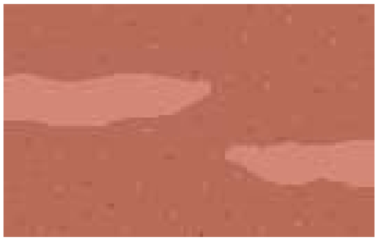
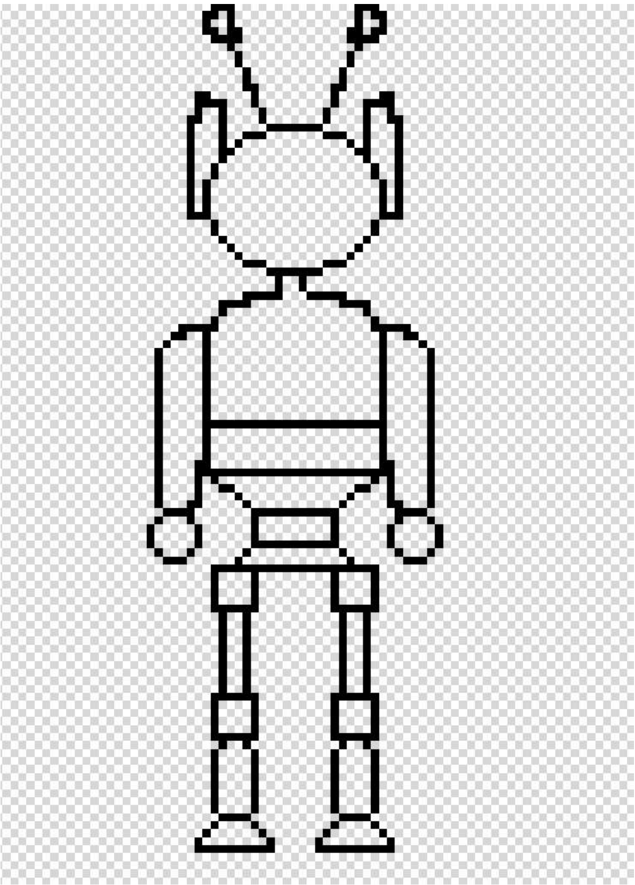
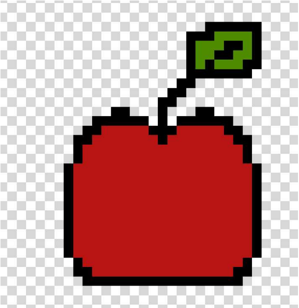
This image, which I will be using as a background for my game, took me approximately 15 minutes to draw:



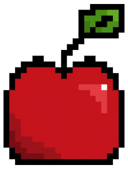
This robot took me approximately 15 minutes to draw:



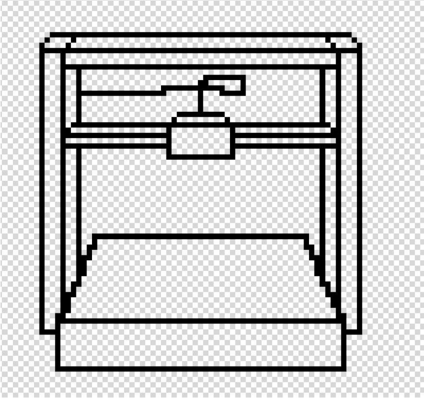
Drawing this apple took me approximately 5 minutes:



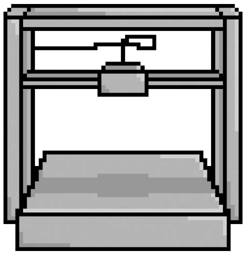
Adding some shading to the apple took me approximately 5 more minutes:



It took me approximately 15 minutes to make this sketch of what is supposed to be a 3D printer:

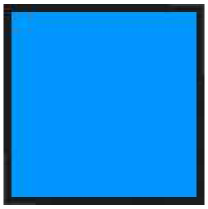


Adding some colours/shading took approximately 10 more minutes:



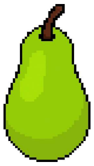
This drawing of an orange took me approximately 10 minutes to draw:

This drawing of a screen, which will be the background of my shop, took me approximately 5 minutes to draw (there's a bit of shading, it's just a lot easier to see in the actual game than it is to see here since the game has a much bigger size):



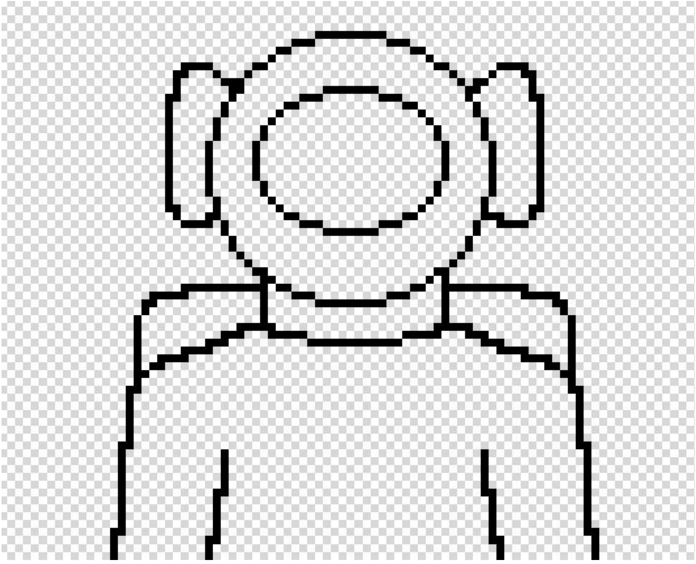
Creating an "X" button, a "+" button, and a "-" button took approximately 5 minutes:

This pear, which will be one of my fruits, took me approximately 10 minutes to draw:

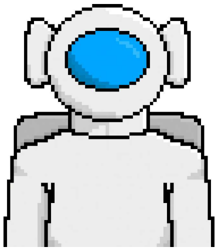


Resizing the pear later to make it smaller (since it was too big) took me approximately 5 more minutes:

This sketch of an astronaut took me approximately 5 minutes to make:

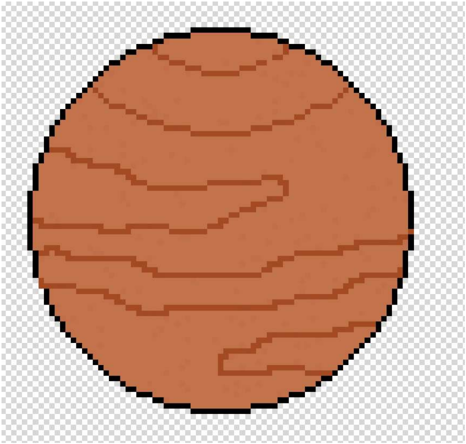


Adding some colours and shading to the astronaut took me approximately 20 minutes:

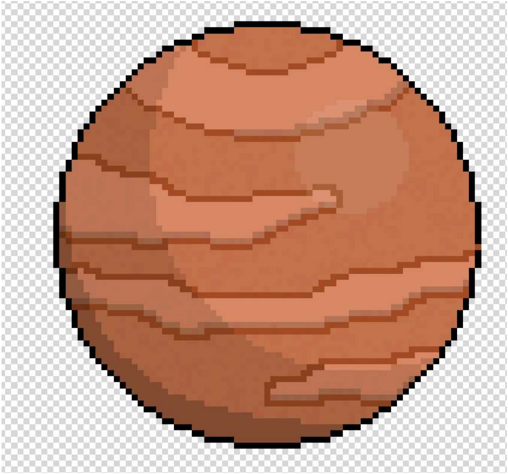


(The shading is easier to see in the game itself).

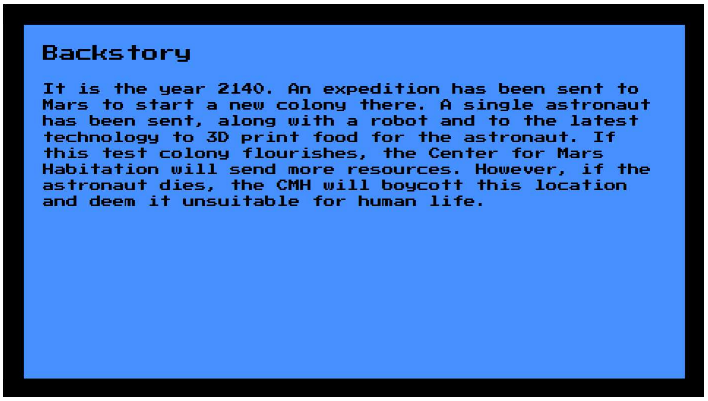
It took approximately 10 minutes to draw this drawing of what is supposed to be a Mars-like planet:



Adding some more colours and shading took approximately 10 more minutes:



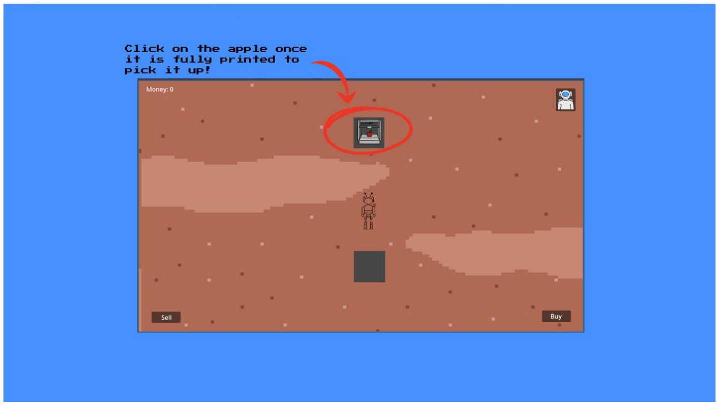
This first graphic for the How To Play scene took me approximately 10 minutes to make and write out:



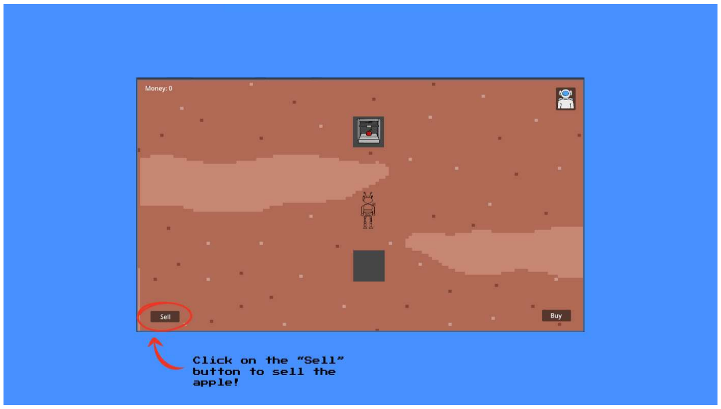
Backstory

It is the year 2140. An expedition has been sent to Mars to start a new colony there. A single astronaut has been sent, along with a robot and to the latest technology to 3D print food for the astronaut. If this test colony flourishes, the Center for Mars Habitation will send more resources. However, if the astronaut dies, the CMH will boycott this location and deem it unsuitable for human life.

These two graphics for the instructions took approximately 10 minutes to make:

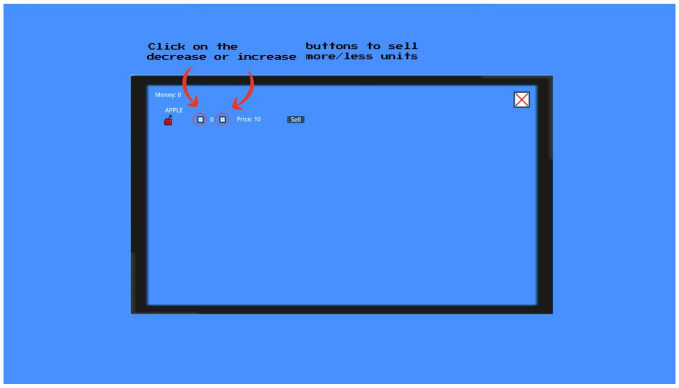


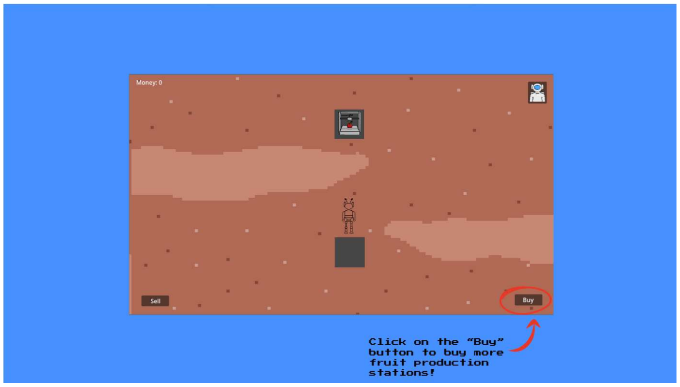
Click on the apple once it is fully printed to pick it up!



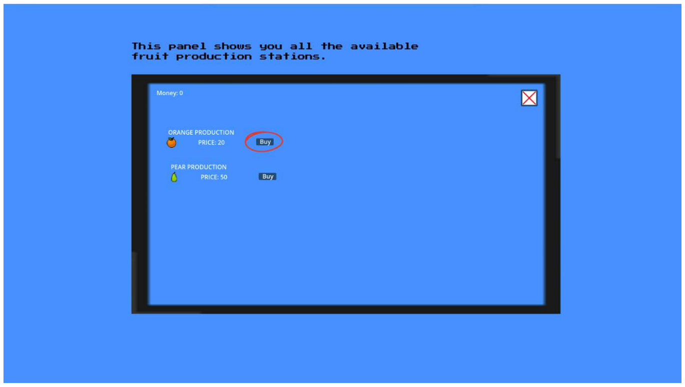
Click on the “Sell” button to sell the apple!

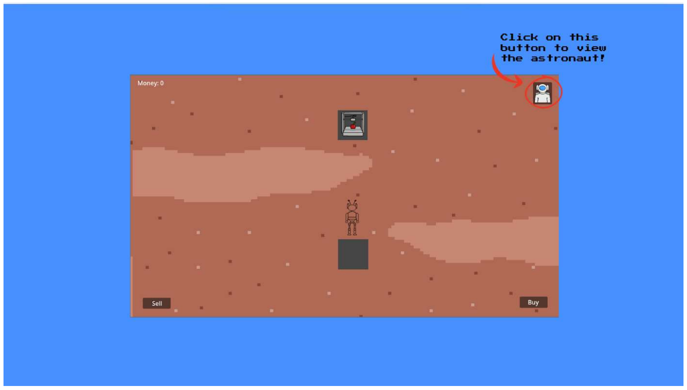
These two next graphics for the game also took approximately 10 minutes to make:

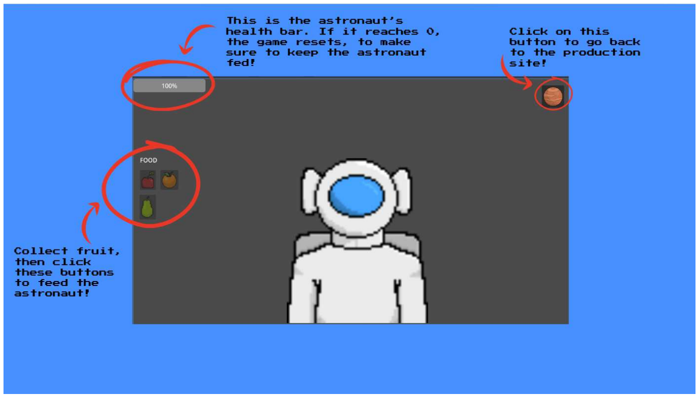

Click on the decrease or increase buttons to sell more/less units


Click on the "Buy" button to buy more fruit production stations!

These next three graphics also took approximately 10 minutes to create:


This panel shows you all the available fruit production stations.


Click on this button to view the astronaut!

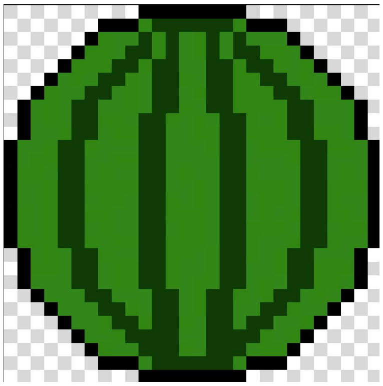


This is the astronaut's health bar. If it reaches 0, the game resets, to make sure to keep the astronaut fed!

Click on this button to go back to the production site!

Collect fruit, then click these buttons to feed the astronaut!

This watermelon took me approximately 10 minutes to draw:



Adding some shading to the watermelon took me approximately 5 more minutes:

(I recorded my coding hours since HackaTime wouldn't work for me on the laptop I'm currently using)

Hour 1:
This hour, I worked on starting the game, including creating the main scene for my game, as well as adding a robot (an NPC) and some boxes to the game. I also added some code for how the robot should move, and what should happen if the robot touches the boxes (it should switch directions). Debugging this took a while, since it was pretty much my first time working with "obstacles" of this type, but I got it done eventually.

Hour 2:
This hour, I decided to move the robot and boxes to separate scenes, rather than keeping them all in the main scene, to make it easier to work with them. I also drew out an apple and a 3D

printer, created separate scenes for them, and added them to the main scene. Currently, I'm working on showing a percentage of the apple based on how many resources have been allocated to it.

At the end of the hour, I finished working on a way to show only a percentage of the apple rather than the entire thing. Next hour, I will be working on changing this percentage depending on how many resources the robot has delivered to the 3D printer.
Hour 3:
This hour, I changed the variable with the percentage of the apple shown to the script for the apple, rather than the script for the apple's Sprite2D, to make it easier to access from the main scene. At this point, I also started adding more comments to my code to make it easier for me to remember what each part of the code does.

Afterwards, I added some code to remove the resources from the robot once it has dropped them off at the dropoff box, and added some code to only add resources to the resource box if the apple was not at full capacity. I tried adding code to change the percentage of the apple shown if more resources were added to it by the robot, but I haven't managed to do this properly yet, so this doesn't really work. I've tried a few different ways to fix this, and will be continuing to fix this during the next hour.

Hour 4:
After some more debugging, I managed to fix the code to change the percentage of the apple shown as more resources are added to the apple. However, I ran into an issue where the actual image wouldn't show, and only a black box would show, but this was a pretty quick fix. Afterwards, I added some code to make the apple actually render fully when its capacity is filled, since I realized I added an if statement for if the apple isn't filled, but none for if adding resources fills the apple.

After adding this if statement, I ran into a bug where the apple would only render fully or not render at all. This took a bit of work to fix, and is what I will be working on first during the next hour.

Hour 5:
This hour, I worked on fixing the bug from the last hour, and after a bit of work, I managed to fix it. Right now, the apple renders from the top down, which isn't ideal, but I'll work on fixing that later if I have time since it isn't causing too many problems right now. Afterwards, I moved everything related to the drop-off box, including the box itself, the apple, and the 3D printer, to a separate scene to make them easier to work with. After this, I worked on creating a collection method for the apple by making a button that only collects the apple if it is fully rendered. This didn't work at first, since I was trying to increment the number of resources, which was in another file, but after a bit of work I figured it out. Now, I'm trying to work on making the apple re-render once it has been picked up.

After some work, I managed to get the apple re-rendering working, however there is an issue where the robot keeps accumulating resources without dropping them off if the apple is full, so I'm going to fix this during the next hour.

Hour 6:
This hour, I fixed the bug where the amount of resources the robot has keeps accumulating if the apple is full. Afterwards, I started creating a second drop-off box system for another fruit, but then realized it would be easier if the drop-off box system was more general so I wouldn't have to keep creating a new one for each fruit, so I started changing it to be more general. After a while, however, I had to change it a bit again since the things I thought would be better to input in one scene ended up being easier to input in another scene, due to accessibility, so I had to change that again.

Hour 7:
This hour, I continued working on changing the generalization of the drop-off box to work with many fruits, and I got it to work. I changed it so that it gets the fruit name as input, and uses that to render the image for that fruit. Afterwards, I started adding a new drop-off box and system for my next fruit, an orange. I eventually got this to work after fixing a few small bugs, however the sizing for this is off, since the image is too wide, so I'm trying to fix that.

I haven't fixed the issue with the width of the image yet, but I fixed an issue where the capacity for the orange wouldn't set, so the capacity for both fruits was the same. Next, I think I'm going to leave the issue with the width of the image for now, since it's not too big of a deal, and work on creating an array for the names and capacities of different fruits so it is easier to work with multiple fruits.

I finished working on this array, and am now going to continue adding more fruits.

Hour 8:
Instead of adding more fruits, I decided to first create a shop for my existing fruits. I started by creating a scene, adding a background, and creating a close button for this shop. Afterwards, I added a button to the main scene to access the shop, and started creating an incrementor to make it easier for players to choose how many units of each product they want to sell. After this, I created a scene for a row of the shop, where an image of the fruit, incrementor, and a sell button will go. However, the incrementor is not working properly, so I am now trying to fix it.

Hour 9:
This hour, I worked on fixing the incrementor for the shop row of the shop. Eventually, I got it to work, however the sell button won't work properly, so now I'm working on fixing that.

…It turns out the sell button *was* working, I just couldn't tell since I forgot to add a print statement with how many apples I had left to verify it was working. After this, I worked on creating a shop row for the oranges. This wasn't too difficult, but took a bit of time to figure out the smaller, nitpicky details to get it working properly. I also created a money counter to display how much money the player has.

Hour 10:
This hour, I decided to start adding more fruits, and then realized I should add a way to buy these fruits rather than just giving the player all of them to begin with. So, I started creating a shop for buying these. After a few minutes of this, however, I realized that I should add labels with the name of each product for both shops (for buying and for selling), so I went back and added this. Afterwards, I went back to working on the shop for buying fruits' production, which took a while since I had to change a lot of things and add a lot of new scenes to make it work.

Hour 11:
This hour, I continued making a shop that users can buy fruits and fruit production from. This included working on making a production invisible if it has not been bought yet…which meant I had to make all of its individual components invisible, one by one, since I don't know if I can make the entire scene invisible. Anyways, this took a while, but eventually I finished it. I also made the buttons for picking up the fruit fully invisible.

After some work, I managed to get the buying of fruit to work: my program now shows a production site, with the pick-up/drop-off/robot for the site visible, only after the fruit for that production has been bought. However, right now, "buying" just entails clicking on the "Buy" button in the shop, so now I'm going to change this so that players can only buy a fruit/its production if they have enough money.

After some work, I got the buying to work fully, with the money. Next, I'm going to add another fruit: pears.

…Nevermind, first I ended up adding a label for the price of a fruit in the buying shop to make it clearer to players whether or not they can afford the fruit.

Hour 12:
This hour, I worked on adding another fruit: pears. A bit into this, however, I ended up having to fix some side issues, since I had changed some names of instances of scenes and that caused errors. After fixing this, however, I went back to working on adding the pears. This wasn't too difficult, but it was pretty tedious since I had to change a lot of small things, such as variable names, for it to work properly. Right now, I'm running into an issue where buying the orange ends up showing the pear too, so I'm trying to fix that.

After a bit of work, I managed to fix the issue with the pear showing when the orange is bought.

Hour 13:
This hour, I added an invisible player and a camera as a child node of that to let players move left or right through the map. After doing this, I realized that I need to make my background longer, so this is what I will be working on now.

I ended up adding the background as a TileMap to make it easier to add to it, and afterwards, I made the Buy and Sell buttons follow the player/the player camera as well so that they would always be visible, no matter where the player went. I also realized I should make the label for displaying the amount of money the player has do this, so I changed that as well. After all of this, I played around with the camera for a while, trying to determine the right position to make it stop following the player. I also set up boundaries for the player, so that they cannot go past a certain point. This wasn't working at first, but then I added some code to just set the velocity to 0 if the player went beyond the boundaries, and this kind of worked, however it gets stuck if the player leaves the starting position and comes back to it, so I'm trying to fix that now.

It turns out this issue is pretty annoying, so I might just leave it for now and come back to it later.

I'm going to start working on creating a hunger bar for one of the characters in my game, and a way to feed that character.

Hour 14:
This hour, I started working on creating a scene for the astronaut I am going to be adding to my game, and a hunger bar for that character. This took a lot of work, since I hadn't really done anything like it before, but I managed to create a scene for the astronaut, a health bar, and a timer to decrease the health bar. I also made this work even when the player is not on the astronaut scene, which took some work since again, this was new to me. Next, I'm going to add a way to increase the health bar, by feeding the astronaut.

Hour 15:
This hour, I started adding a way to feed the astronaut. Partway into this, however, I realized that I did not have a counter for the number of pears, so I created this, and then went back to creating the method of feeding the astronaut.

A bit into this, I realized that I did not have a button to go to the main scene from the astronaut scene, so I created one. Afterwards, I continued creating a method to feed the astronaut, but then realized that some of my code for selling the fruit was very repetitive, so I switched to making it more efficient/concise. Afterwards, I went back to making a way to feed the astronaut. So far, I have buttons that users can press to give the astronaut a specific fruit, and they are only enabled if the user has at least one unit of that fruit, but the buttons don't do anything right now, so now I'm trying to make them do things once pressed.

Hour 16:
Continued working on making the buttons to feed the astronaut work. Currently, the buttons decrease the number of fruits there are, however they do not increase the health bar, so now I'm trying to fix that.

It turns out that the health is increasing, it's just that the health bar is not updating properly, so that's what I'm trying to fix now.

Hour 17:
This hour, I continued working on trying to fix the health bar to update properly. While doing this, I also found a bug where the health bar increments to 100 no matter what, so I am trying to fix that now.

…This issue with the health bar incrementing to 100 no matter what turns out to be a bigger issue, since the health variable is apparently 100 before the fruit is added, too, even as the health bar goes down. Because of this, I am now trying to fix this issue.

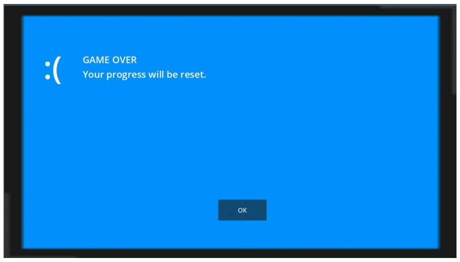
I managed to fix the issue, I just had to have only the code for the health bar in the global autoload script for the astronaut, and everything else in another, normal script for the scene.

After I figured this out, I started working on what will happen once the astronaut's health reaches 0, which is that the game will reset. For this, I had to create separate reset functions for each scene with variables, especially the ones with static variables, to reset the values of these variables, which took a lot of time because there were so many of them and they were all slightly different. During the next hour, I will be focusing on actually implementing these reset functions when the astronaut's health reaches 0.

Hour 18:
This hour, I worked on resetting the game once the astronaut's health reaches 0. This was mostly tedious, since I had to call each reset function, however it's not really working properly since it just takes players to a blank scene and starts lagging, so I am now trying to fix that. In the meantime, however, I also fixed an issue where the reset only happens when the player is in the astronaut scene, rather than anywhere.

Hour 19:
This hour, I continued trying to get the resetting to work, and after a while and a lot of debugging, I finally got it to work. I also created a very basic game over scene and main menu scene, so next, I will be working on these, mostly in terms of the layout.

I took a while to create a layout for the Game Over scene that was decent:



:(

GAME OVER
Your progress will be reset.

Afterwards, I started working on the main menu, including a How To Play scene.

Hour 20:

This hour, I realized that I should add a label in the selling shop for how much each fruit is worth, so I added these labels beside each fruit. I also realized that I had not changed the visibility for the items in the selling shop to only be visible once the fruit production station has been bought, so I changed this as well. Along with this, I also changed the button in the buying shop to only work once, and not work if the thing the button is for has already been bought. Afterwards, I realized that I had not added the pear to the selling shop, and that I had only added the aforementioned features to the orange, so I went back, added the pear, and added the aforementioned features to it.

Hour 21:
This hour, I added the instruction images to the How to Play panel, and created a way to click through them. Afterwards, I started creating a new fruit station: one for watermelons.

Before this, however, I decided to change the astronaut scene to only show the option to feed the astronaut a fruit if the player has unlocked that fruit.

After doing this, I started adding the necessary components for the new fruit, including the drop-off system, and the appropriate rows in the buying and selling shops.

Two minutes into this, I realized that I should add something in the How To Play to tell players to use their arrow keys to move left or right along the production line, so I added this instruction. During the next hour, however, I will be focusing on adding the new fruit, watermelon.

Hour 22:
This hour, I continued adding the new fruit, watermelon. I also realized that I was using an array of values and fruit names, along with loops and if statements, to determine the capacity of each fruit, so I changed this to a dictionary to make it more efficient to work with. I'm also running into an issue where the price of the fruit isn't being read properly, so I'm trying to fix that now.

…It turns out that the issue I mentioned before was just occurring because I didn't input the name of the fruit, watermelon, in the drop-off box system. Oops. Anyways, after I got that working, I realized that I didn't add the code to hide the watermelon in the selling shop until after the player unlocks its production, so I did that. Afterwards, I played with the prices of the fruits for a bit to see which ones work best in terms of not making the game too easy or too hard, and then fixed the astronaut button to stay in the same spot in the camera even if the player moves.

After all this, I added the watermelon to the astronaut feeding scene since I realized I had not done that yet. I also made the button for the astronaut in the main scene turn red-tinted if the astronaut's health drops below 20%.

Hour 23:
This hour, I worked on creating upgrades in the shop that let the player pick up more than one unit of a fruit at a time. This took a while, since I had to create an entire new system, but it didn't

take too long since I mostly used the same framework as I had for the other part of the buying shop.

Hour 24 (Half an Hour):
This half hour, I finished working on creating the shop for upgrades. This mostly included fixing some errors and changing some variables around to make them easier to access and change globally.