COMP9900

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Information Technology Project

Project Proposal Group NEWCODER

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1 Background

1.1 Motivation

With the increasing popularity of social platforms, more and more people who like cooking choose to share their exquisite dishes and recipes on social media, which makes their followers and users attracted by their tweets interested in cooking.

Due to the scattered and trivial recipes and dishes on social media, explorers are more eager to have a functional and easy-to-use platform for them to learn and communicate. This project is committed to building a functional meal recommendation system platform.

1.2 Problem statement

For many new cooks, for example, after finishing a recipe that they are very interested in, they don't know how to choose other recipes for their own study when faced with numerous recipes. Therefore, we recommend recipes to explorers based on the recipes shared by cooking enthusiasts, help users find other recipes similar to the selected recipes, and facilitate novices to use similar recipes to improve their cooking skills.

Nowadays, affected by the COVID-19 epidemic, the food supply in supermarkets is likely to be affected to some extent. The existing raw materials of explorers may be different from the materials required for some recipes, so we will provide a recipe search function, which can accurately search the recipes users want according to the characters, and also find the recipes they are interested in according to the ingredients, methods, dietary types and recipe names selected by users, so as not to be bothered by the raw materials written in the recipes.

For those explorers who don't clearly want to cook dishes or are not interested in searching and recommending feedback, we can provide the function of commenting and liking recipes, which can help explorers easily see the hottest recipes, see information such as message answers and discussions between sharers and explorers or explorers and explorers.

Our goal is not only to provide basic functions, but also to realize a reliable and interactive system to solve the above-mentioned problems. At the same time, we should improve the system development and constantly improve the specific details during the project.

1.3 Existing systems analysis

We checked the existing recipe websites for reference, they are Kitchenstories and Allrecipes, and summarized the advantages and disadvantages of these two websites respectively.

Both websites like the comment function (for Allrecipes, it's a rating comment).

Both websites have a recipe recommendation function.

Both websites can access recipes by clicking on thumbnails.

For the search function, both websites have basic search boxes for searching, but

Kitchenstories has the ability to search personalized recipes according to users' preferences, such as the types of meals.

For the subscription function, neither website has a button to subscribe to the sharers of a certain recipe.

Kitchenstories can have a better look and feel for the recipe display on the web page than Allrecipes. For example, the materials of Kitchenstories can be adjusted according to Servings, while the recipe materials of Allrecipes are fixed. At the same time, this website also has a wealth of pictures about each step and a short and complete video of making the recipe for the explorer to check, while Allrecipes are simple pictures of the finished products, which are basically a lot of written expressions in the steps, and few pictures are attached for users' reference.

2 User stories and sprints

2.1 Functionality descriptions and User stories

This web project defines all the backlogs(Fig:2-1) as shown below from the perspective of developers and users respectively. Our web project hopes to realize the functions of user registration and login and UI design of the login interface; after the user successfully logs in to our web page, we hope that our users can publish and manage their own recipe lists; users can be interested in comment on recipes and complete the interaction function between users; for recipe display, we hope that each user can understand the recipes they care about from as many aspects as possible, so we ask the creators to provide the recipe making process at the same time , also display the image name of the recipe and the recipe's featured label.

All the above describe the actions taken by the backlog for the functionality to be delivered for this project.

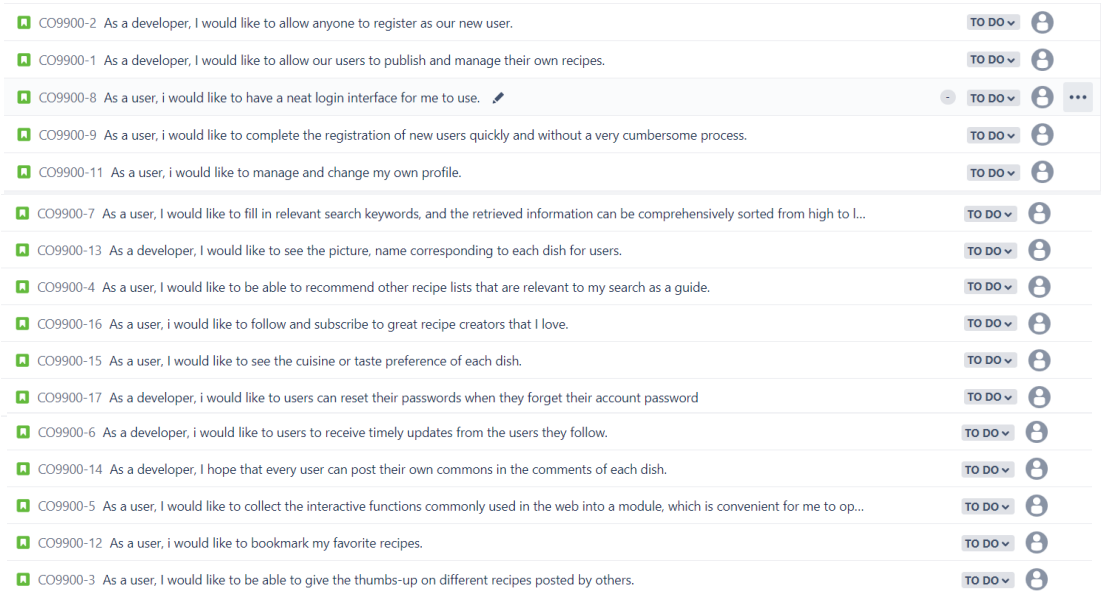


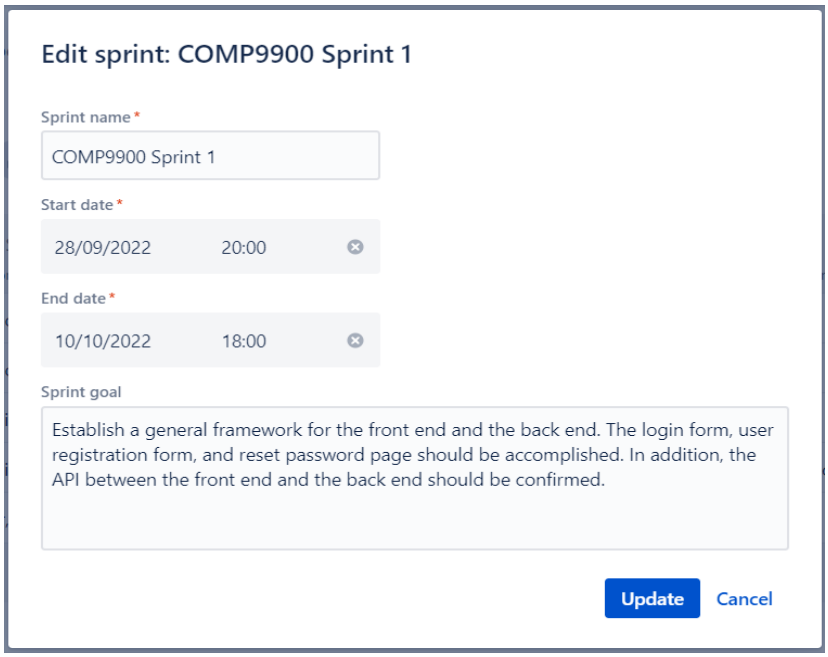
Figure 2-1: List of backlogs

2.2 Project Sprints

2.2.1 First Sprint

Sprint	Dates	Objectives	Jira Backlog ID
1	Start: Wednesday, Sep 28, Week 3 Due: Monday, Oct 10, Week 5	Complete the home page layout (including one for users and one for visitors). In addition, the functionalities of the user login page, user registration page, and reset password page should be completed, and the re-registration of existing users should be considered._ Progress Demo A is scheduled on Monday in Week 5.	COMP9900-2 COMP9900-8 COMP9900-9 COMP9900-11 COMP9900-17

The screen shot below reveals the creation of the Sprint 1(Fig:2-2).



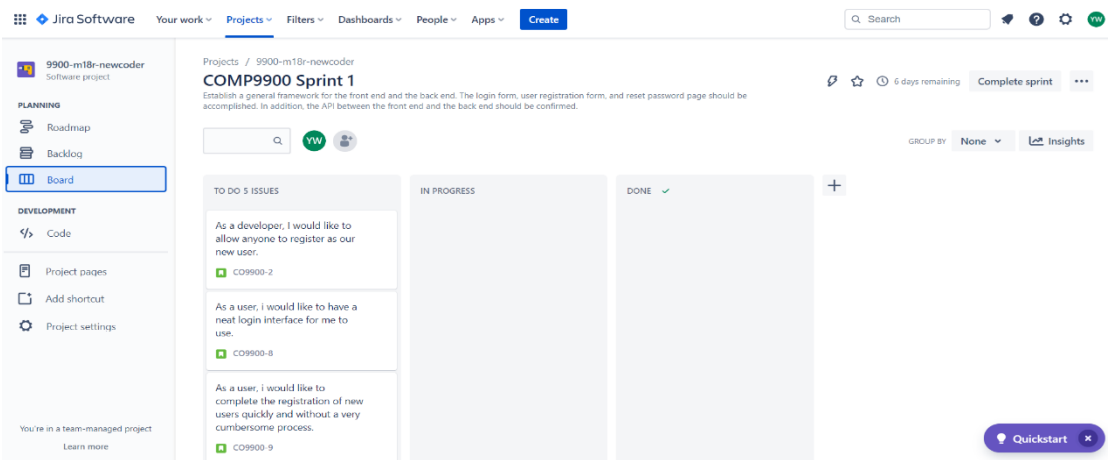


Figure 2-3: Sprint 1 Commencement

2.2.2 Coming Sprints

Sprint	Dates	Objectives	Jira Backlog ID
2	Start: Monday, Oct 10, Week 5 Due: Monday, Oct 31, Week 8	User profile page (including one for self and one for visitors), change profile page, recipe page (including one for self and one for visitors) and home page should be done. Functions such as creating a new recipe, subscribing, searching, sorting and recommendation system should be completed. Consider the rationale for recommender systems. Retrospective A is on Monday in Week 7. Progress Demo B is scheduled on Monday in Week 8.	COMP9900-1 COMP9900-4 COMP9900-7 COMP9900-13 COMP9900-15 COMP9900-16
3	Start: Monday, Oct 31, Week 8 Due: Monday, Nov 14, Week 10	The subscription page, news page, and saved page should be finished. Subscription functionalities should be finished. Comment, like, saved functions should be done. The functional integration module should be completed. Retrospective B is on Monday in Week 9. Software and report are due on Monday in Week 10.	COMP9900-3 COMP9900-5 COMP9900-6 COMP9900-12 COMP9900-14

2.3 Project objectives achievement

2.3.1 Simplify the web threshold

Our project target is mainly for people who are interested in food creation and who are willing to understand and learn new food production methods. Therefore, in the realization of functions such as user registration and login, we need to simplify the user's login process to avoid letting users spend a lot of time at this stage and give up their desire to understand the web.

2.3.2 Improve user experience

After users successfully log into the web, we hope that each of our users has the willingness to publish their own good recipes to the website, so that our website can maintain a high level of activity and attract more and more new users and website investors. Therefore, we designed various functions of user and user interaction in user stories, including thumbs up, commenting on recipes, and following your favorite recipe creators, so as to inspire more creators.

2.3.3 User-friendly operation

We also hope to make our website pages more tidy and easy to operate, so that users don't need to spend a lot of time to familiarize themselves with the functions of the webpage to know the recipes they want. Therefore, we have integrated the commonly used functions in one operation module, which is convenient for all users.

2.3.4 Solve user problems

We hope to provide users with an excellent search and recommendation engine, so we hope to associate tags of all recipes to recommend recipe information for users that they most want to see and are likely to like.

2.4 Novel functionality

2.4.1 Retrieve password function (Email authentication)

As a developer, while reducing the complexity of user registration as much as possible, we also need to consider the subsequent login problems of old users. Therefore, in order to allow users to have a better login experience, we designed the function of retrieving passwords for this problem:

If the user accidentally forgets his web account password, we provide a "forgot password" button on the login interface, the user only needs to click it, and the server will automatically send an e-mail with a link to the email address provided by the user during registration. mail. Users only need to click this link to automatically jump to the password modification interface, which not only ensures the security of the user account (the e-mailbox has an authentication function), but also provides a guarantee for the sustainable use of the user account.

2.4.2 Recipe collection function

Maybe our users will be interested in many interesting recipes or have ideas to try them, but the user may be outside or have finished lunch or dinner while viewing our site, or maybe they just want to recommend this recipe to their friends or relatives. So, we designed a recipe collection function for these users, when users want to try any one of their favorite recipes, they just need to click on the favorite list to see their favorite recipe information.

3. UI design

3.1 Main page

Main page contains three parts: create recipe, search bar and recommendations. After the user logs in, the Sign In and Sign Up buttons become the Picture of user. Users can click the Create button to jump to Create page to new a recipe. When users click that pic, The webpage will jump to the profile page.(2pages,Fig:3-1)

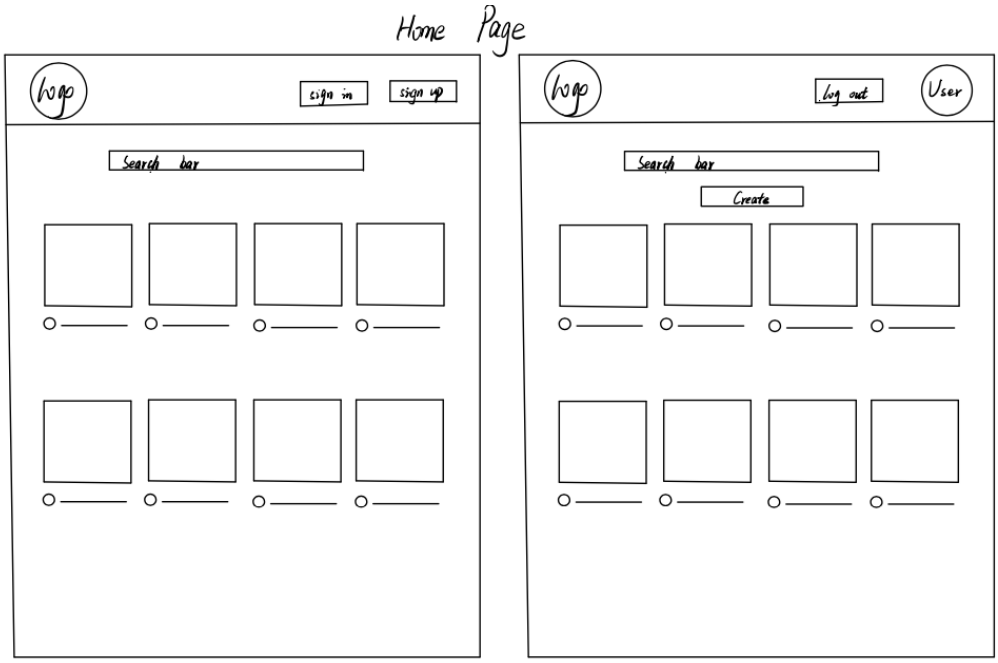


Figure 3-1: Home page

3.2 Login, reset and register page

On the login page, reset password and registration function is provided.
If users forget the passport, clicking the Forget button platform can send an email

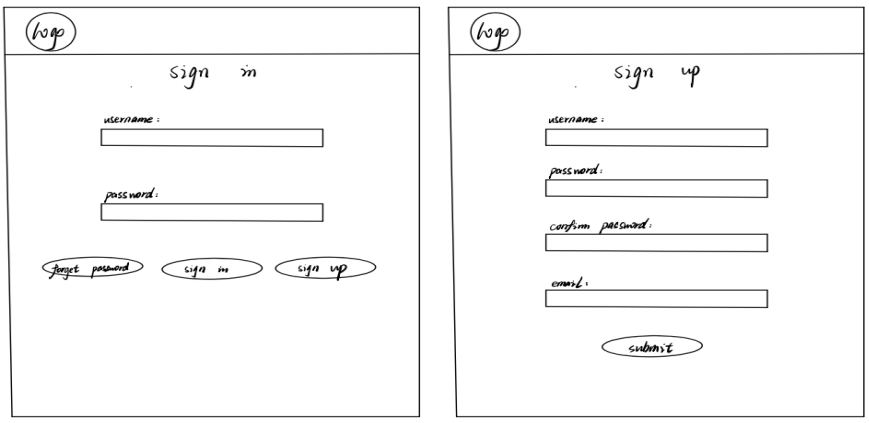


Figure 3-2: Sign pages

to the email account to help users reset the passport.(3pages,Fig:3-2 and 3-3)

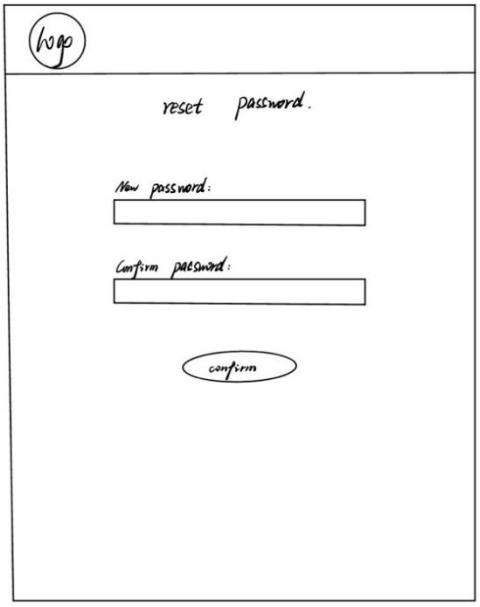


Figure 3-3: Reset password page

3.3 Profile page

After clicking the Picture, a user can find the page of Self-Profile.

In that page, users can click News button to jump to News page to get the personal news from their subscribes. The Update button is to jump to Change page update the personal details. The My Subscriptions button is to jump to the Subscribe Page to show the list of subscriptions. Users can also check their own recipes. The My Saved button is to jump to Saved page to show the saved recipes.

The Profile page for visitor is similar with Self-Profile page but only get the username, picture and recipes contributed by that user. And visitors can click the Subscribe button to follow that user.(3pages,Fig:3-4 and 3-5)

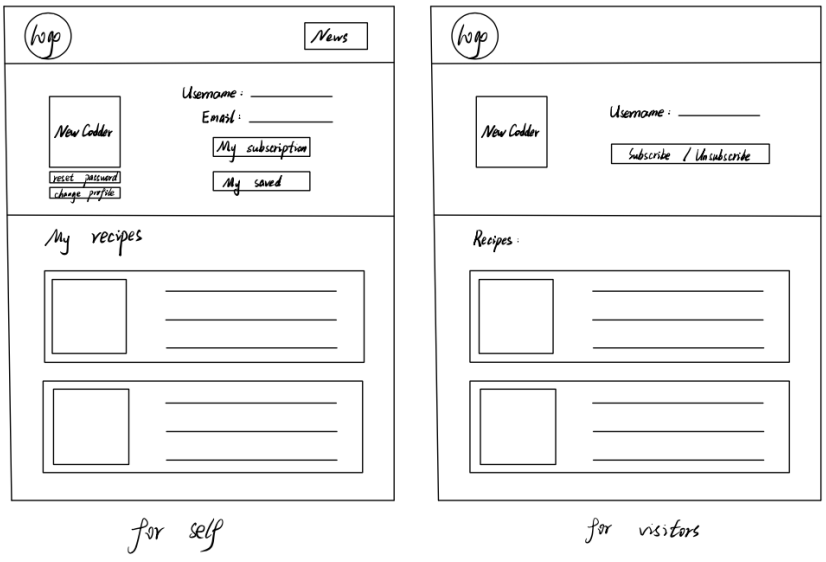


Figure 3-4: Profile page

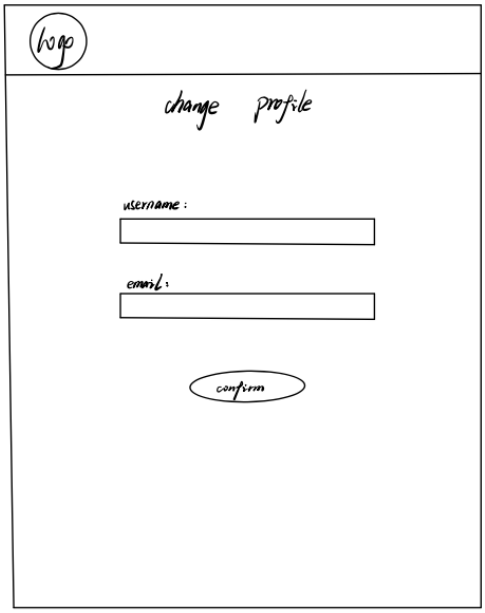


Figure 3-5: Change profile page

3.4 Subscribe page

Users can check their subscriptions and jump to visit their profile on that page. (1page,Fig:3-6)

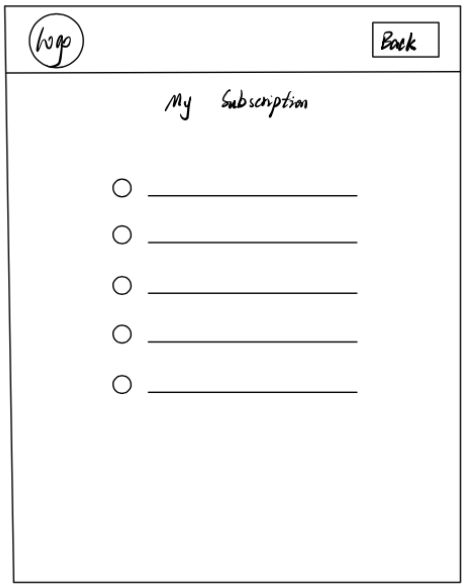


Figure 3-6: Subscribe page

3.5 News page

Users can get recent recipes from their subscriptions.(1page,Fig:3-7)

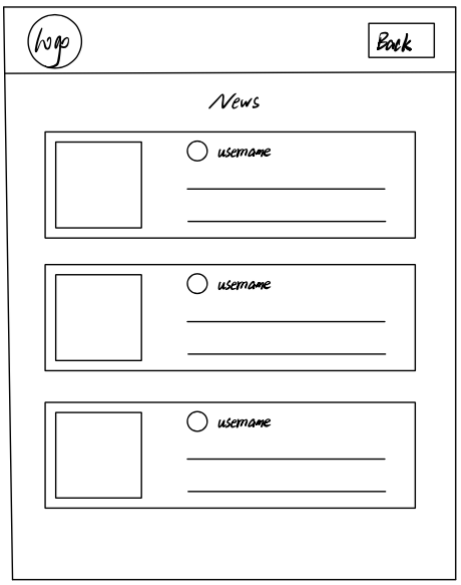


Figure 3-7: New page

3.6 Saved page

Users can check the saved recipes.(1page,Fig:3-8)

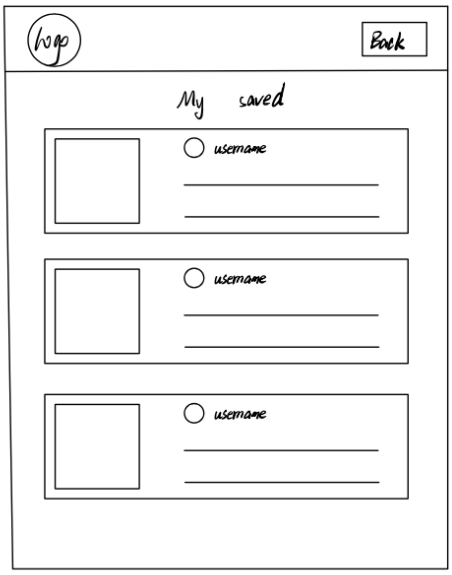


Figure 3-8: Saved page

3.7 Recipes page

Like, saving, recommendations, commanding and visiting commands are be provided to visitors in recipes page. There are additional function for owner is to delate

the recipe.(2pages,Fig:3-9 and 3-10)

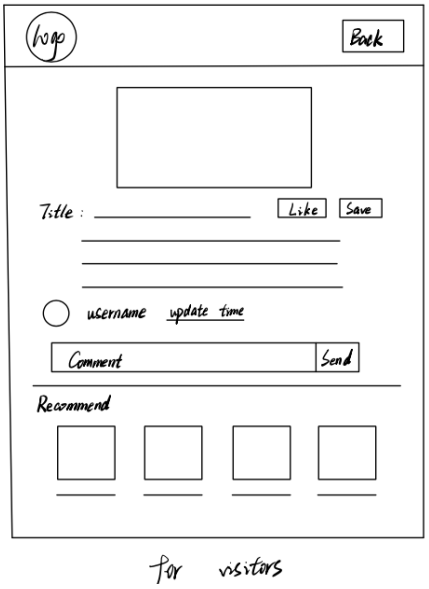


Figure 3-9: Visitors page

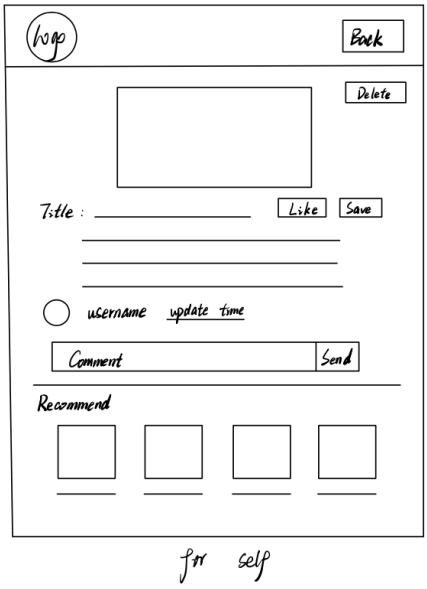


Figure 3-10: Self page

3.8 Create page

User can create the recipe on that page.(1page,Fig:3-11)

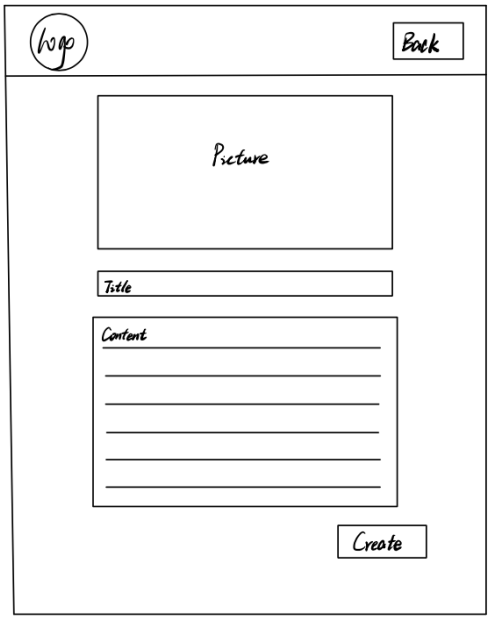


Figure 3-11: Create page

3.9 Search page

User can check the searching result in that page.(1page,Fig:3-12)

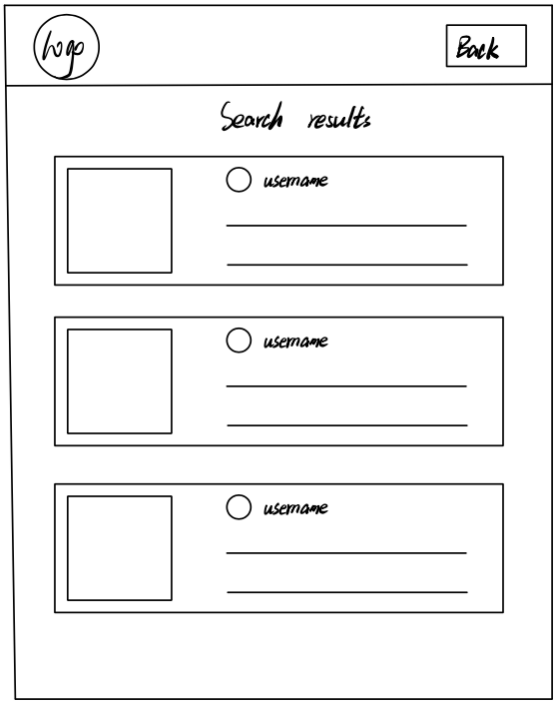


Figure 3-12: Search page

4 System Architecture

4.1 Architecture breakdown

The project was separated into four parts. The front-end (client side) which is a graphical user interface for users to interact, the application side, which is a framework used to transfer data, the back-end system which is not accessible to the user but support our designed functions and the database which can store users' data. The two subsystems are not dependent much on each other. In our plan, we will develop these four parts simultaneously.

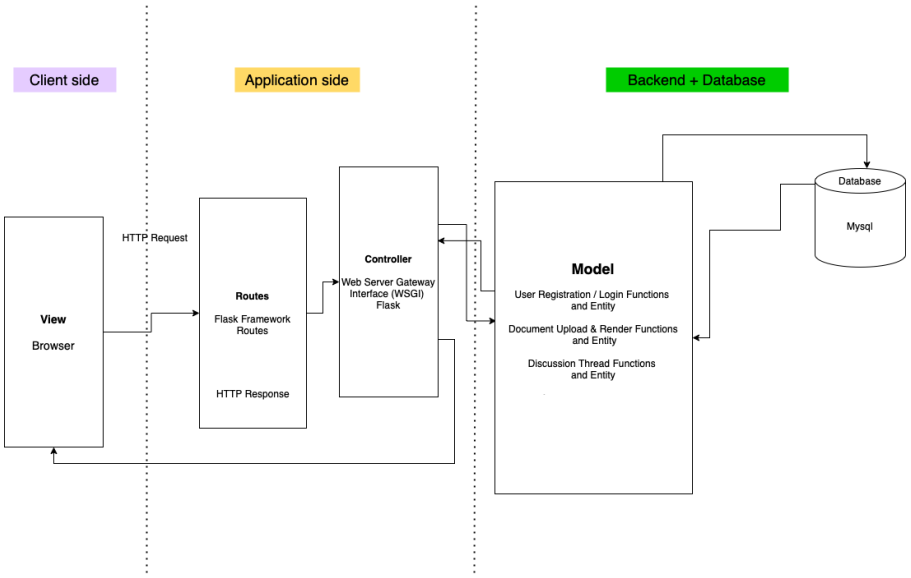


Figure 4-1: Architecture breakdown

4.2 ER diagram of database

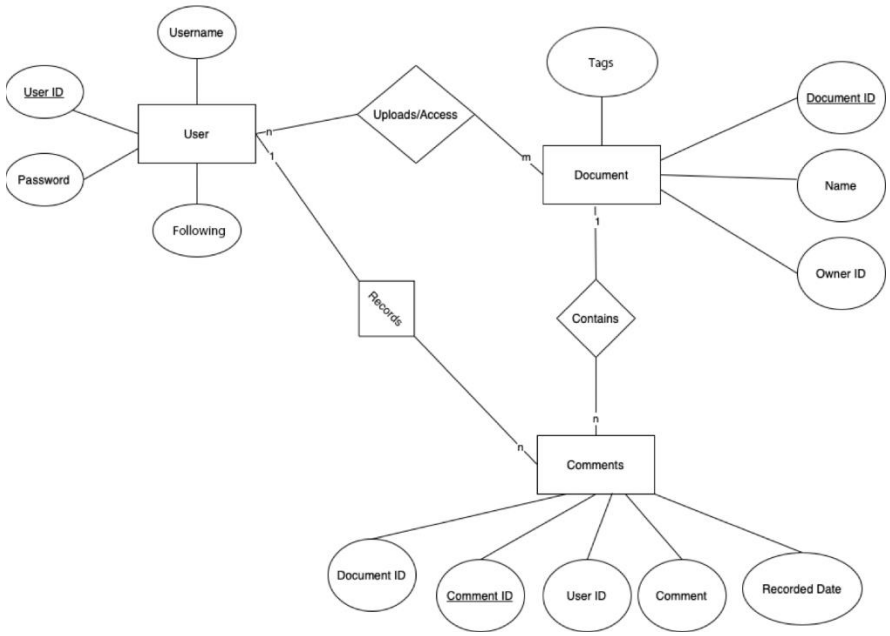


Figure 4-2: ER diagram of database

4.3 External actors

The most concerned external actor of this project is the user, who initiates the interaction with the system. Users will browse the recipes shared by other users and manage their own recipes through this application. We will arrange the development priorities of various functions of the project based on these two main requirements.

4.4 Technologies

Client side: HTML, CSS, JavaScript, Bootstrap, Vue framework
Application side: Flask
Back-end: Python3
Database: MySQL

5. References

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