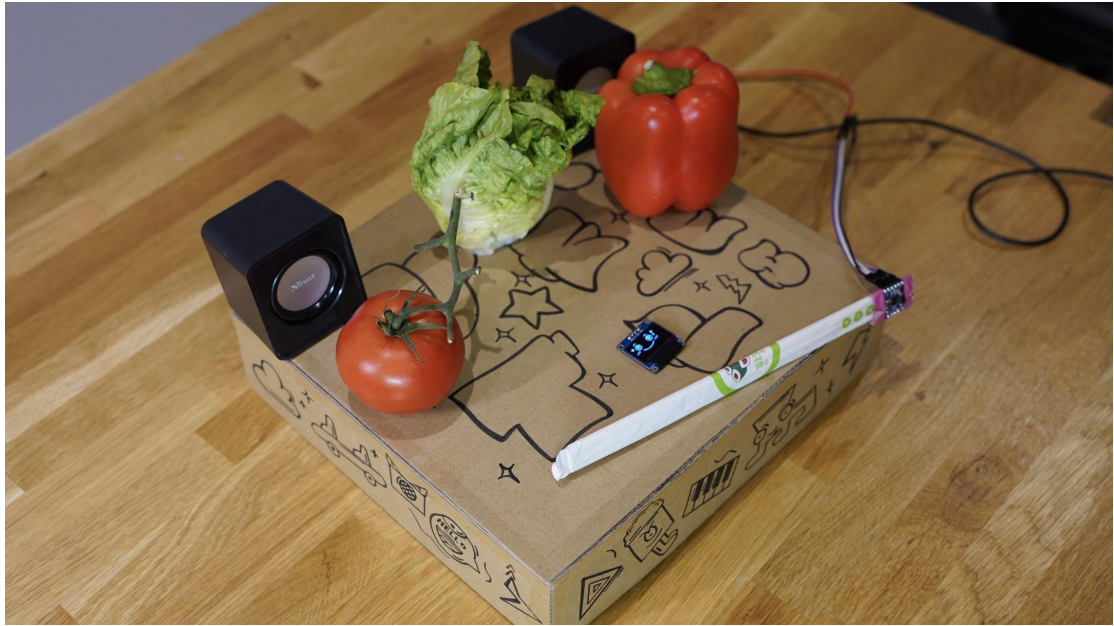
-Our interactive installations

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Project Video link: https://youtu.be/ZfbaH7URHjA