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Deliverable 1

Requirements and Use Cases

Problem Description

Cookbooks are inconvenient to use in the kitchen. An application would make it fun and easy to find, add, and modify different recipes.

Functional Requirements

1. The app must allow users to add new recipes by specifying a recipe name, category (breakfast, lunch, dinner), cuisine (French, Italian, etc.), ingredients and instructions.
2. The app must allow users to remove existing recipes.
3. The app must allow users to search for recipes by ingredient and category.
4. The app must allow users to search using boolean expressions to include and exclude ingredients.
5. The app must allow users to add new ingredients by specifying an ingredient name, weight/volume, unit of measurement and price per unit
6. The app must allow users to search for recipes by meal type or cuisine.
7. The app must allow the user to upload a picture of the dish.
8. The app must allow the user to sort searched recipes using filters (such as cost, time, difficulty, and rating).
9. The app must now allow a user to remove an ingredient that is associated to a recipe (or, offer the possibility of removing all related recipes).
10. The app must let the user remove ingredients.
11. The app must let the user alter existing recipes.
12. The app must let the user alter existing ingredients.
13. The app search functionality should return results based on relevance.

14. The app should be able to generate a grocery checklist of ingredients to purchase based on selected recipes and serving size.
15. The app should allow the user to alter the number of servings when viewing a recipe and recalculate the required ingredient quantities according to the number of servings.
16. The system should calculate the number of calories per serving in a recipe.
17. The app will not let the user create an ingredient or recipe if not all the required fields are filled (name, ingredient list, recipe).
18. The app will not allow the user to create a recipe with an existing recipe name.
19. The app will not allow the user to create an ingredient with an existing ingredient name.
20. The app will not allow the user to enter invalid quantities such as negative numbers when creating a recipe.

Non-Functional Requirements

1. The app must be developed using Android Studio 2.1 with SDK version Android 4.4.2.
2. The app must be developed within a budget of 100 dollars. This money will be spent exclusively on beer, chips or other refreshments and snacks.
3. The first prototype of the app must be ready for testing by November 20th, 2016.
4. The app must allow users to add recipes using no more than five steps.
5. The app should store recipes on the device using SQLite 3.7.

Fully-Described Use Cases

1. Search for a recipe

Actor actions	System Responses
1. The user chooses the search command.	2. The system allows the user to enter text to specify ingredients as a Boolean list.
	3. The system allows the user to limit results by specifying a meal category.
4. The user enters search criteria.	5. The system returns a list of recipes which match the specified criteria. Or, if there are no results, returns "No matching recipes found."

2. Create a recipe

Actor Action	System Responses
1. The user chooses the new recipe command.	2. The system displays a new recipe form which includes fields for the name, the meal category, the cuisine, and servings.
3. The user enters the name, category, cuisine and servings of the recipe.	4. The system validates the information. 5. If successful, the system shows a new page which allow the user to enter ingredients by specifying the ingredient, the quantity and the unit of measure.
6. The user selects ingredients from those already stored in the app or, if not found, adds new ingredients (go to use case Add New Ingredient).	7. The system validates the list of ingredients by ensuring there is at least one and that all quantities are positive numbers. 8. If successful, the system shows a new page which allows the user to enter the recipe -- that is, the sequence of steps to be followed to prepare the meal.
9. The user enters the sequence of steps in the recipe.	10. The system validates by ensuring there is at least one step and, if successful, stores the recipe in local storage. 11. The system optionally allows the user to add an image (go to use case Upload Image).

3. Upload a picture

Actor Action	System Responses
1. The user chooses the Add Image function in a recipe.	2. The system opens a dialog box prompting the user to load a picture from the phone or to take a picture.
3. The user either selects an existing photo or takes a new one.	4. The system stores the picture as part of the recipe.