

Project Description [2.5 pts]:

The name of my project is Rohini's Creamery. Rohini's Creamery is an ice cream game that is inspired by the game Papa's Freezeria. In the game, the player acts as an ice cream maker and scooper. First, the player takes a customer's ice cream order. Next, the player uses the ice cream flavor, sugar, and milk to make the ice cream batter. Then, the player scoops and places the ice cream into a cone/cup and adds toppings. The player is judged based on whether they used the right ingredients to make the batter, placed the correct number of ice cream scoops into the cone/cup, and added the correct toppings. Each of the three categories rewards the player up to \$2 with all three categories rewarding the player up to \$6.

Similar projects [2.5 pts]: A 1-2 paragraph analysis of similar projects you've seen online, and how your project will be similar or different to those.

One similar project I've seen online is La Barista by Vania Crystal (who happens to be my TP mentor). Both of our projects involve a player taking orders, making the order, and serving the order to a customer. While my player makes and serves ice cream, the player in La Barista makes and serves drinks. Similar to La Barista, my game will also begin with a screen where the customer places the order. Instead of having a screen with customers sitting at tables, my screen will include the current customer placing the order as well as their order. I will also include a help button with instructions on navigating through the game. Next, the player in La Barista poured the ingredients by clicking on buttons. My game will be different because there will be three separate screens for the three components of making the order. In the first screen, the player will make the batter using buttons to select the correct ingredients and amount of each ingredient (ice cream flavor, sugar, and milk). Pressing an ingredient multiple times adds more of the ingredient to the batter. In the second screen, the player will use a button to select a cone/cup and a scooper to drag scoops of ice cream to the cup/cone. In the third screen, the player will use buttons to select the correct toppings. In each of these screens, as the player presses buttons or uses the scooper, the UI will change. Similar to La Barista, the player in my game will also be judged at the end based on whether they followed the customer's order correctly. Finally, La Barista used Open CV to do latte art. For now, I will not incorporate Open CV. However, if I have extra time, I will incorporate Open CV in 1-3 of the screens to make the order.

Another similar project I've seen online is Papas Freezeria. In this game, the player takes ice cream sundae orders from customers in the order section. The game has an order, build, mix, and toppings section. The order section is similar to my order section as it displays the customer as well as their order. In the build section of Papas Freezeria, the user selects the flavors and waits for a blender to reach a specified point. My build section will be different because there is no blender to make the batter. Instead, the user presses buttons to make the batter. My toppings section is similar to Papas Freezeria as both of our games involve a drag and drop feature.

Structural Plan [2.5 pts]:

My project is primarily divided into five screens. The first screen is where the player takes the order from the user. In this screen, I will need a function that randomly outputs an icecream flavor, teaspoons of sugar, cups of milk, number of ice cream scoops, and toppings. After these ingredients are randomly generated, I will need to display this output on the screen. I will create a function that displays this output. These functions will all be in one file. As stated above, the second, third, and fourth screens are where the player actually creates the customer's order. All of the code for these screens will be in one file. These screens primarily use buttons and a drag and drop feature. Since the buttons across all three screens have the same purpose, I will create a helper function using `mousePressEvent` for the button. I will also create a function using `mousePressEvent` that enables the user to drag and drop scoops of icecream to the cone. Finally, the fifth screen is where the player is judged based on their accuracy. I will have a function that compares the customer's order to the player's output. For example, if the customer asked for two spoons of sugar and the player pressed the sugar button twice, the player correctly selected the amount of sugar in the dish. In this case, the player would receive points. The final screen will include the different components of making the icecream as well as the total amount of money that the player made from the round. The functions of this screen will be in one file.

Algorithmic Plan [2.5 pts]:

The trickiest components of my project are the buttons, drag and drop feature, and judging feature. Whenever a button is clicked, an ingredient must be added. Clicking a button multiple times must add more of the ingredient. Similarly, whenever I drag and drop some batter to the cone/cup, one scoop of the batter must be added. Dragging and dropping multiple times must add more scoops to the cone/cup. To create the button and drag/drop, I have to use `mousePressEvent`. This function must also keep track of the number of times I press a button or drag/drop. This way, the judging function can compare the number of times the mouse is pressed to the customer's randomized order. I must also create a reset button that removes any added ingredients or scoops if the user makes a mistake. When this button is clicked, the UI must reset and the respective value in the judging function that stores the number of times the mouse is pressed must be reset.

Timeline Plan [2.5 pts]:

November 19: First page screen that randomly creates customer's order and displays it screen

November 24: Button and drag drop feature on 2-4th screen

November 29: UI for 2-4th screen

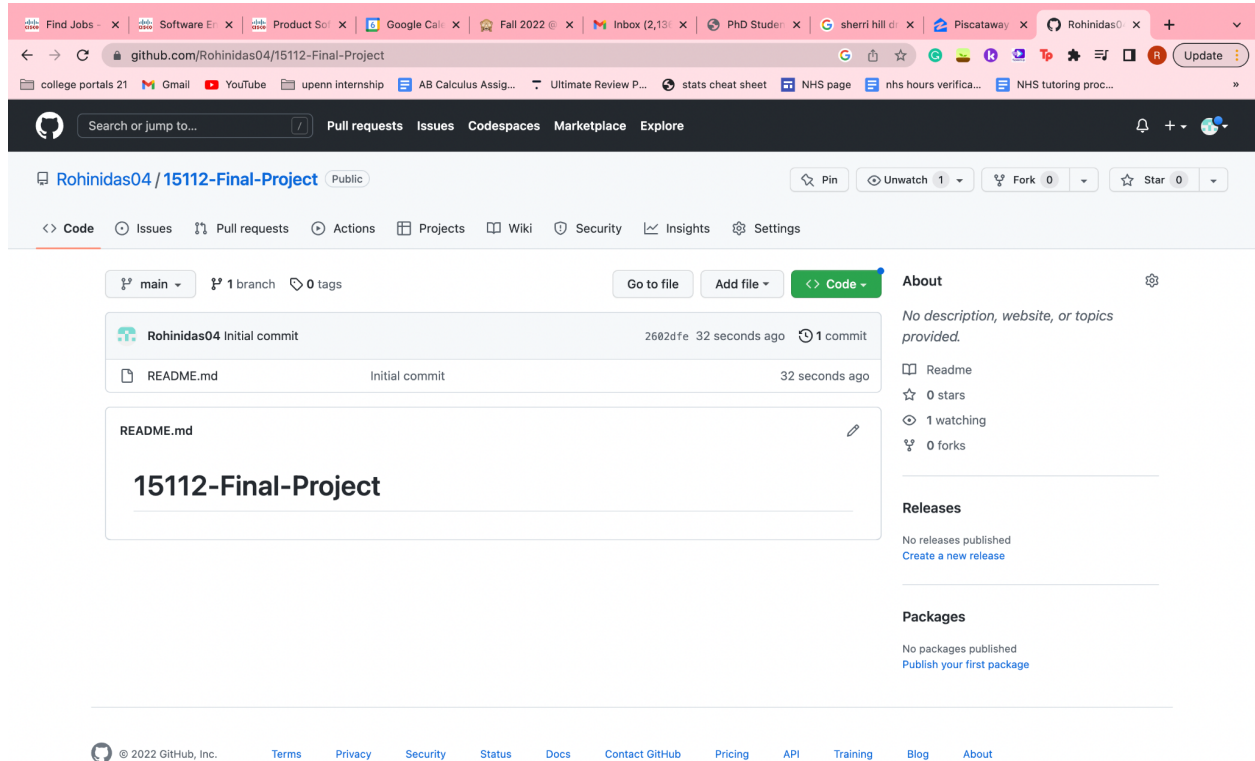
December 5: Judging screen that compares player's final product to the initial order and outputs amount of money that player made

December 7: I will submit my project

Version Control Plan [1.5 pts]:

I will back up my code to github. At the end of each day, I will upload my new code to github. This way, if I ever lose my code, I will have a place that backs up my code so I don't have to waste time retyping lost code.

Here is an image of my github



Module List [1 pts]:

I am not planning to use any additional modules

Storyboard



Welcome to

Rohini's Creamery

Splash screen



Patricia

Here is the order

Help



giver
director



Chocolate flavor

2 spoon of sugar

2 cup of milk

cup

sprinkles



lets make the batter

Choose flavor



Chocolate

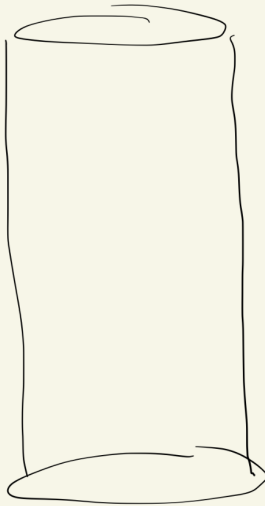


Strawberry



Vanilla

DONE



Press for sugar

SUGAR

Press for milk

MILK

RESET



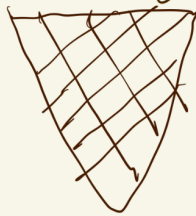
button →

cup

or

cone

drag to cup/cone

floor of
water in
cup

DONE

RESET





TOPPING



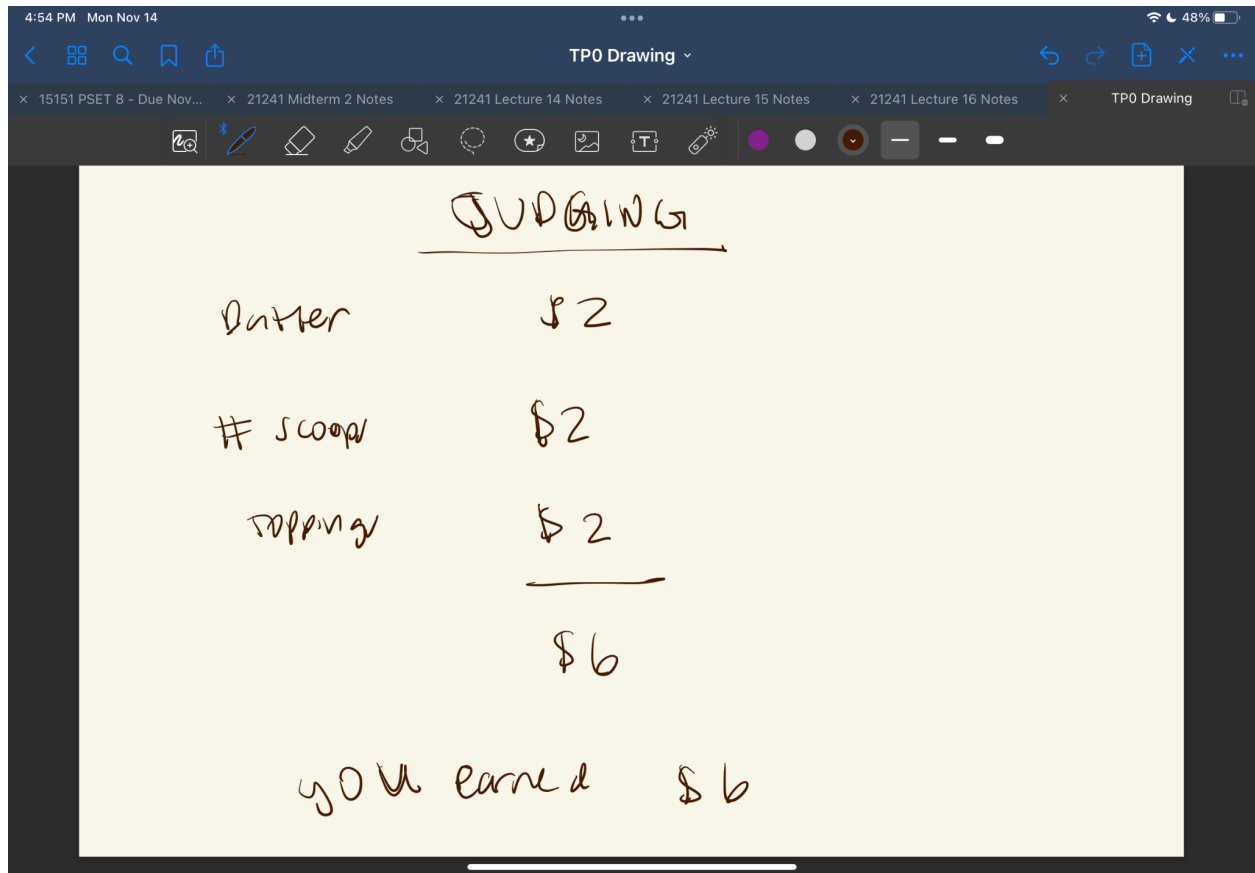
SPRINKLES

WHIP CREAM

CHOC. SAUCE

DOWN E

RESET



TP1 Updates

Since TP0, I have added the initial screen that the user sees when they start the game with the name of the game. The user can press the left key and is then directed to the directions page. There is also a help page that lists the directions on how to play the game. The user can access this by pressing "h". While this feature currently works when the user is still on the initial screen, it has not been implemented to work during the entire game. Next, the user is randomly given a customer's order that lists the flavor, cups of milk, spoons of sugar, and toppings. This information is randomly generated each time for each customer from lists. After, the user can press a button to go to the next screen where they begin making the order. The first part of the batter making process is adding milk. On this screen, the user can press a Milk button to add more milk where each button click adds one cup of milk to the rectangle representing the empty glass. After filling up to the top, the button is set to not add additional milk to prevent overflow. There is a done button after. The next screen is similar with chocolate, vanilla, strawberry buttons. There is a done button. The final screen is to add sugar where random circles representing sugar are added.

TP2 Updates

Since TP1, I have added images for the milk to make it look like the user is pouring milk into a carton. I have also fixed the sugar screen to make it look like actual particles. I have also added a drag-drop feature for the scoops and toppings screens for the user to scoop icecream into cup/cone with three types of topics. There is also a win and lose condition based on if user does all steps correctly and doesn't run out of time. There is also a timer for 3 minutes that goes down correctly. There is also a Icecream class with x,y and flavor values. There is also a scoring system that looks at 6 different components of making the icecream. There is also a kitchen layout in teh beginning. There is a nice UI as well with nice buttons and color scheme

TP3

Drag drop, timers for multiple users, slider, improved UI, OOP