

Recipe Book

Design Document Version (0.1.0)

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I. Purpose

This Android app will allow for the storage and categorization of recipes through a simple, easy-to-use interface. In many current recipe storage apps, it is difficult for users to store their own recipes, because they are often partnered with some third party recipe website. One problem many people have when cooking for multiple people is adjusting measurements on the original recipe in order to cook a different number of servings. This app will insure it is easy to convert both the number of servings and ingredient measurements without having to leave the app.

This app will be targeted toward those individuals who may have a large collection of hand written or poorly organized recipes. Almost everyone who cooks has an example of a recipe that has been handed down from a family member and hastily written on a note pad. This app will allow users to transfer these types of recipes into one organized digital environment that is as easy to use as a notebook.

II. High Level Design

a) Front End Application

The front end application is what the users will see. This will allow the users to read, edit, and create their recipes.

b) List of recipes

This is a list object which will act as an abstraction layer between the front end and database controller. The front end will be able to interact with this list and any additions deletions or modifications to this list will also be handled in the database.

c) Recipe

This recipe object is what will be stored in the list of recipes. It will allow for the storage of recipe data and will perform conversions on measurements.

d) Recipe / Sql Controller

This object will interact directly with the database performing queries.

e) Sqlite Database

The Sqlite database is the local database in which recipes are stored on the user's device.

f) Sync Service Updater Controller

The sync service updater controller will run on a separate thread which will be responsible for keeping the local database and remote sync service in sync. It will track changes between the local database and the remote system.

g) Sync Service

The details of the sync service have yet to be determined, but it will hopefully enable the syncing of recipes between user's devices.

III. Low Level Design

a) Front End Application

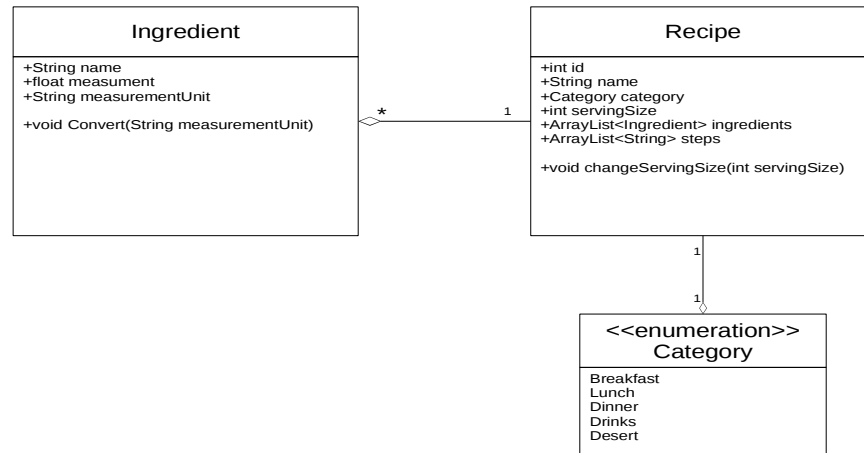
The front end application will consist of a MainActivity, ListFragment, RecipeFragment, AddRecipeActivity, and EditRecipeActivity. The MainActivity will create the ListFragment and RecipeFragment. The ListFragment will be created with a list of recipes passed to it by the MainActivity once a user selects a recipe category. The ListFragment will then allow the user to select a recipe. Once selected, the ListFragment will start the RecipeFragment with the recipe the user selected. If the user chooses to edit a recipe being viewed, the RecipeFragment will pass the current recipe to the EditRecipeActivity and start it. The MainActivity will also contain

a button which will enable the user to add a new recipe, this button will start the `AddRecipeActivity`.

b) List of recipes

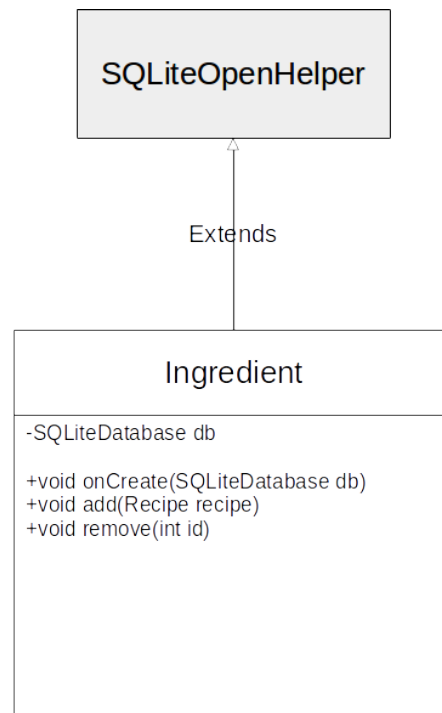
The `RecipeList` extends java's `ArrayList` and will be responsible for storing lists of Recipes and abstracting database actions. When the front end application layer adds a recipe to the `RecipeList`, the `RecipeList` will first add that recipe to the database using a `SqliteController` object, and it will then add the recipe to itself. The same is true for removing an object from the list. By extending `ArrayList`, the `RecipeList` gains the extra functionality that an `ArrayList` has, such as being iterable and certain lambda abilities introduced in Java 8.

c) Recipe



The Recipe is the model which represents a real life recipe. A recipe consists of a name, category, serving size, list of steps, and list of ingredients. The recipe object is also responsible for conversions of ingredient quantities for changes in serving size. The category of a recipe is represented by a category enumeration which contains each meal of the day. Ingredient objects are stored in the Recipe object ingredients ArrayList. Ingredients consist of a name, measurement, and measurement unit. Ingredients also contain a method that allows for conversion to different measurement units. Because Ingredients are contained in an object, we can easily iterate over each object in the list and convert it.

d) Recipe / Sql Controller



e) Sync Service Updater Controller

IV. Benefits / Assumptions / Risks