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Project name: Cookmate
Use case: User adds a recipe and can search for recipes by ingredients available.
Primary actors. Home cooks, Chefs and admins.
Goal: To store new recipes in the system and later retrieve them based on available ingredients.

Preconditions.
User creates an account and logs in.
The system contains a database on the available recipes.

Part one: Adding a new recipe.

1. The user creates an account and logs in after user verification.
2. The user navigates to the add recipe page where he/she creates a recipe.
3. The user enters the recipe name for example “Katogo”
4. They then provide a step by step process of preparing the dish.
5. The user also adds the ingredients necessary for the dish and their appropriate quantities.
6. The user then adds metadata such as the food category, cooking time and appropriate serving amount.
7. The user then uploads a photo of the finished dish.
8. The user saves to store the recipe in the system.
9. The system confirms that the recipe has been successfully saved and indexed with the corresponding ingredients.

Post conditions.
New users are verified and stored in the database.
The recipe is now stored in the system and can be accessed by the users in future.
The system adds the recipe to the database, associating it with the inputted ingredients.

Part two: Retrieving recipes based on the ingredients.

1. The user navigates to the find recipe page.
2. The system provides an input field where the user can enter the ingredients they have at hand.
3. The user inputs the ingredients.

4. The system searches the database for recipes that can match the entered ingredients, prioritising those with closest matches.
5. The system presents a list of recipes with the best match shown first.
6. The user selects one of the suggested recipes.
7. The system displays the complete recipe including ingredients, quantities and step by step instructions on how to prepare the dish.

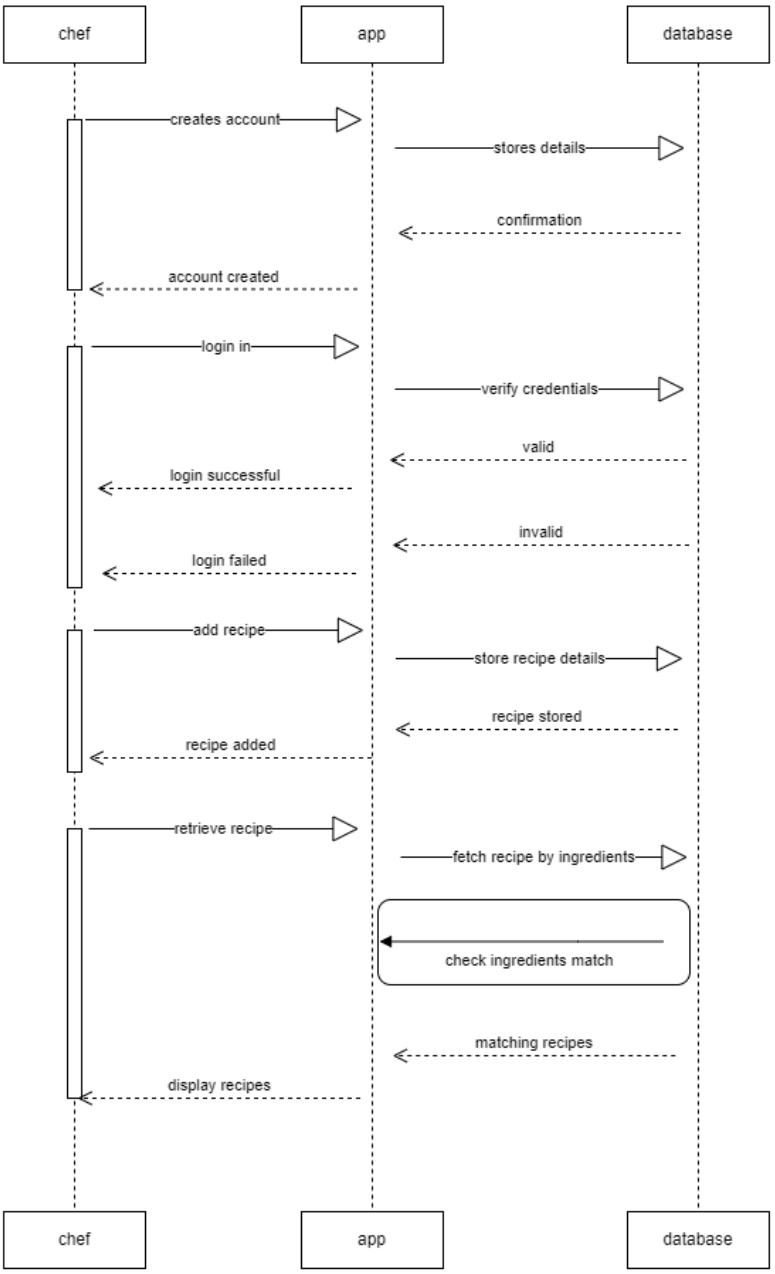
Post conditions.
The user can view, follow or save a recipe based on available ingredients. If there are no exact matches, the system suggests recipes with similar ingredients along with potential substitutions.

Use Case, Class and Sequence diagrams in relation to the project.
Use case diagram.
A use case diagram is a type of diagram in Unified Modeling Language (UML) that visually represents the interactions between users (actors) and a system. It helps to define and organise functional requirements, showing what the system should do (but not how it does it). The diagram focuses on use cases, which are the specific actions or services that the system provides to its users.

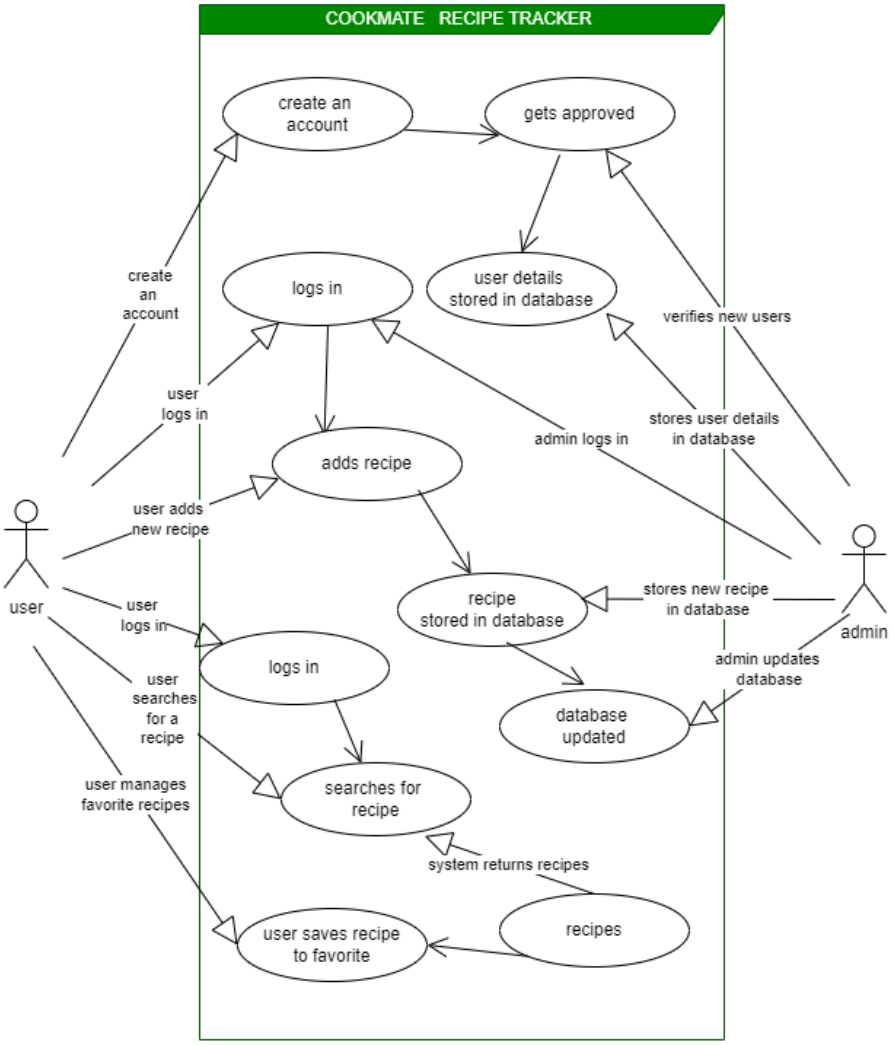
Class diagram.
A class diagram is another type of diagram in Unified Modeling Language (UML) that shows the static structure of a system by depicting its classes, attributes, methods (operations), and the relationships between objects. It represents the blueprint of a system's components and how they interact with one another.

Sequence diagram.
A sequence diagram is a type of interaction diagram in Unified Modeling Language (UML) that illustrates how objects or entities interact with each other in a particular sequence to carry out a specific process or functionality. It shows the flow of messages between objects over time, focusing on the order in which interactions occur.

SEQUENCE DIAGRAM



USE CASE DIAGRAM



CLASS DIAGRAM