Game Mechanics Design (T331)

FA - Design Documentation template management simulation

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Change Log

Note your Major updates here:

Date	Content Updated	Comments
03/06/2025	Added game abstract and Core Game Loop	
04/07/2025	Updated game abstract and core game loop	Redid concept of game
23/07/2025	Updated MDA Map and added twitch mechanics	
06/08/2025	Made final updates to MDA Map and finished filling out input metric to twitch mechanics. Finished wireframes.	Left with balancing excel sheet and polishing up the word doc.
07/08/2025	Polished word doc. Content and finished excel sheets	

Contents

Game Abstract

Introduction

You have always adored cats. And you love drinking bubble tea. After you had graduated with a business degree, you decided, why not combine the two?

Now, you have successfully opened the first bubble tea cat café in Singapore. It is up to you to grow this wonderful café into a thriving business in 5 years.

Concept: Run a bubble tea cat café and make it thrive

Narration: The first staff member will explain everything and inform the player of events

Beginning: Player starts at the brand-new café, which is now opened, waiting for the first customer to arrive

Environment/play area: The middle right

Goals: Make your bubble tea cat café successful and popular

Challenges: Be careful not to go bankrupt when spending money and ensure that you can pay all fees by the end of the day.

Rewards: Money and popularity are earned for each customer that buys from your stores

Ending: After 5 years in game time, the game will end but players can continue to play and increase their money and popularity or create a new file to restart the game.

Failure: Restart the game if you go bankrupt

Genre: stimulation, tycoon

Target Audience: Players that enjoy cozy games

Platform: PC

Core Game Loop

Core Game Loop (2).pdf

Resources

Drinks→ Different types of drink combinations made from the player

Staff→ Players can hire and train staff

Ratings → Increase credibility and popularity of the bubble tea cat café which increases the number of customers visiting the café

Energy → The energy of the staff affects how well food is made and how well they can make sales

Strength → Decreases rate of energy depleted

Speed → The speed in which orders are prepared and taken

Sales → The chances of making a customer try out other things in the menu to increase sales

Skills → How well the drinks can be made

Training points → Points collected over time which can be used to increase skills, sales, speed or strength of staff members

<u>**Sinks**</u>

Money → can be spent on furniture, Equipment, ingredients or maintenance for the cats

Training Points → Spent on increasing the stats of staff members for more earnings.

Core Mechanics

Mechanic	Type of Mechanic	Explanation and Elaboration
Resource Management	Core Mechanics	Players must ensure all ingredients are stocked and modify the menu to ensure better sales.
Time Management	Core Mechanics	The store remains open from 11am to 8p.m. each day (in game hours, every 3 hours in game is equivalent to 1 min)
Recipe book system	Enhancement Mechanics	Players can create new recipes for drinks through combining the ingredients they have. Players can name successful

|		combinations but if the ingredients do not match, the player can try again. Creating a new drink however costs money.
VIP Customers	Enhancement Mechanics	Influencers, food critics, etc. increase the rating of the store which increases the number of customers
Negative events	Opposition Mechanics	Fussy customer, workplace accidents which take some drinks off the menu. Players can train staff to handle customers which will allow players to minimise damage (Less money lost, lower chance of bad ratings)
Bad ratings	Opposition Mechanics	Decrease the number of customers and the amount of money earned
Training events	Alternate Mechanics	Training events will increase the speed, strength, skills and sales which will increase the earnings of the cafe
Positive events	Alternate Mechanics	Written in a newspaper article

MDA Map-out

Untitled (22).pdf
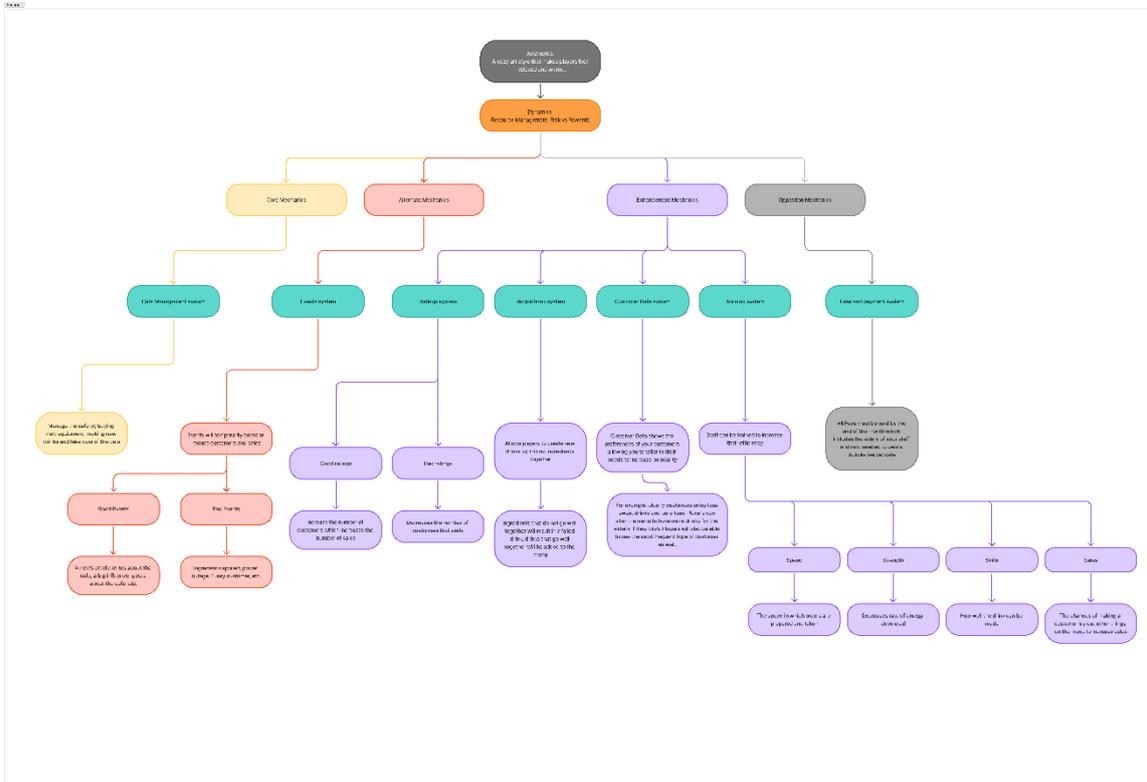
Input Metrics

Input:

Button	Action	Comment
Left click	Click buttons on screen	Players can click the buttons on screen for making drinks, choosing/training staff, etc.
Hold down middle scroll wheel	Move furniture around	This only happens once the store closes and the player clicks the change store layout option
Middle scroll wheel	Rotate furniture	This only happens once the store closes and the player clicks the change store layout option
esc	Leave tab	It the player is looking at staff, shop, drinks or data, pressing esc will let them go back to their

		game scene. If they press esc at the game scene, the game will pause and an option to resume, quit or change the settings will be given.
1	Go to Staff tab	Acts as a shortcut
2	Go to Menu tab	Acts as a shortcut
3	Go to Data tab	Acts as a shortcut
4	Go to Shop tab	Acts as a shortcut
5	Go to Order area	Acts as a shortcut
6	Go to Storage/Stock area	Acts as a shortcut
7	Go to Dining area	Acts as a shortcut
8	Go to Cat playroom	Acts as a shortcut

Control Scheme Diagram
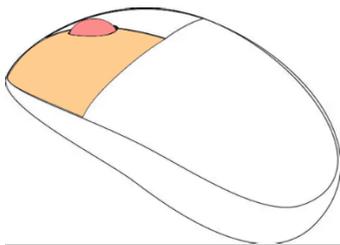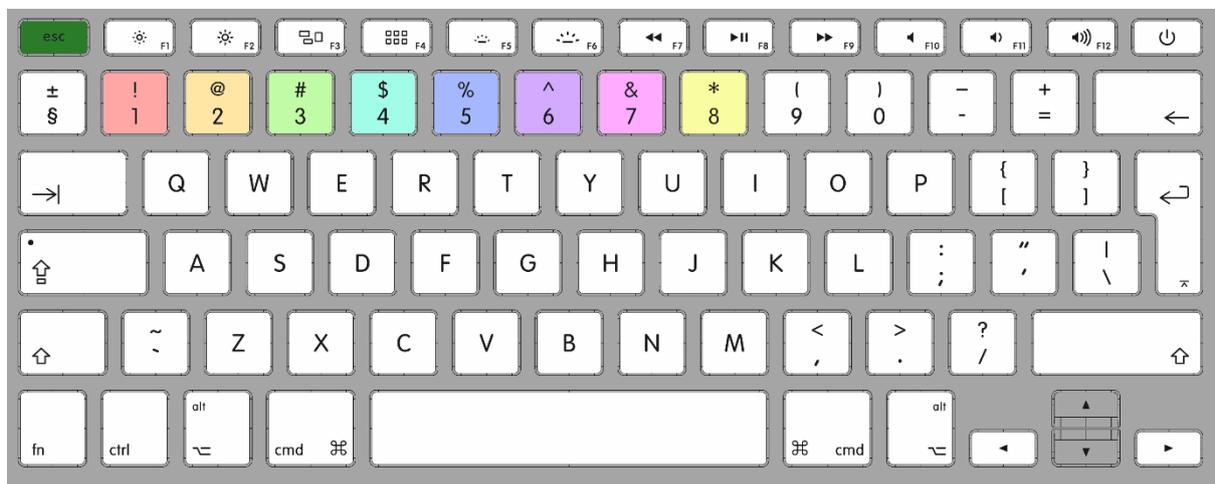
Response Metrics:

Type of Motion: No movement

Dimensions of Motion: In Y and X Axis

Relative Motion

Input does not modify a position, rate or magnitude

Context Metrics

High level

Impression of space: The space given is spacious and up to the player on how they would like to design it

Impression of speed and motion: Many customers may enter during peak hours, and the staff must handle them well

Impression of size: The size of the characters is smaller compared to the rest of the environment.

Medium Level

Number of objects: Varies depending on how the player designs the layout as well as the number of drinks and equipment the player buys

Size of objects: Large equipment will be medium sized whereas other objects that act as décor will be smaller in size

Nature of objects: The objects can be changed by the player based on their preferences

Layout of objects: Depends on the player

Distance between objects: Depends on player

Low Level

Interaction between objects: Staff and customers can interact with each other

Collison between objects: Walls and furniture have collision between staff and customers

Metaphor

Representation: The game will have an iconic representation by being in a cozy art style to fit the mood and atmosphere of the game. The game will have a pixel art style.

Treatment: The visuals and VFX will have a golden orange layer with bright colours. The SFX will create a calm and soothing atmosphere.

Game view: The game will have a top-down view

Rules

High level Rules

1. Players must prevent going bankrupt by managing their money
2. Players must try to meet the earnings quota to get a "Great Day!" score at the end of the day
3. Players can use their customer data to alter their drinks and menu to maximize their earnings

Medium level Rules

1. Staff sells drinks to customers → Earn money
2. Players must alter the menu closed hours in the game

Low Level rules

1. Get a "Great Day!" score → Receive 10 training points
2. Get a "Good Day!" score → Receive 5 training points
3. Get a "Mediocre day" score → Receive 2 training points
4. Get a "Bad day" score → Receive 0 training points
5. Create "Perfect drink" → +0.3 rating
6. Create "Good drink" → +0.1 rating

Twitch Mechanics/ features

You may update your previous mechanics documentation on which twitch mechanics that you are using.

- Pure Speed
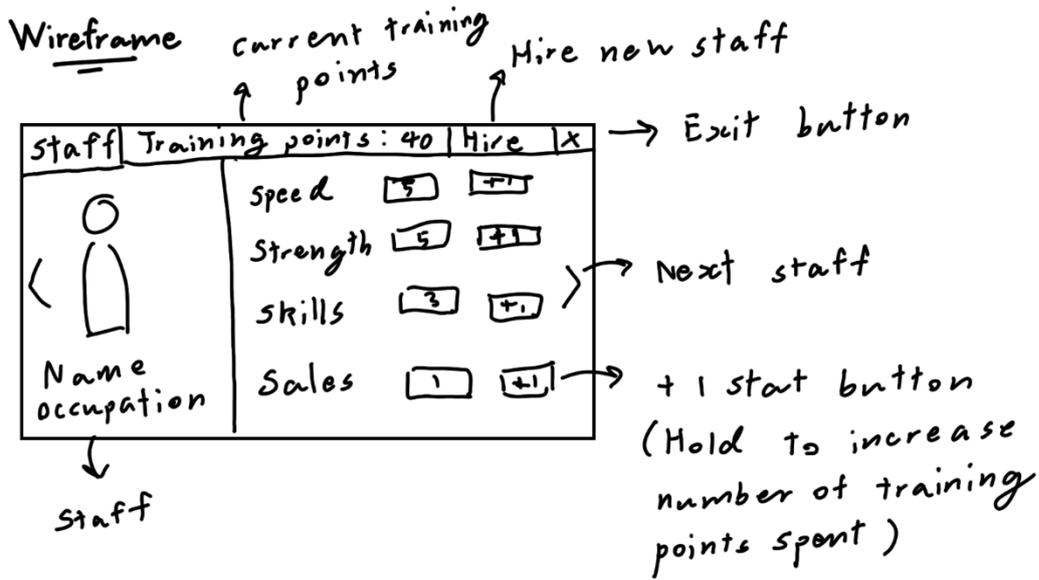- Timing
- Precision
- Avoidance
- Time pressure

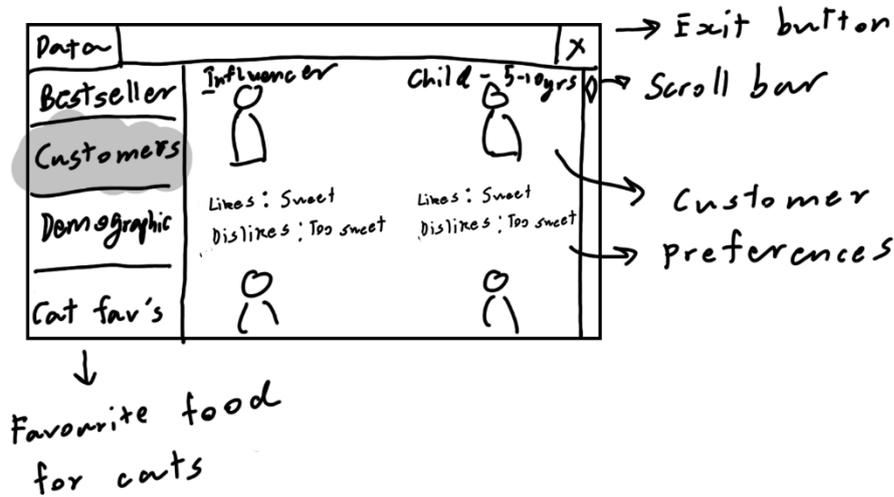| Aspect(s) of Twitch	Player Input	Response to Player Input	Context / Level Design Description
Time pressure	Changing the menu and making new drinks	Increase earnings and customers	As the store only remains closed for a certain period, players must make changes within that time to maximise profits
Timing	Players start a sale during a specific month once they have saved up for everything	Increase earnings	Players must time when they want to do a sale based on the month to maximise profits

User Interface
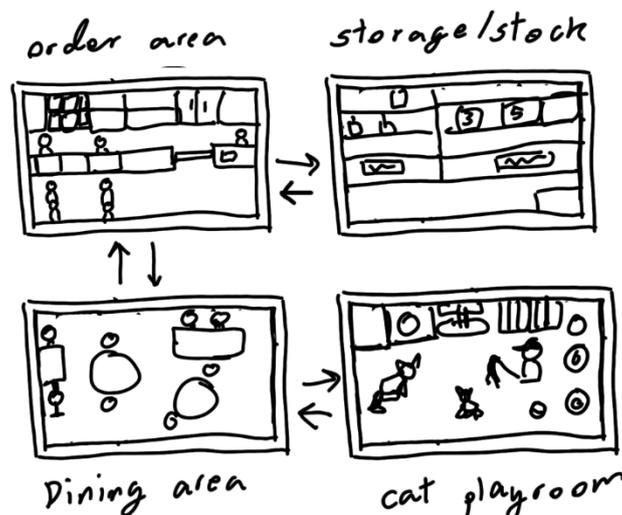
Players can switch between the four areas to look at customers and click on them to see their mood, as well as oversee the staff and storage. Some characters will have some issues which the players can tap on to fix.

Wireframe

current training points

Hire new staff

Exit button

| Staff | Training points: 40 | Hire | X |

Speed [5] [+1]
Strength [5] [+1]
Skills [3] [+1]

Name occupation

Sales [1] [+1]

Next staff

+1 stat button
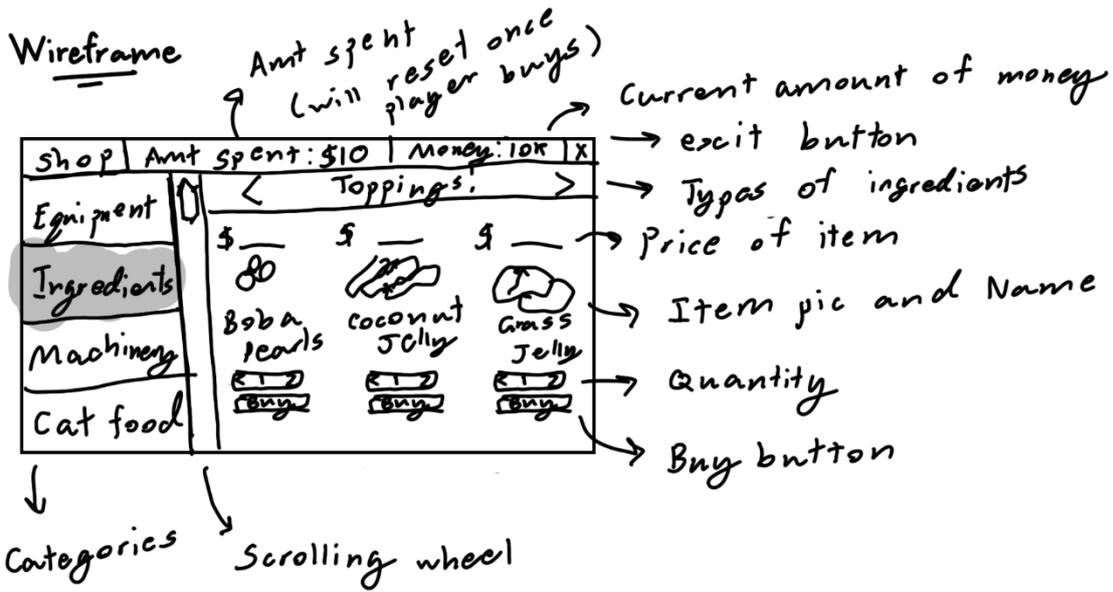(Hold to increase number of training points spent)

Staff

When training the staff, players can use training points that accumulate overtime to increase the stats of staff to make them perform better.
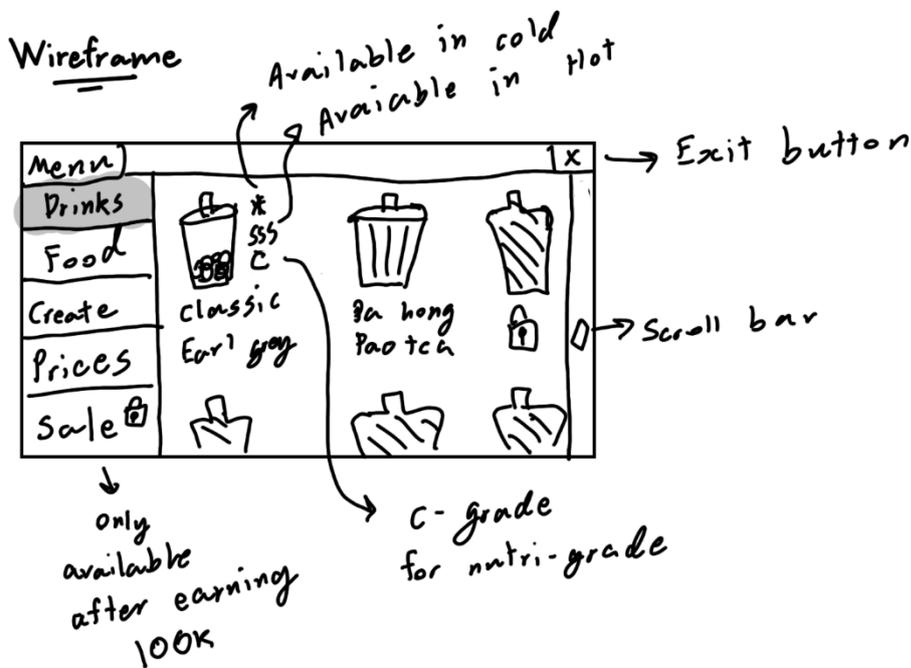
Wireframe

Exit button

Scroll bar

Data

Bestseller

Customers

Demographic

Cat fav's

Influencer

Likes: Sweet
Dislikes: Too sweet

Child - 5-10yrs

Likes: Sweet
Dislikes: Too sweet

Customer preferences

Favourite food for cats

For the data tab, players can see who their target demographic is, what their best selling drink, topping and food is, the types of customers that frequent the café and what foods the cats love. Players can also see the store rating in the data tab by scrolling down using the scroll bar.

Wireframe

Amt spent once (will reset once player buys)

Shop | Amt spent: $10 | Money: 10K | X
- Equipment
- Ingredients
- Machinery
- Cat food

Toppings:
$ __ $ __ $ __
Boba pearls   Coconut Jelly   Grass Jelly
Buy   Buy   Buy

→ Current amount of money
→ exit button
→ Types of ingredients
→ Price of item
→ Item pic and Name
→ Quantity
→ Buy button

↓ Categories

↘ Scrolling wheel

At the shop, players can buy more ingredients, equipment, machinery and cat food. Players state the quantity of ingredients they want and the price will be shown at the top, once the player presses buy, the amount resets.

Wireframe

Available in cold
Avaiable in Hot

Menu
- Drinks
- Food
- Create
- Prices
- Sale

classic Earl grey   Da hong Pao tea

→ Exit button
→ Scroll bar

↓ only available after earning 100K

→ C-grade for nutri-grade

Players can alter the menu here by clicking clicking the add to menu or remove from menu. The sale will unlock after the player earns 500k where they would then be able to create sales.
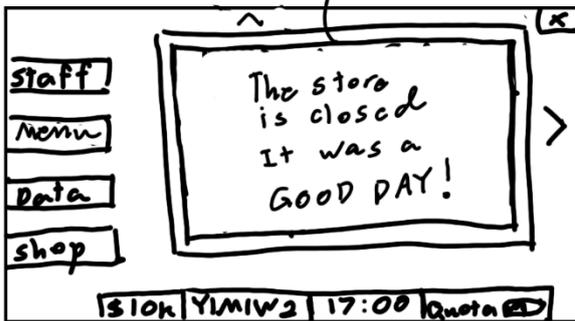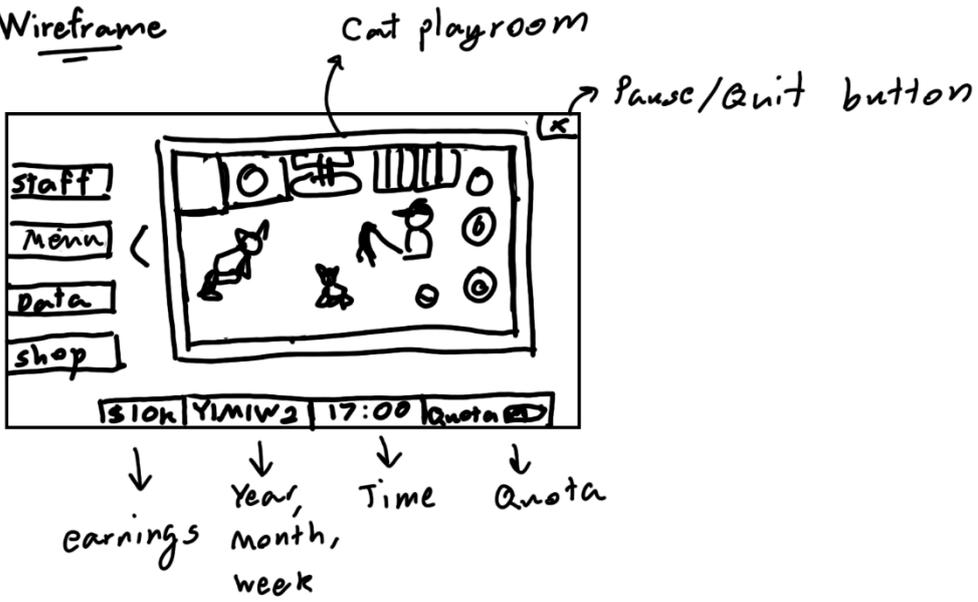
Wireframe

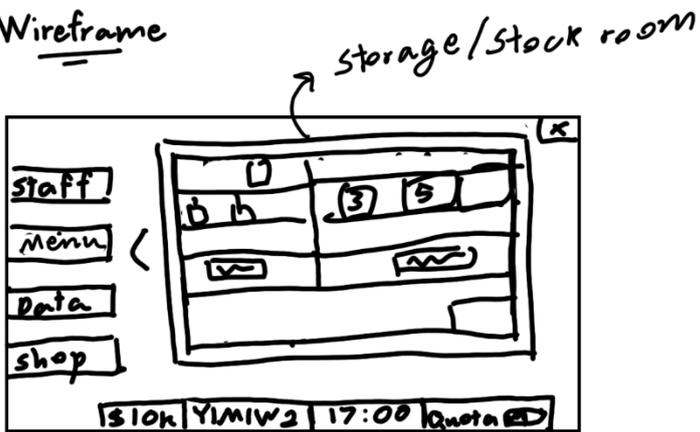or cat with boba tea pattern
in the backgrounnd

Name

Start

Quit

cat drinking boba

— Starting menn —

Wireframe

Display at the end of the day

Staff
Menu
Data
shop

The store is closed
It was a
GOOD DAY!

>

$10h | Y1M1W2 | 17:00 | Quota

Wireframe

Cat playroom

→ Pause/Quit button

| Staff |
| Menu |
| Data |
| Shop |

$10h | Y1M1W2 | 17:00 | Quota

↓ earnings   ↓ Year, Month, week   ↓ Time   ↓ Quota

Wireframe

Storage/Stock room

| Staff |
| Menu |
| Data |
| Shop |

$10h | Y1M1W2 | 17:00 | Quota
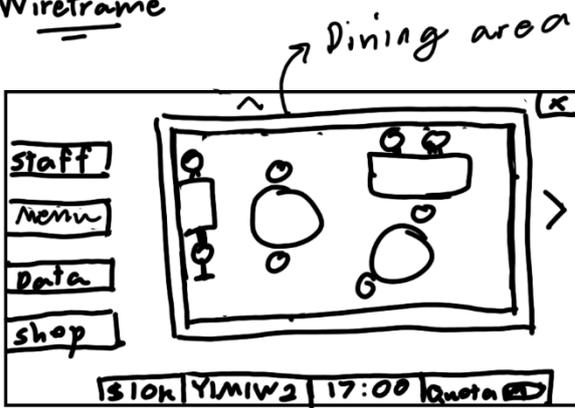
The storage room is where the players can see the current stocks they have right now.

Wireframe

Dining area

Staff
Menu
Data
shop

$10h | Y1M1W2 | 17:00 | Quota ⟶

Wireframe

order area

Staff
Menu
Data
shop

$10h | Y1M1W2 | 17:00 | Quota ⟶

Wireframe

Paused
Resume!
Quit!
Settings
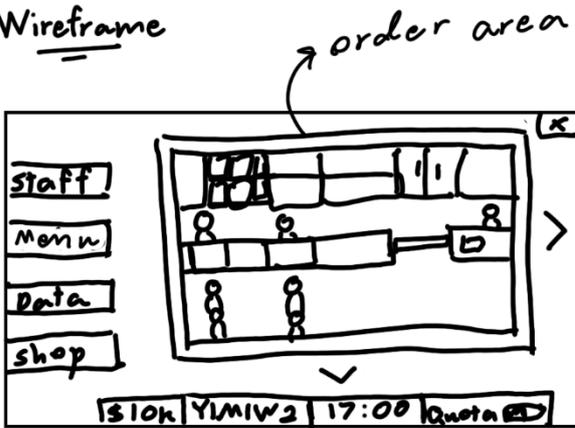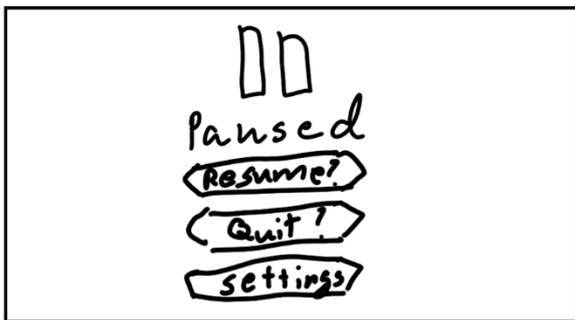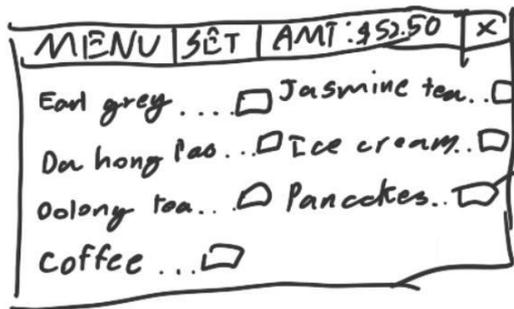
Click on the item to change it to something else.

Polish and Feedback assets

Identify the type of feedback that you want to implement into your game to enhance your game.

Animation

Action	Effect	Comments
walk	Change Sprite from idle to walk	For all other character on screen
Idle	Change Sprite from walk to idle	For all other character on screen

Visual Effects

Trigger Event	Effect	Comments
Order created perfectly	Multiple star VFX on customer	Occurs randomly although the chances of it occurring increases based on staff's training
Customer/Cat/ Staff is happy/unhappy	Smily/frowny face above character (2s)	Smily face shows up for a small amount of time to show the mood of the character
Red exclamation mark	The exclamation mark shows above the character	This states that the character has an issue, and this exclamation mark will only disappear after the player has solved them
A minus sign with the amount decreased from the earnings	Fees are paid	Shows all reductions from our earnings

Cinematic effects

Trigger Event	Effect	Comments
Game Over	Screen fades out and it shows the player they went bankrupt	Makes losing the game more dramatic
Player receives a great day	Confetti shoots from the side of the screens	Emphasises how getting a great day is an achievement.

Sound Design assets

Audio Asset	Audio Type	IEZA Category	Purpose	Justification
Café sounds	SFX	Diegetic: Effect Environmental	Enhance realism	Sounds of drinks being made and machines being used.
Order received sounds	SFX	Diegetic: Effect Environmental	Immersion	Satisfying sound of a customer receiving their drink

|				
Environmental Ambience	SFX	Diegetic: Zone: Environmental	Immersion and real	Cozy atmosphere where players with sounds of drinks being poured, people talking and cats meowing
Character talking sounds	VO	Diegetic: Effect Character	Immersion	Characters will have a talking sound effect whenever the dialogue box plays
Cat sounds	SFX	Diegetic: Effect Environmental	Immersion	Whenever the player taps on a cat, the cat will meow

Challenges & Difficulty curve

What are the challenges, and does it make full use of your mechanics?

e.g.

Challenges	Difficulty Rating
Tutorial level – An introduction to the game	1
Create your first drink using ingredients	1
Train staff	1
Ensure 1 successful day	2
Level 2	
Challenges	Difficulty Rating
Alter menu for the first time to customer preference	2
Set new prices of items on the menu	2
Hire new staff	3
Level 3	
Challenges	Difficulty Rating
Create new drink based on customer preference	3
Get 10 "good" or "great" days in a row	4
Get on the straits time newspaper	4
Level 4	
Challenges	Difficulty Rating
Increase staff stats to high levels	4
Begin hosting sales to increase earnings	5
Climax	
Challenges	Difficulty Rating
Make your business successful and popular by year 5	5

Expected Difficulty Curve
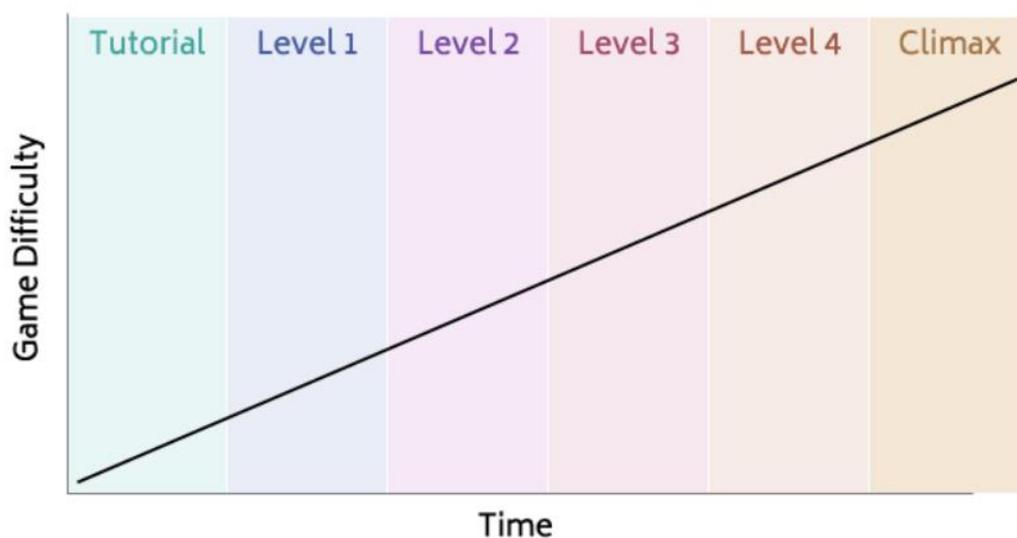
Balancing Excel Sheet

Please submit your Excel sheet as a separate document.

In the sheet, you should clearly map out the following for every resource in your game:

- Resource List – Identify all resources used in the game.
- Acquisition – Specify how each resource is awarded or generated per gameplay loop.
- Usage – Describe how each resource is spent or used.
- Systems & Actions – Link each resource to the game systems or player actions that involve them.

This document will help demonstrate how your game economy is balanced and how resources flow within your game design. Ensure your resource acquisition and usage links back to player progression and difficulty.