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Food recipe application

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ABSTRACT

The proposed project is an Android Application that will provide recipes to the users based on the ingredients available with them. From a list of ingredients, the user has to select the available ingredients and then the application will display a list of recipes which will use the ingredients selected by the user. The user will have filters to select the kind of recipe it wants and then the result can be sorted and filtered according to the user's needs.

Keywords: Food, Recipe, Android Application, Android Studio.

1. INTRODUCTION

The advancement in technology has made our lives easy like never before. Everything that we require is available at our fingertips. With a few taps on our smartphones, we can complete tasks in minimal time. From entertainment to learning and from fitness to cooking, there are various applications for everything that we need. With just a click of a button, you can get access to multiple recipes within a second. Each recipe provides you with all the information, from the ingredients required to each step required to cook the different parts of the dish. These applications are generally used by people who want to try to make some new dish, or by people who live all by themselves, or by working people who are always short on time. Even though there has been such a huge advancement in technology, all these applications provide you with the ingredients required, and you must go and buy the ingredients that are not available to you currently.

The solution we came to is an Android Application that will provide you recipes based on the ingredients that you already have with you, resulting in less wastage of time and money in buying the unavailable ingredients. The application contains an available database of food recipes that can be browsed through by the user. Most importantly the user can choose to only see those recipes with a specific set of ingredients available to it. The user also has the option to filter, sort and favorite those recipes based on its preference. Moreover, the application also allows the user to add new recipes and ingredients to the application.

2. AIMS AND OBJECTIVES

The main aim of our application is to provide recipes to the consumers based on the ingredients already available with them, unlike other recipe providing applications where the ingredients available with the consumer is not taken into consideration.

The objectives of our project are as follows:

- To help the user decide a recipe to cook from the ingredients available with him/her.
- To guide the user to the recipe based on the user's choices and needs.
- To help save the user money and time by tediously referencing cook books and buying ingredients he/she does not need.

3. PROBLEM STATEMENT

We all have those times when we don't know what we could make for ourselves to eat from what we have available with us. Even if we do we, may not know about a new recipe that can be made from the same ingredients or an old recipe that can be made in a different way.

Today there are innumerable applications that provide consumers with recipes ranging from quick to healthy and from beginner to expert; all intending to save time. But, none of these applications take into account whether the recipes ingredients are available with the consumer at the point of time or not. They fail to provide recipes containing only the ingredients that are available, thus proving to be inefficient and wasting time rather than saving it. These contemporary applications also do not evaluate and learn from the user's choices thus further increasing the user's task of repeating already fed information again.

We plan on using a content-based recommendation system that will learn from user's inputs and provide the user with refined recommended recipes which suit the user's needs.

4. APPLICATION MODULES

The application has four major functionalities in this application. They are browsing all the favourite recipes, filtering and displaying the recipes based ingredients selected by the user, displaying all the recipes and adding a new recipe or an ingredient to the database.

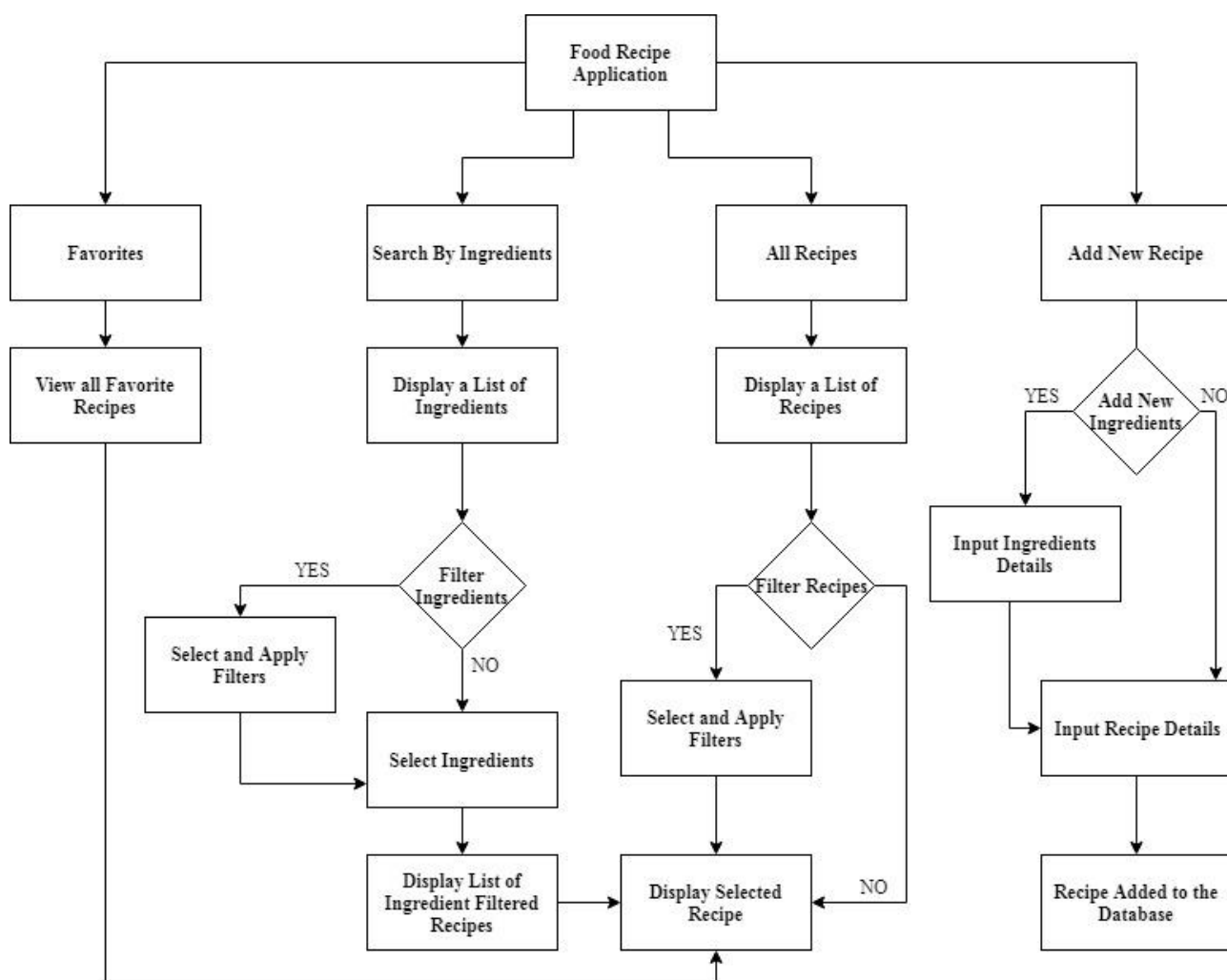


Figure 1: Application Flow

4.1 FAVOURITES PAGE

The favourite's page displays all the recipes that have been favourited by the user. The user can directly select and view the favourite recipes from the favourite's page. The user can also favourite and un-favourite a recipe in this page.

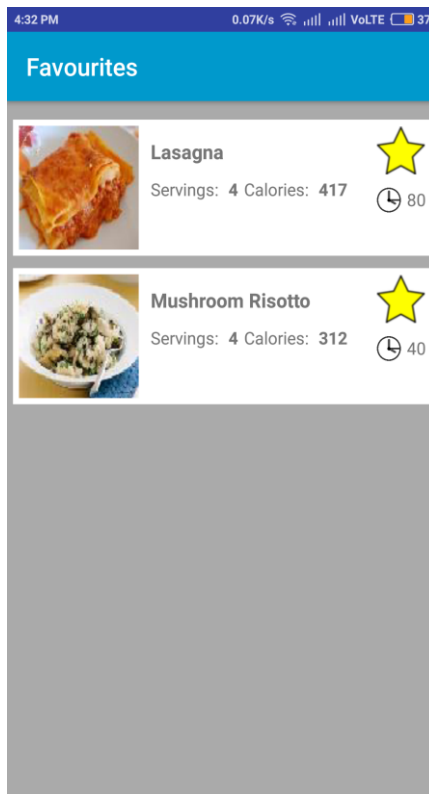


Figure 2: Favourite recipes on the favourites page

4.2 SEARCH BY INGREDIENTS PAGE

This is the major functionality of the application. The user can select the ingredients he/she wants and the application will display the recipes that contain those ingredients. The user can further filter and sort the ingredients to his/her needs. The application also provides a search bar where the user can input the wanted ingredient instead of scrolling down to it.

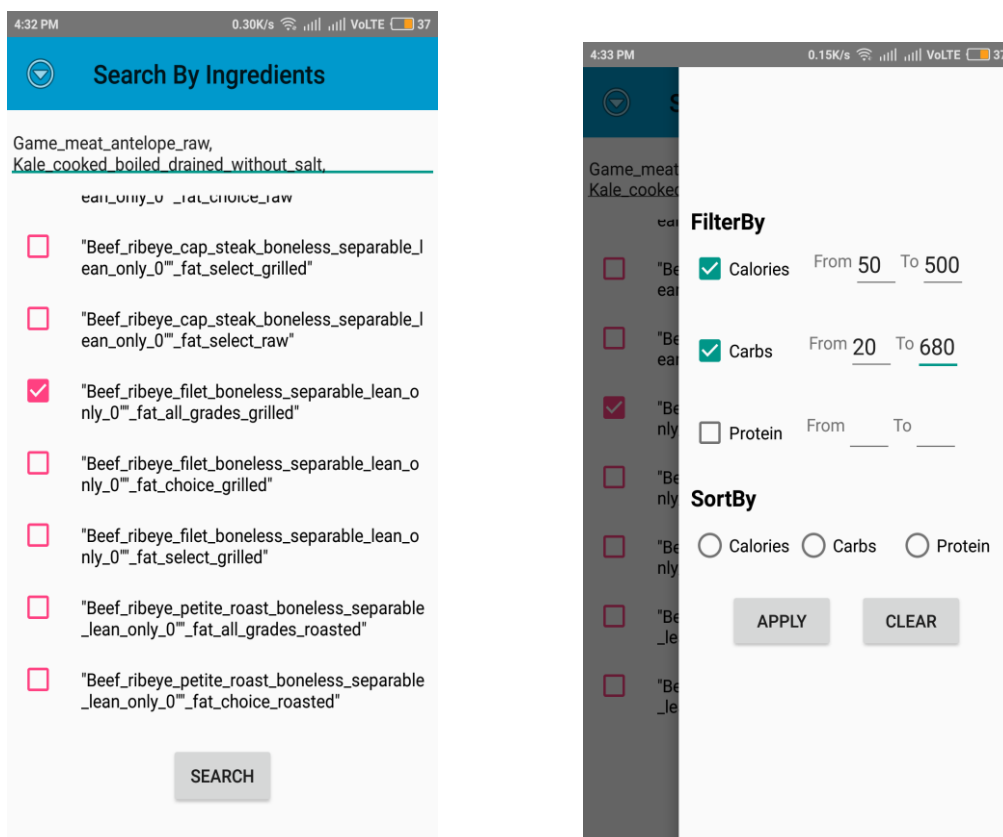


Figure 3 and 4: Search by ingredients page

4.3 ALL RECIPES PAGE

This page displays all the recipes in the database. The user can browse through the recipes and display the selected recipe details. The user can also search the recipe from the search bar present at the top of the page. The user can also favorite and un-favourite a recipe in this page.

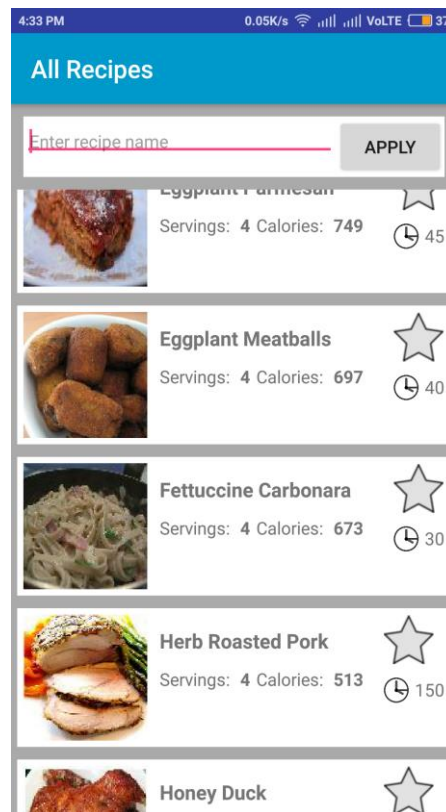


Figure 5: All Recipes page

4.4 ADD RECIPES / INGREDIENTS PAGE

This page allows the user to add a new recipe to the application database. The user can also add a new ingredient while adding a new recipe and add the newly added ingredient to the new recipe. The user can add multiple recipes at the same time.

The Parameters to be entered in a new recipe are:

- Recipe Name
- Ingredients
- Procedure
- Preparation and Cooking Time
- Servings

- Calories
- Difficulty
- Rating
- Favorite
- Image

The Parameters to be entered for a new ingredient are:

- Ingredient Name
- Calories
- Carbs
- Protein
- Fats
- Cholesterol
- Sodium

4:33 PM 0.18K/s VoLTE 37

Add Recipe

Recipe Name
pizza

Ingredients
Input multiple ingredients

Description
Enter Recipe Description

Preparation Time (Minutes)
Enter Preparation Time in Minutes

Cook Time
Enter Cook Time in Minutes

Servings
Enter Servings

Calories

4:34 PM 0.06K/s VoLTE 37

Add Recipe

Cook Time
Enter Cook Time in Minutes

Servings
Enter Servings

Calories
Enter Calories

Difficulty (1-10)
●

Ratings
★ ★ ★ ★ ★

Favourite **ADD IMAGE**

ADD MORE **DONE** **ADD INGREDIENTS**

Figure 6 and 7: Add Recipe Page

4:33 PM 0.02K/s VoLTE 37

Add Ingredients

Ingredient Name
Enter Ingredient Name

Calories
Enter Calories

Carbs
Enter Carbs

Protein
Enter Protein

Fats
Enter Fats

Cholesterol
Enter Cholesterol

Sodium

Figure 8: Add Ingredients Page

4.5 RECIPE DETAILS PAGE

The Recipe Details page displays all the details about a recipe. This page also allows the user to favourite a recipe, rate it and add notes.

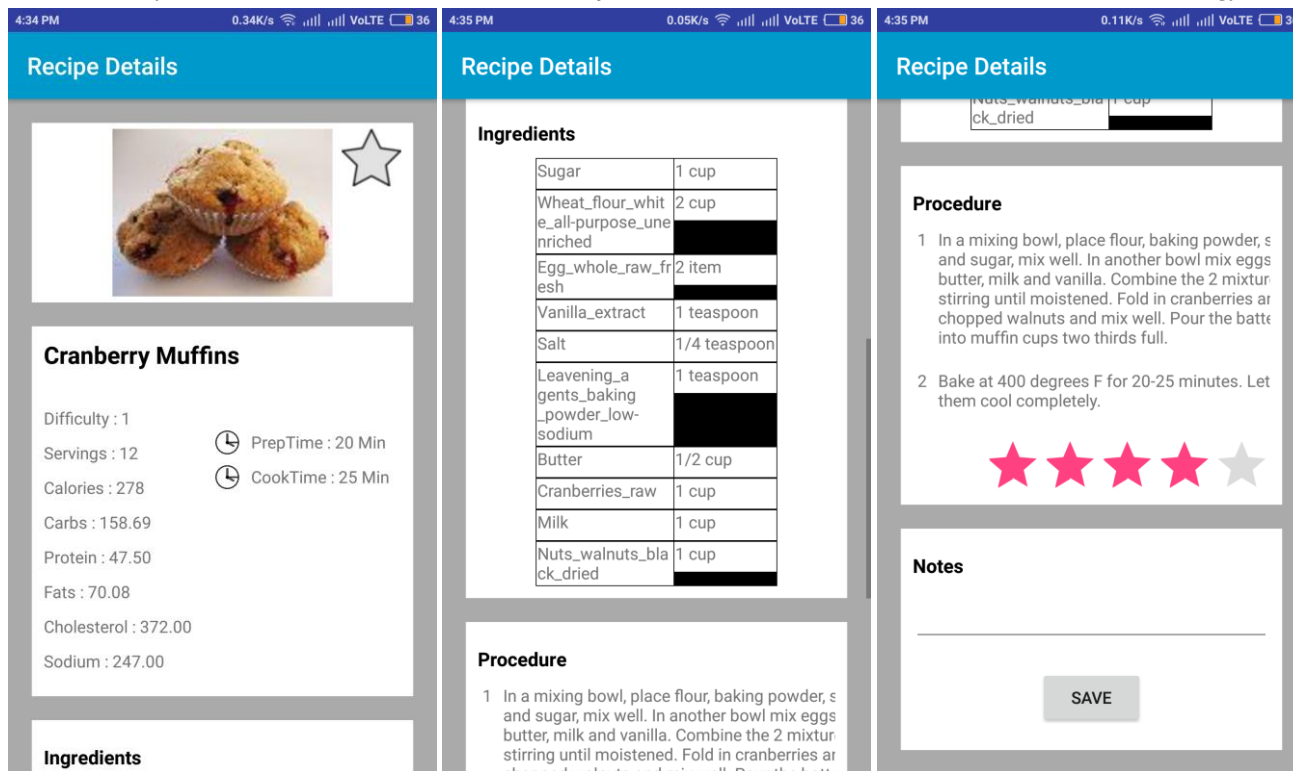


Figure 9, 10 and 11: Recipe Details Page

4.6 DATABASE TABLES STRUCTURES

Table 1: Aliments

NO	NAME	DATA TYPE	CONSTRAINTS
1	Aname	varchar	•primary key
2	Calories	integer	
3	Carbs	real (7, 2)	
4	Protein	real (7, 2)	
5	Fats	real (7, 2)	
6	Cholesterol	real (7, 2)	
7	Sodium	real (7, 2)	
8	Unity	varchar	•not null
9	Weight	real (7, 2)	
10	GroupType	integer	
11	Unity2	text	•default "
12	Weight2	real	•default '0.0

Table 2: Ingredients

NO	NAME	DATA TYPE	CONSTRAINTS
1	InName	varchar	•primary key
2	AllItem	varchar	•not null

Table 3: Keywords

NO	NAME	DATA TYPE	CONSTRAINTS
1	KeyName	varchar	•primary key
2	GroupName	integer	

Table 4: Pics

NO	NAME	DATA TYPE	CONSTRAINTS
1	ID	integer	•primary key autoincrement
2	PicData	Blob	•not null
3	RecItem	varchar	
4	PicNum	integer	

Table 5: Procedure

NO	NAME	DATA TYPE	CONSTRAINTS
1	ID	integer	•primary key autoincrement
2	Description	varchar	•not null
3	RecItem	varchar	
4	PicNum	integer	

Table 6: RecipeIngredients

NO	NAME	DATA TYPE	CONSTRAINTS
1	ID	integer	•primary key autoincrement
2	RecItem	varchar	
3	InItem	varchar	
4	Quantity	varchar	
5	AlUnity	real (7, 3)	

Table 7: RecipeKeywords

NO	NAME	DATA TYPE	CONSTRAINTS
1	ID	integer	•primary key autoincrement
2	KeyItem	varchar	
3	RecItem	varchar	

Table 8: RecipeNames

NO	NAME	DATA TYPE	CONSTRAINTS
1	ItemName	varchar	•primary key
2	Rating	real (2, 1)	
3	Difficulty	integer	
4	Preptime	integer	
5	Cooktime	integer	
6	Servings	integer	•default 4
7	Calories	integer	

5. CONCLUSION

This application allows the user to select the ingredients he or she wants and view recipes that contain those ingredients. These ingredients can be sorted and filtered to the user's convenience. The user can also view recipes directly and select the one to cook. Recipes can be also added by the user along with new ingredients. The recipes also show nutritional facts that can help the user make a better choice. Thus giving the user complete control over his or her food choices and preparation. This application was developed to solve one of the problems most people have, what could be made from the available ingredients. The application solves this and many other problems while also providing the user with nutritional knowledge about their food

6. ACKNOWLEDGEMENT

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