

Description of Classes, Attributes, and Operations:

1. **User:** represents individuals who use the meal planning app. Users can create accounts, manage their personal information, and interact with various features of the app.

Attributes:

- User ID: A unique Identifier for each user. Every user will be creating an account that they can customize.
- Payment Details: Users will be paying for services in this app.

Operations:

- Log in: Every time user opens the app there will be an option to log in with username and password.
- View Recipes: Users can look through various recipes for meal inspiration. These recipes will be presented based on the user's preferences for food.
- Filter Recipes: If users are searching for a specific recipe, there will be filters that they can use. This will allow users to look for recipes that they are interested in.
- Search Recipes: There is a search bar that users can use to search for recipes. Recipes based on users' searches will show up immediately.
- Setting Payment details: Users will be prompted to enter payment details during account setup.

2. **Payment:** the payment class handles financial transactions within the app, such as purchasing premium features or subscribing to meal plans.

Attributes:

- Payment ID: A unique identifier for each payment transaction.
- Payment Amount: the amount that the user has paid.
- Card Number: Number of the credit card the user will use for payments.

Operations:

- Edit Card: User has an option to edit the card they use for payment. For example, if they change credit cards.
- Add Card: Users can have more than one card for payments.
- Set Amount: Users can set a fixed amount for payments in their account. They have an option to add money to their account to pay for features directly.
- Delete Card: Users are allowed to delete a card they have added to their account.

3. **Account:** manages the financial aspects of the users' interaction with the meal planning app, including payment methods and subscription details.

Attributes:

- User ID: The first step to creating the user account.
- Username: User can pick a unique username of their choice. Will check to make sure the username hasn't been taken, or else the user will have to change their username.
- Password: Users are prompted to choose a strong password. Minimum 8 characters and a number included.
- Email: Users will put in their email for account activation. Can be any email. Will check if the email has been taken by another user or not.
- Address: Users will include their address. Includes City and Zip Code.

- Contact Information: Users have the option to include their phone number. Useful for text updates.

Operations:

- Logging in: Every time user opens the app, they will be asked to log in with their username and password. Will include a forgot password option.
- Logout: Users can log out at any time, however, if a user has been inactive on the app, they will be automatically logged out.

4. Recipe: represents individual recipes that users can browse, save, and use for meal planning.

Attributes:

- Name: This refers to the name of the user that is sharing a recipe. Can be through a post.
- Description: Includes the details of what the user is planning to make. Is a short description only a few sentences.
- Recipe Steps: Users can give specific instructions and steps for the recipe. Option to include photos/videos for added visuals.
- Recipe Review: Other users can comment and review their experience with the recipe. They can share if the recipe was helpful to them or not.

Operations:

- Edit Recipes: If the user wants to add more information on their recipes later on, they have an option to edit it.
- Delete Recipe: Delete Recipe: If a user decides they don't want to share their recipe anymore, they can always delete it.
- Add Recipe: Users can choose to add more recipes, there is no limit to how many they can add if they have a subscription. If not, there are limits.

5. Preferences: handles user preferences for recipes and meal plans.

Attributes:

- Vegetarian: Vegetarian meals are offered for those who don't eat meat.
- Vegan: Users can put filters that will only show vegan recipes.
- Gluten Free: Users who can't eat gluten can look for meals that are gluten-free.
- Kosher: Users who only eat Kosher meat also can set filters that include people who use Kosher meat.
- Allergies: If a user has allergies to specific foods, they can use a filter to block recipes that have ingredients they are allergic to.

Operations:

- Edit Preferences: Users have the option to change their preferences at any time.
- Edit Allergies: Users can change their search filters to edit their allergies preferences.
- Add Allergies: If users forget to add an allergy, they can add another one at any time.
- Delete Allergies: Not only users can add allergies, but they can delete them too.

6. Review: Users can write reviews on recipe posts and rate 1-5 stars on them.

Attributes:

- Rating: Rating will allow users to rate a recipe, and they can use one star for the worst case or 5 stars if it is excellent.
- Review Description: This will be after the star rating. Users can describe why they rated it a certain number of stars. No specific word count; users can be as descriptive as they want.

Operations:

- Create Review: Have the option to create a review on any post.
- Edit Review: Users can always edit their reviews at any time.
- Delete Review: Users can delete their review after posting.

7. **Admin:** Admin is the one in charge of the app. Has special access to features that users don't.

Attributes:

- Username: Has access to users usernames. Can delete user accounts too.
- Passwords: Also has access to passwords. For security purposes, passwords are confidential.

Operations:

- Set Recipes: They control the recipes that are on the app. Also if there is inappropriate content, the admin can remove it.