



モモタロー

momotaro

Version 1.1

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1. Introduction

This document specifies the details of Momotaro, a 2D isometric pixel art multiplayer management game for browsers, with simple mechanics, such as an internal economy and management of a restaurant.

Momotaro has the main objective to manage a restaurant. The objective of the game is to both design the restaurant (place objects in a grid) and level it up in order to unlock new recipes/furniture and increase your income.

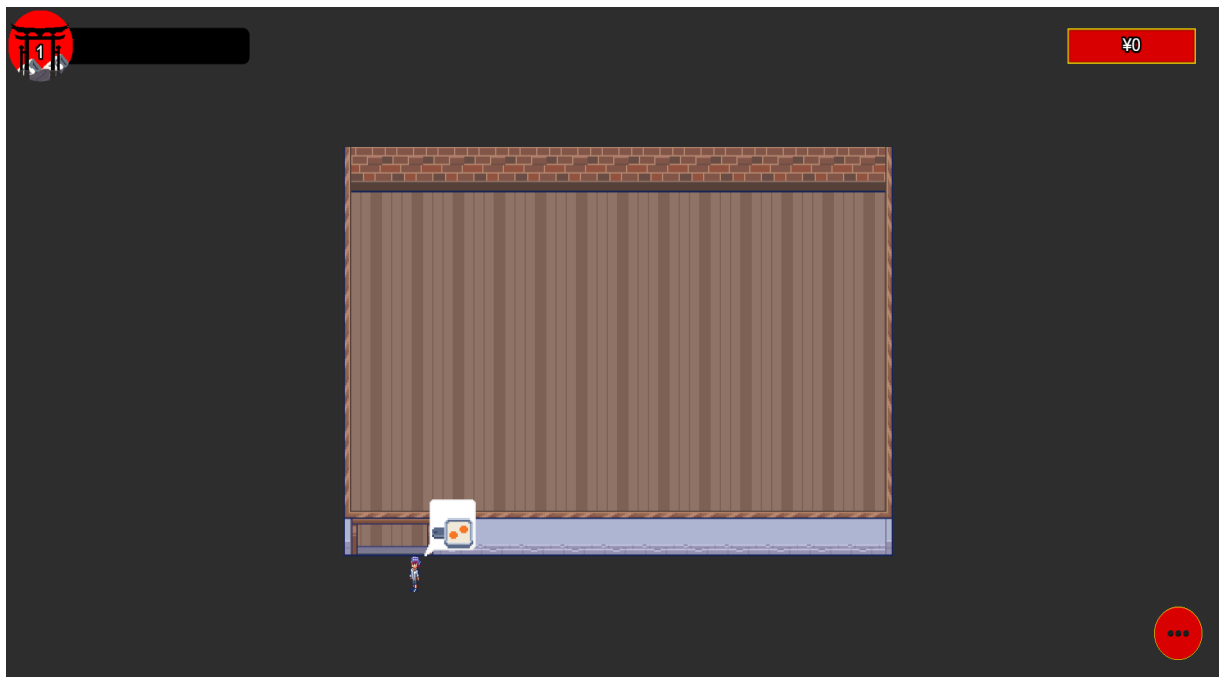
Momotaro is inspired in games such as “Restaurant City”, “Café world” and “dinner dash”. The idea of the game came from Diner Dash, but with time, it was changed for a more nostalgic idea to create an engagement with players with “Restaurant City” and “Café World”.

The game has a Japanese theme which results in both oriental like furniture and food.



2. Gameplay

After logging in, the player will be sent onto the main screen of the game with a basic restaurant without any type of furniture (as displayed in the picture below). The player is exposed to different mechanics such as refurbishing, in which the player can customize its restaurant, cooking, and restocking (a market in which the player can buy its ingredients). As the player progresses he will level up gaining access to new plates and furniture.



2.1 Multiplayer

The players will have a direct connection to the internet to store their own data. With this feature, the players will be capable of undirectly interacting with other users within the videogame.

As the game is settled online there is also a multiplayer feature. The user can access a friend list within the map which allows him to check basic information about its friends' restaurants (exp, level, and restaurant name) and visit the restaurant to see its design.

2.1.1 Accounts

The player has to login in order to get into the game. In case he does not own an account yet he will be welcomed with a sign-up window in which he can fill his information in (Username and Password) and get an account.



2.1.2 Interaction

The players can add friends to a list from which they can get a display with the basic information for each other's restaurants. On that same frame, there is an option that allows you to visit the added user restaurant and see how is it designed.

2.2 Level system

Every X amount of exp the user levels up unlocking new recipes which he uses in order to increase his restaurant profit. The level is calculated by the following formula:

$$10 + (10 * @restaurantLevel) + (10 * (@restaurantLevel - 1))$$

2.2.3 EXP

The experience in Momotaro is gain when an NPC consumes a dish. Each dish has a corresponsive exp attributed to it which will determine the amount of exp that the player will obtain.

Dish name	Unlock level	Money reward	Exp reward
Bread omelet	1	450	2
Tuna Sushi	2	650	4
Shrimp Sushi	3	800	6
Chocolate Cake	4	497	8
Cherry Pie	5	490	10
Noodles	6	698	10

2.3 NPC's

The income is based on the NPCs. Every certain amount of seconds (dependent on Reputation Points) an NPC will spawn in the door with an associated dish displayed in a chat balloon and wait until the player places him in a chair. The player has to click on the NPC and then click on a tile with a chair that is still not occupied by an NPC in order to sit him.

Once the NPC is sitting he will either disappear after 35 seconds or consume the dish he wants (in case you have it in your inventory). Once he consumes your dish it will despawn and reward you with both money and exp. The money and exp amounts are dependent on the specific dish.

The NPC displays a bar showing the amount of time until his despawn. This bar only appears on the NPCs last 10 seconds and has the same width as the NPCs body. When you do not own the NPCs wanted dish it will be displayed with a red filter.



2.4 Refurbishing

The players have access to a refurbishing mode. In this, they can place purchased items based on a 64 x 64 grid within a space of 13 by 7 tiles. Each item has a different reputation value attributed to it. The sum of these value points will determine the rate of NPCs per minute.

The UI of this scene is composed of a frame with a size of 800 x 125 pixels centered at the bottom of the screen (with a gap of 50 pixels from the border of the window). In this frame, you can find your furniture displayed in squares of 100 x 100. You can drag and drop the decoration from the frame onto the grid in order to place it.

There are also 2 circular buttons at the right side of the mainframe at the bottom of the screen with a size of 75 x 75 pixels with a gap of 30 pixels from the rectangle and one another. The one at the left will accept the changes and update the database with the information about the new furniture in case there is any. The button at the right will decline the changes and go back to what the decoration was before opening the refurbishing mode.

At the top right corner, you can find a rectangle with a size of 200 x 50 pixels displaying the current amount of reputation points in your restaurant.



2.5 Cooking

The players have access to a cooking window on which they can prepare the dishes for the NPCs, this window with a size of 1000 x 600 pixels is divided into 2 different sections: Cooking and Recipes.

2.5.1 Cooking Tab

In this tab, the user has 3 different elements on the window, 4 slots, a hint message at the middle, and an inventory rectangle at the bottom.

The 4 slots fill the purpose of giving the user the ability to cook his own dishes, the ingredients can be dragged into the 3 squares at the left side and see the result on the last one, each slot has a size of 150 x 150 pixels.

In the middle of the window, a hint message can be found on a rectangle with the size of 800 x 75 pixels explaining to the player how can he approach the cooking mechanic.

At the bottom of the window, there is a rectangle with a size of 750 x 125 displaying the user ingredients in squares with the size of 100 x 100 pixels and their respective amount.



2.5.2 Recipes Tab

In this tab, the user can find his unlocked recipes. Each recipe displays the ingredients required for it to be cooked and its respective result.

Each recipe occupies the space of 800 x 200 pixels and is composed of two separated parts, the top one where the name of the dish is displayed at the left side and the

bigger part at the bottom on which the ingredients required for the dish are displayed separated by either a “+” or “=” sign in 100 x 100 squares and the corresponding dish image also in a 100 x 100 pixel square.



2.6 Interface

There are 5 different screens in the game:

1. The restaurant of the player in his account.
2. The map, that the player can travel to the market and to friends.
3. Map Menu
4. The market menu.
5. The friend's menu.
6. The friend's restaurant.

2.6.1 Main interface

The main interface (displayed while in the restaurant) is composed of 8 buttons at the bottom right corner, exp bar at the top left corner, and a yen displayer at the top right corner.



- **Yen bar**

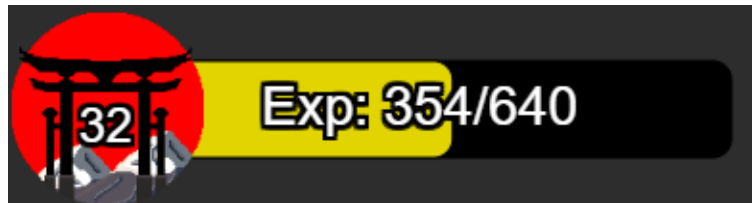
The yen bar has a gap of 40 pixels between itself and the right side on the x-axis and 30 pixels from the top side in the y-axis. It has a size of 200 x 50 pixels. It has a centered text (within the rectangle) which has a yen symbol “¥” at the start followed by the amount of money that the user owns.



- **Exp bar**

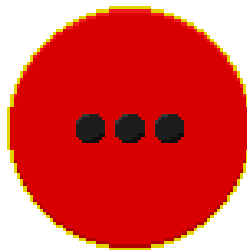
The exp bar has a gap of 40 pixels between itself and the left side on the x-axis and 30 pixels from the top side in the y-axis. It has a circular image on the top of its left side with a text label hover it which displays the restaurant's level. The exp bar has a dark yellow

filling color and a black one for its background. The bar will fill itself depending on the percentage required in order to progress to the next level.



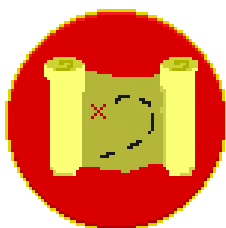
- **Buttons:**

There is the main button (with an image of 3 dots) 30 pixels away for the right side and 20 pixels from the bottom side of the canvas. When this button is pressed it will open 6 more options, 3 at the top of the main button (with a space of 15 pixels) between each other and another 4 at its left (also with a space of 15 pixels). All these buttons have a size of 50 by 50 pixels.



2.6.1.1 Left buttons

The 4 buttons on the mains button left are the cooking, building mode, the map, and the inventory.



- **Storage:**

When the storage button has been pressed a window with a size of 1000 x 600 pops up.

On top of this window, there are 3 options, ingredients, dishes, and decoration. Each button changes the window to the respective tab. The items show up on 100 by 100 pixels squares with the picture of its respective item on top and are organized in pages. Arrows will pop up on both right and left of the window with the size of 50 by 100 pixels in case there are too many pages to be displayed on the current page.

Hovering an item with your mouse will display its corresponding name.



- **Cooking:**

When the cooking button has pressed a window with a size of 1000 x 590 will show up. In this window, there are 4 other rectangles with a size of 100x100, 3 on the left side, and 1 on the right side.

The player must grab and drop the ingredients in the left rectangles to give him a result that will be the final food that can be prepared with those ingredients. If you haven't unlocked the recipe yet the rectangle will be covered with a transparent dark rectangle with a text label displaying what's missing to be unlocked or an alert will appear and say "Your level is too low!"

There is another option, show as "Recipes". In this option, all the recipes that the player can make (based on his level) are shown in the list with the 3 or fewer ingredients and show the result.



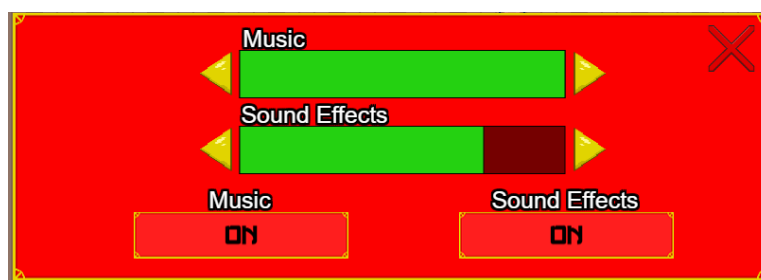
2.6.1.2 Top buttons

The 3 buttons on the mains button top are the options, log out, and leaderboards buttons.



- **Configuration button:**

This button will open a configuration window with 800 x 283 pixels of size on which you can choose the level of your music and sound effects from 0 to 100 percent by pressing or dragging the bar to wherever you want. There are arrows to select the volume if the player wants, and options to turn off and on the music and Sound Effects. There is also an “X” button at the top right corner with the size of 50 x 50 which closes the window when pressed.

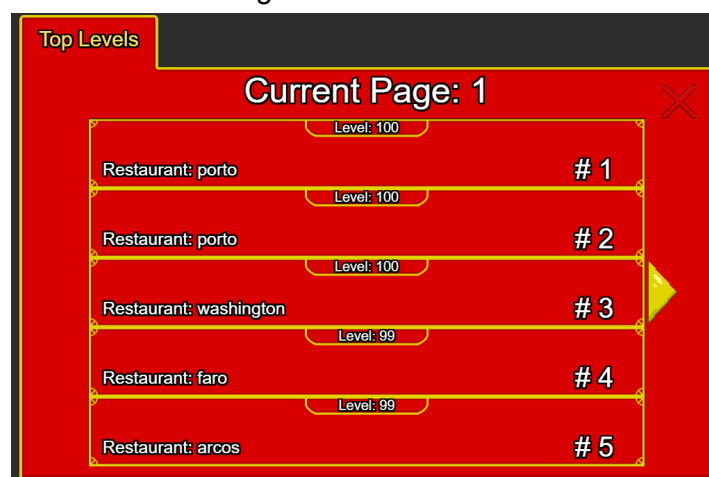


- **Log out:**

It changes your screen back onto the log in one.

- **Leaderboard:**

The ranking button opens a leaderboard window (500 x 600) on which you can see the top players from all around the world. The window is divided into 500 x 100 rectangles and goes up to 50 players. Each rectangle has at his top center the user level, the restaurant name on the left, and its rank on the right.



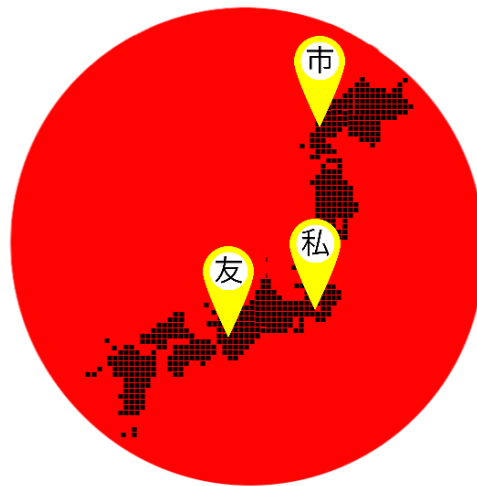
2.6.2 The map(図)

The map offers 3 different options for the player, the restaurant, the friend's window, and the market window.

The friend's menu is situated in the city of Osaka and has the symbol 友 (Friend). When pressed it opens the friend window on which the user has his friend list, sent friend requests, and received friend requests.

The Market Menu will be situated in the city of Sapporo and has the symbol 市 (Market). When pressed it opens the market window on which the user can purchase his ingredients and decoration.

The restaurant button is situated in Tokyo and it simply sends the player back to its restaurant.



2.6.3 Market menu(市)

The market menu(市) has a window with a size of 1000 x 600 pixels and is divided into 2 different sections, the decoration, and the ingredients. Both sections have the same exact schema having the only difference in the products that are sold, one sells furniture while the other sells ingredients used for the cooking.



2.6.3.1 Market schema

The market frame is divided into 2 sections, one on the left on which all products are displayed divided into pages of 6 products each and on the right where you can check all the details about the product you just selected, the amount you wish to purchase, its visual and the purchase button. It also has an X button at the top right corner with 50 x 50 pixels of size. This square closes the whole frame when pressed.

- **Product List:**

The product list is displayed in frames of 400 x 100 pixels. In each of these frames, you can find the information of the item name followed by its price on the left of the frame and a preview of its look on the right. When the mouse is hovering the item it will be displayed on the other section and the item frame will turn yellow in order to give feedback to the user. The product list is also followed by a page counter and 2 arrows that are only displayed when possible to navigate between pages in order for the user to be capable of looking around all the existing items. The display image has a size of 100 x 100 pixels.



- **Display frame:**

This frame has a size of 425 x 500 pixels and displays the last selected item. It starts by showing a square made out of the wood floor with the item in the middle with a size of 192 x 192 pixels at the top left corner of the frame. On the right of the item display, you can find 2 texts, a bigger one displaying the name of the item and a smaller one displaying the reputation points worth of that item right under it.

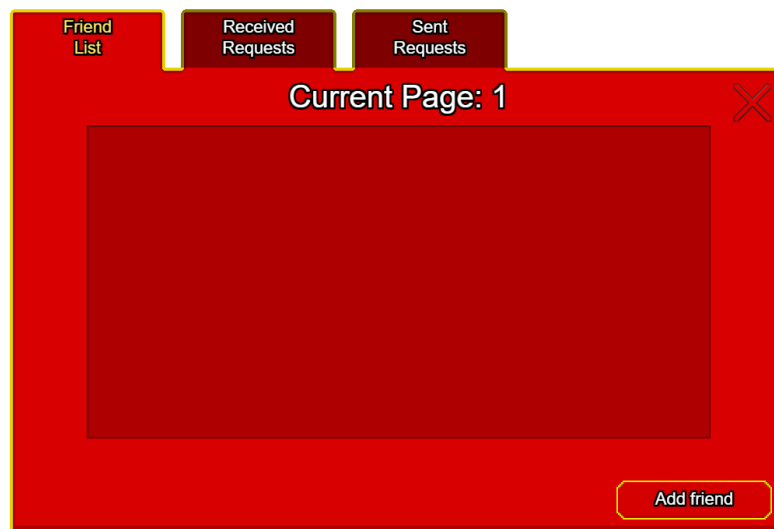
Under this, you can find two buttons with a size of 212.5 x 75 pixels, a minus, and a sum one in order for the user to choose the number of items he wishes to purchase. Right under those buttons, there's a small section with a size of 425 x 75 pixels displaying the number of items that will be purchased. Right under that, you can find another similar frame displaying the total price of the purchase.

And at the bottom of the frame, a purchase button with a size of 425 x 100 pixels can be found in order to finalize the purchase.



2.6.4 Friends menu(友)

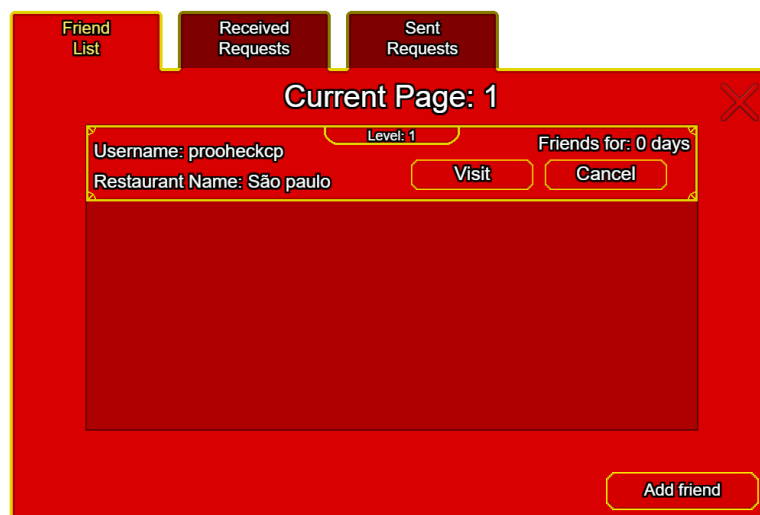
The friend's menu(友) is divided into 3 different windows: Friend List, Received Requests, and Sent Requests. The windows can be accessed by the 3 tabs above the frame with a size of 200 x 75 pixels and a space of 50 pixels between one another. When on the respective window the tab will be normally displayed in which the others are shadowed out (150 of tint). The menu window itself has a size of 1000 x 600 pixels.



2.6.4.1 Friend List

The "friend list" window displays a black transparent rectangle with a size of 800 x 400 pixels. Inside this rectangle, it is displayed by all the friends that the user has divided by pages.

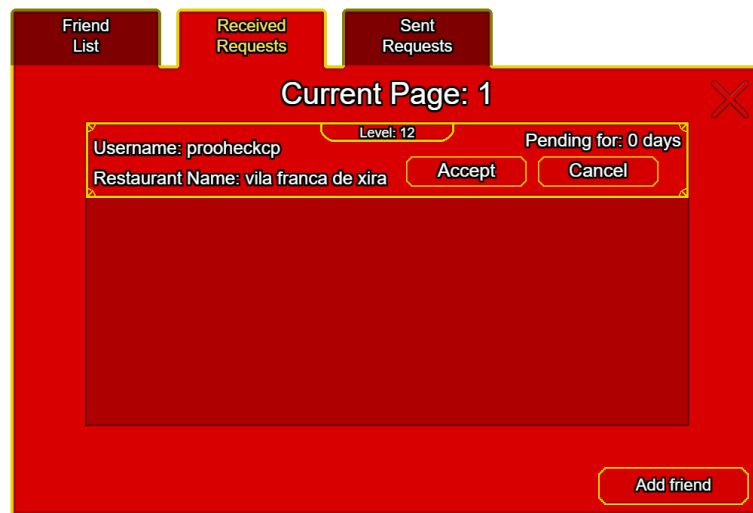
Each tab has a size of 800 x 100 and displays 4 texts: the username, the restaurant name, the level, and for how long has the friendship been up. There are also 2 buttons, a visit one which teleports the player into his friend restaurant and a canceled one which will end the friendship.



2.6.4.2 Received Requests

The “received requests” window is composed of a black transparent rectangle with a size of 800 x 400 pixels. Inside this rectangle, it is displayed all the friend requests that the user has received from other users divided into pages.

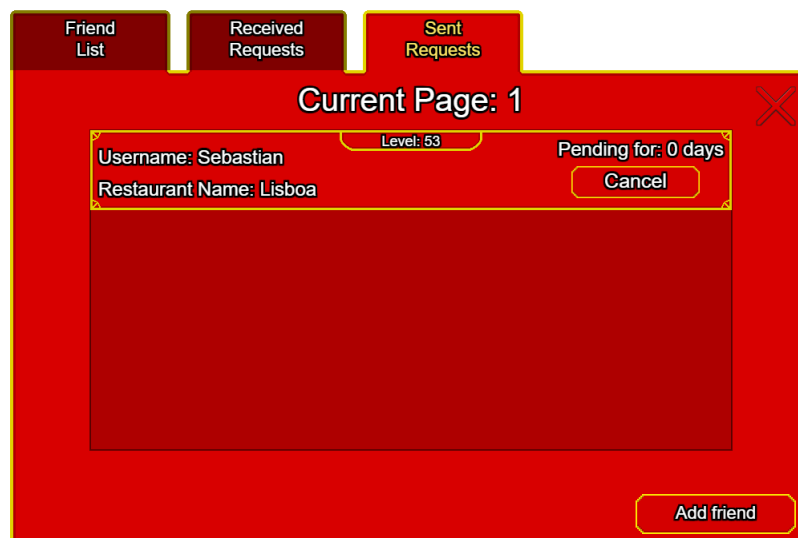
Each tab has a size of 800 x 100 pixels and displays, once again, 4 different texts: the username, the restaurant name, the level, and for how long has the invite been pending. There are also 2 buttons, an accept one in order for the user to accept the friend request and a cancel one in case the user wants to cancel it.



2.6.4.3 Sent Requests

The “Sent Requests” window is composed of a black rectangle with a size of 800 x 400. Inside this rectangle, it is displayed all the sent friend requests that have still not been answered by the other user divided into pages.

Each tab has a size of 800 x 100 pixels and displays, once again, 4 different texts: the username, the restaurant name, the level, and how long ago was the invite sent. There is also one button in case the user regrets sending the invite and decides to cancel it instead.



2.6.4.4 Friend's restaurant

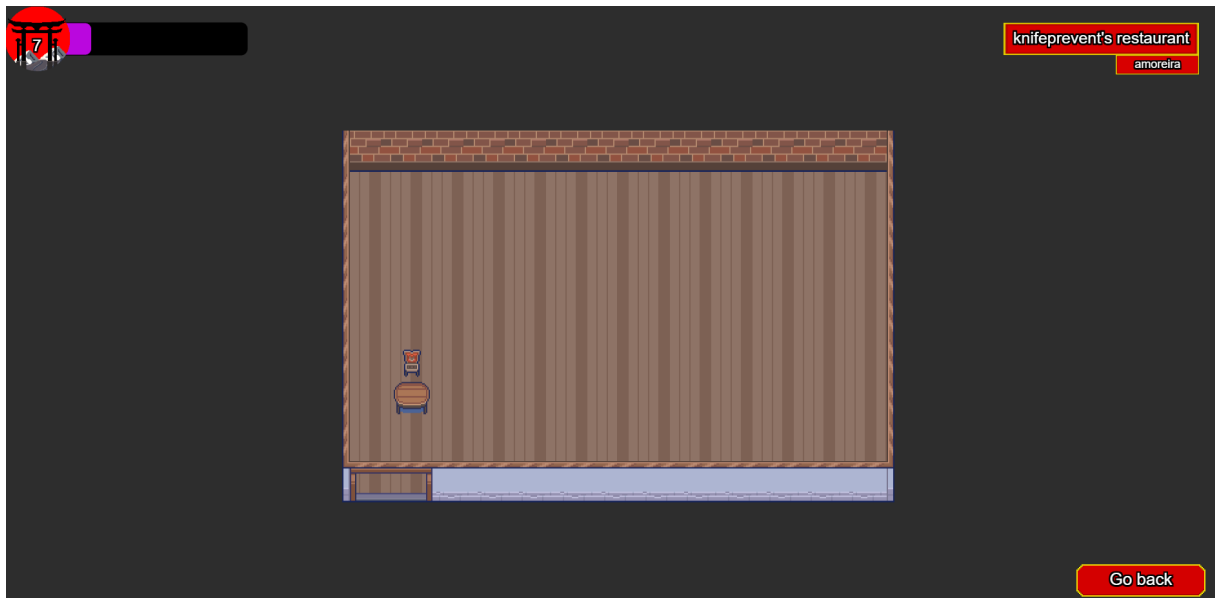
In the friend's restaurant, you are able to see their decoration in the same way as you see your own. The UI is composed of 4 elements:

EXP bar: At the top left corner separated from the borders of the window by 50 pixels on both X and Y. The bar itself has 325 x 50 pixels and is covered by a star of 100 x 100 pixels that display the restaurant level.

Name Displayer: At the top right corner separated from the borders of the window by 50 pixels on both X and Y. This rectangle has a size of 50 on Y and a size of (text length * tex font size + 30) on X. It displays a text: User name + "s restaurant".

Restaurant Name: At the top right corner right under the name displayed there is a rectangle that has a size of 30 on Y and a size of (text length * tex font size + 30) on X. It displays the name of the restaurant.

Go Back button: At the bottom right corner, there is a button with a size of 200 x 50 pixels with a separation of 50 pixels from the border of the window at both X and Y. When pressed it sends the player back to his friend list.

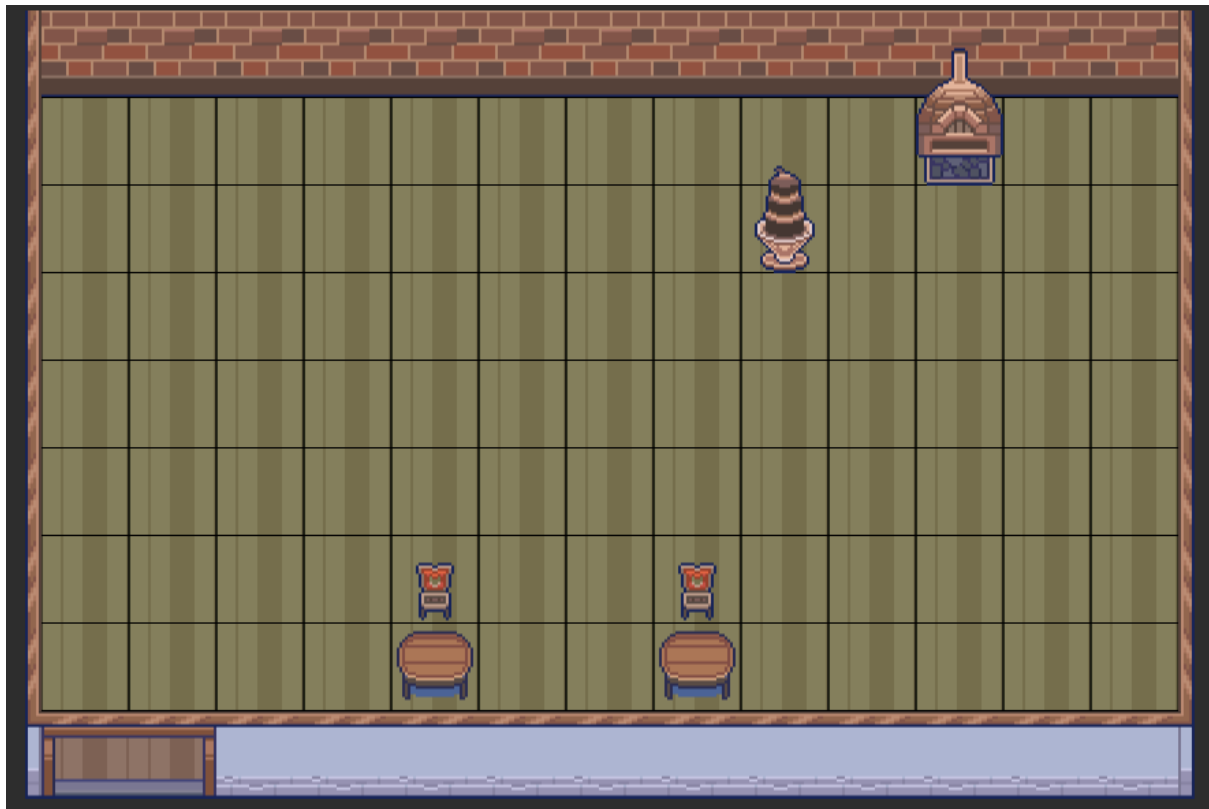


3. Level design

Momotaro is a management based game located in a small customizable place. These spaces are managed by the player according to a grid of squares.

3.1 The grid for customization

The restaurant has a total size of 13 by 7 tiles. Each tile has a size of 64 x 64 pixels and can be filled by furniture objects with a size of 64 x 64 pixels. This building area is surrounded by both walls and an entrance, making the full restaurant occupy an amount of 15 x 9 tiles. The restaurant is centered on the stream on both X and Y and has a dark grey background in order to fill the missing space.



4. Art

The art of Momotaro will be bought from the artist GuttyKreum (<https://tinyurl.com/sfr3b46> & <https://tinyurl.com/ruj69pa>). The game will use these 2 different assets, “Japanese bar asset pack” & “bakery asset pack” to combine and create the visual structure of the game.

The art style is pixel art. The artist was chosen by his high dense pixel art styles, which bring a beautiful and pleasant image to the game. GuttyKreum with these packs of art made possible the creation of a game based on the Japanese culture.



The part of the art that will not be bought will be done by the group, according to the pixel density and the style of GuttyKreum to make the game more pleasant to be played and seen.

4.2 NPC Art

The NPCs come from the same artist, but from a different pack of images, (tinyurl.com/ycev99d8). It has different animations, and different characters with art focused on cities, restaurants, and schools.

Some changes to make the NPC's be capable of sitting has been done.

4.3 Art License

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5. Audio

5.1 Music

Momotaro has a single song during the whole game in a loop. The music is called “ヒーリング,和風,幻想”, spoken like hīringu, wafū, gensō. (<https://tinyurl.com/y75bwx63>). This music is from <https://peritune.com/>, the site has a free license for everything.

5.2 Sound effects

Type:	Event:	Description:	URL:
Cooking a recipe	Starting to cook something	Knife chopping sound	https://bit.ly/33nB0sG
NPC	As the Npc pay	coins shaking in a bag	https://tinyurl.com/ya3axjca
Clicking	All clicks in the buttons	Knife hitting wood	https://tinyurl.com/y9lq3vlh

5.3 Sound License

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