Criterion B - Design

230 Words

GUI (Homepage for a list of recipes - desktop)

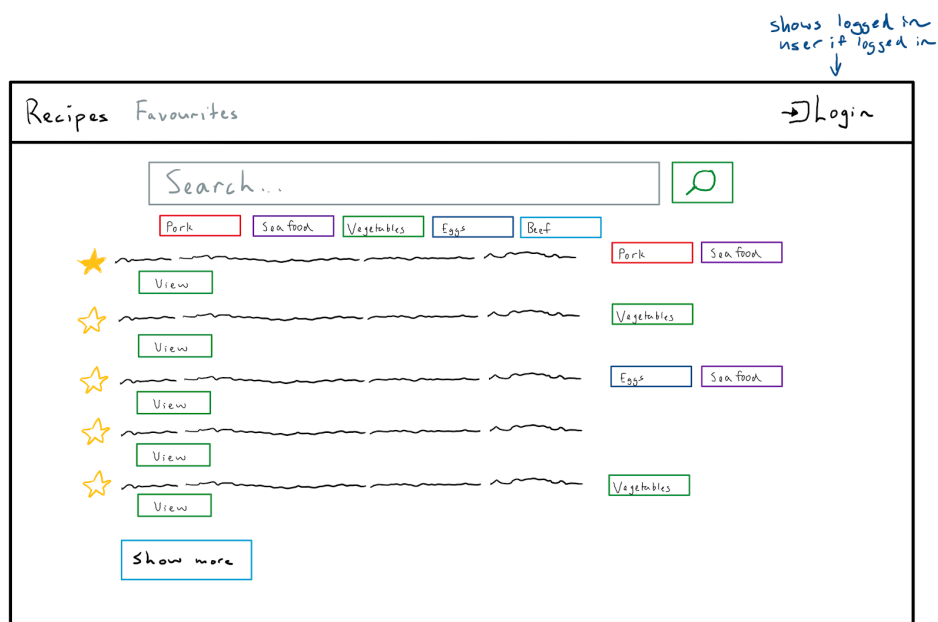Figure 1

GUI (Homepage for a list of recipes - mobile)

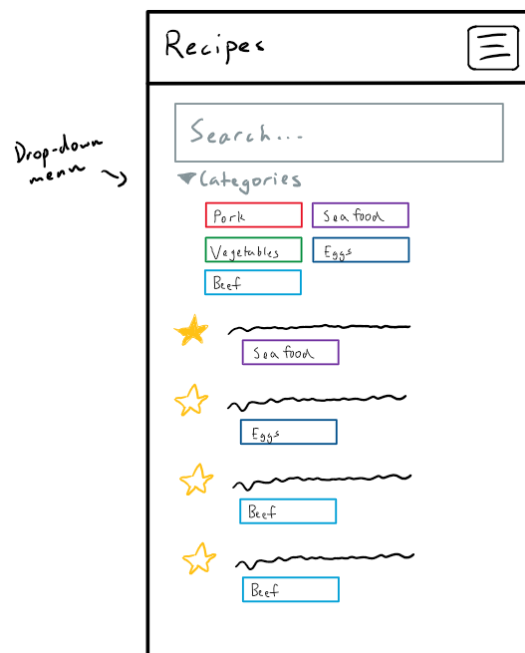
Figure 2

GUI (A recipe - desktop)
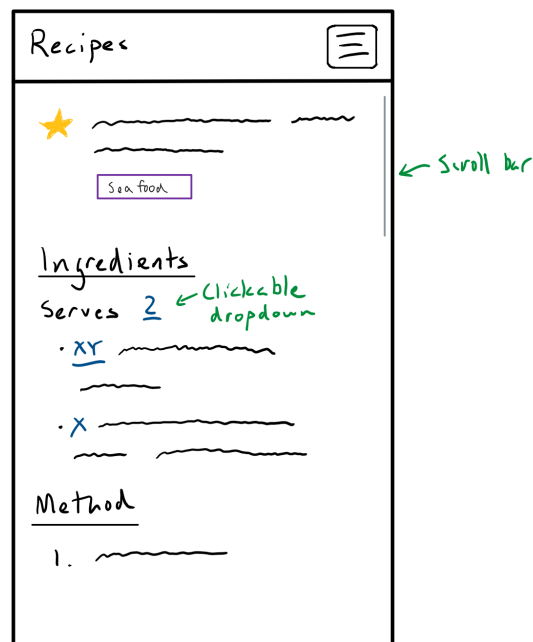

Figure 3

GUI (A recipe - mobile)

Figure 4

Above are the user experience mockups that I showed my client. She liked how it looked and wanted this design for the final product. The idea behind this GUI was to have an interface made primarily with mobile devices in mind, but also with a functionally similar design for desktop devices.

Data Structure

I am using firebase for my database, the structure is slightly different to a traditional database. Firebase is based around collections and documents, which means it does not store data in a table like it traditionally would with SQL, but every document (recipe in this case) will have the same structure shown below in the schema diagram:

recipes
ingredients
method
name
servings
tags

Field Name	Data type	Example
id	string	<randomly generated ID>
ingredients	array	[[1,banana],[2,pears],[250g,butter]]
method	string	[[Put banana in pot],[Put pear in pot],[Put butter in pot],[Turn on fire]]
name	string	Banana and Pear Stew
servings	number	2
tags	array	[fish,vegetables]

I will only need a single collection to store all recipes. When a recipe is loaded, the id will be placed in the URL, and this ID will be used to get the required document used to render the recipe.

Basic System Diagram

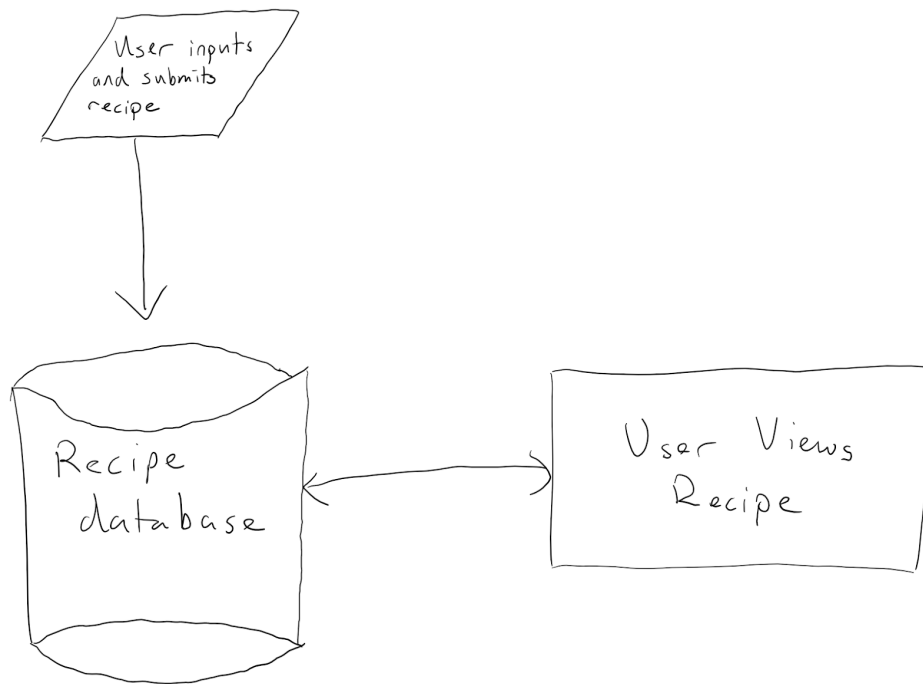Below is a very simple idea of how my database should be accessed by superusers and normal users.

Figure 5

Changing Recipe Portions

One example of an algorithm that I plan to implement in my code is one that changes the ingredient portions based on the number of servings. (See the "A Recipe" sections of the GUI)

```
1    function RECIPE_PORTIONS(KEY, SERVINGS)
2    INGREDIENTS = firebase.get('/recipes/${KEY}/ingredients') // Get ingredient data from
     a specific recipe
3    INGREDIENTS_LIST = INGREDIENTS.split("|") // Split individual elements from
     ingredients into an array to manipulate later
4    MULTIPLIER = SERVINGS / firebase.get(/recipes/${KEY}/ingredients)
5    FOR X FROM 0 TO INGREDIENTS_LIST.length() {
6        INGREDIENTS_LIST[X] = ROUND(INGREDIENTS_LIST[0] * MULTIPLIER)
7    } ENDFOR
8    RETURN INGREDIENTS_LIST.join("|")
```

This algorithm gets data from a database, and then after that, separates the string from the database into its parts, then calculates how much to multiply each ingredient by, then returns a string with the ingredients joined together again to render the recipe list at a later date.

Test Plan

No	Success Criteria	Test
1	Users will be able to view recipes.	Go to the recipes list and click on the first recipe on the list, and then this should reveal a list of ingredients and the method.
2	Users will be able to change the number of servings, and the website will adjust all ingredient portions accordingly.	Go to a recipe, then click on the number of people served (text), change it to another number, then check ingredient portions to see if every ingredient is adjusted accordingly.
3	Users will be able to change the portions of one ingredient and have all other ingredients change in the same ratio	Go to a recipe, then click on an ingredient amount (number), change it to another number, then check the other ingredient portions to see if every ingredient is adjusted accordingly.
4	The end user will be able to search for recipe names.	On the recipe list, the search bar at the top will be clicked, and the user will search for "fish" in order to find a list of recipes containing the word fish in it.
5	Given that the user has a superuser account, they will be able to add recipes to the database.	Press the add recipe button, and add a recipe, typing in the superuser button, and pressing submit. Then, see if the entry exists on the website.
6	The layout of the website will be dynamically resized depending on the device used.	Load the website on a computer, and then load the same website on the phone, and see that the layout automatically changes.

7	The user will be able to see a list of recipes and navigate to a specific recipe through that.	The recipes list will be displayed, so users will be able to look through this list to find a certain recipe of their choice
8	The user will be able to edit recipes as long as they are logged into a superuser account	On the recipe page, the edit button will show up and users will be able to click on it and edit the content of the recipe.
9	The user will be able to delete recipes as long as they are logged into a superuser account	On the recipe page, the edit button will show up and users will be able to click on it and press the delete button on that page.