Databases Final Project: Recipe Application

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Goal: A Simple Application for Storing and Searching for Recipes

- Create your own profile or login to an existing profile
- Specific, useful search filters
- Search for both recipes and meals
- Create and view recipes and meals or your own

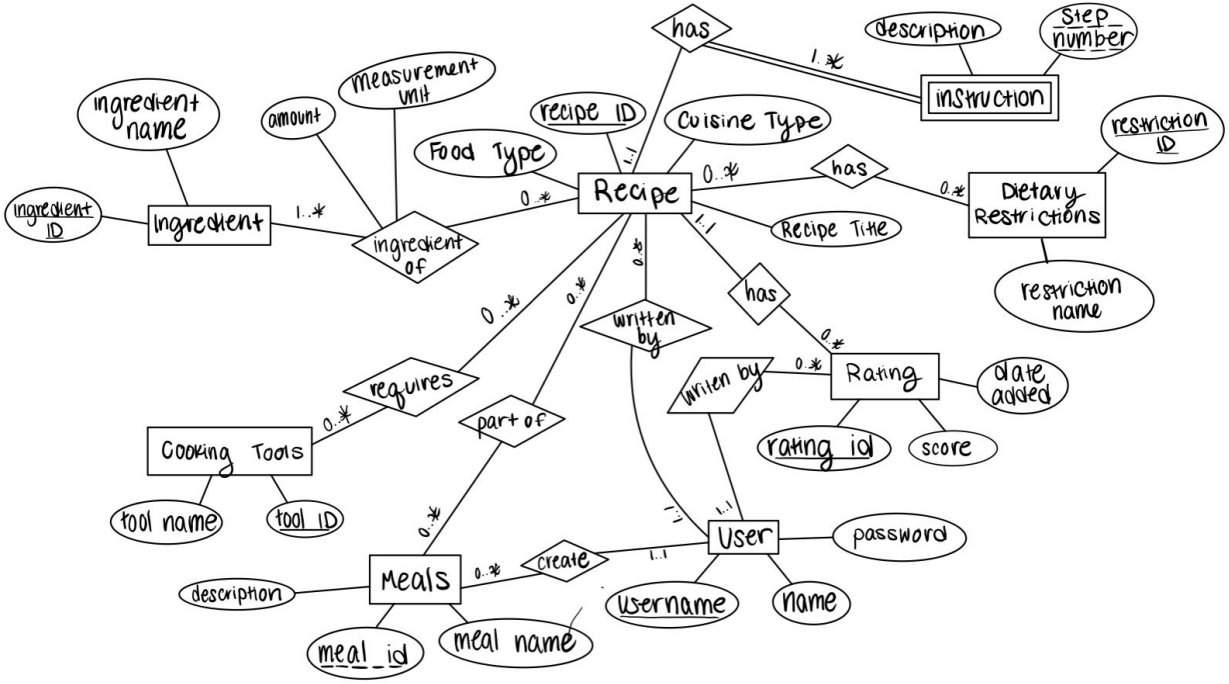
Technology Used

Front End:

- Python 3
- Tkinter Libraries

Back End:

- MySQL
- Gonzaga Database Servers


has
description
step_number
1..*
instruction
ingredient name
measurement unit
amount
recipe ID
Cuisine Type
restriction ID
Food Type
Recipe
0..*
has
Dietary Restrictions
ingredient ID
Ingredient
1..*
ingredient of
Recipe Title
restriction name
written by
has
requires
part of
written by
Rating
date added
Cooking Tools
rating id
score
tool name
tool ID
User
password
Meals
create
description
username
name
meal_id
meal name

ER Diagram

Complex Queries

(Will Be Shown In Demo)

- One large search query for recipes
- One large search query for meals

Anticipated Workload & Indexes

Generated Fake Info:

- 100 Users
- 1000 Recipes (10/per user)
- Each user has between 1 and 20 meals
- 15 Cooking Tools
- 6 Possible Dietary Restrictions
- 7 Possible Cuisines
- 70 ingredients across 7 cuisines
- 30 reviews for each recipe given random 1-5 scores

View Tables:

- Average Rating for Recipes
- Average Rating for Meals

Indexes:

- Defined on main attributes used in recipe/meal searches
  - Cuisine Type
  - Food Type
  - Dietary Restrictions
  - Cooking Tool
- Did not define on ingredients, won't make as much of an impact

The main things that were left incomplete were:

1) Some of our more complex queries
    a. A few of the queries we defined in project 5 ended up being a bit difficult to incorporate. Since the idea behind our application was to be able to enter as many search fields as possible, the only feasible way to do that was by taking the intersection of many queries, and not all queries we had previously defined were suitable for this kind of query.
2) Ability to edit existing recipes, delete recipes and add new meals
    a. lot of this was due to struggles with our GUI building platform, tkinter. In our original GUI designs, we hoped that users would be able to view recipes they had already made, and simply edit the text, then save. We also wanted to let users add meals by searching for recipes and then adding them to the meal, but it the complexity outweighed the importance and we ultimately just ran out of time.

Python/Tkinter code can be found in:

- RecipeGUI.py
    - Login/Signup pages, starts the main program
- RecipePage.py
    - Recipe Tab- All recipe search and display classes
- MealPage.py
    - Meal Tab- All meal search and display classes
- ProfilePage.py
    - Profile Tab- Adding and viewing users' data

Code for generating test value can be found in:

- content_generation.py

SQL code generated by content_generation.py:

- project-data.sql

SQL code to create tables and indexes:

- create.sql

To run the code:
>> python3 revisedGUI.py

To Login to the Application:
1) Either create a new Account, or
2) Login with:

username: chef_anna0
password: ilovetocook123!

All searches should work for uppercase and lowercase letters, and should ignore extra spaces

When adding recipes to the database, must at minimum specify a title, one ingredient, and one instruction step

Any inputted values that don't already exist in the database will be added

The values already in the database are:

Dietary Restrictions: ----------

"Vegan", "Vegetarian", "Lactose Intolerant", "Gluten Free", "Keto", "Pescatarian"

Cooking Tools: ----------

"Air Fryer", "Convection Oven", "Microwave", "Rice Cooker", "Popcorn Machine", "Spoons", "Pot", "Saucepan", "Large Bowl", "Standing Mixer", "Stovetop", "Oven", "Toaster", "Blender", "Grill"

Names are a Combination of The Following First/LastNames: ----------

First Names:
"Anna","Jalen","Ayisha","Nida","Cara","Ellise","Dominika","Samara","Addison","Amayah"

Last Names:
"Rivers","Whittington","Macias","Alvarez","Edwards","Franks","Riggs","Stott","Howe","Appleton","Kaur","Mercer","Rios","Hook","Blundell"

Ingredients: ----------

"Eggs", "Garlic", "Chicken", "Pork", "Beef", "Tomato", "Lettuce", "Rice", "Sugar", "Flour", "Water", "Milk", "Ginger", "Salt", "Mirin", "Wasabi", "Nori", "Rice Vinegar", "Miso", "Noodles", "Green Onion", "Soy Sauce", "Oyster Sauce", "Cabbage", "Scallions", "Chinese Soy Sauce", "Ground Pork", "Chili Paste", "Star Anise", "Shitake Mushrooms", "Plum Sauce", "Sesame Oil", "Basil", "Red Wine", "Pasta", "Balsamic Vinegar", "Raviolli,", "Mozzarella", "Oregano","Mushrooms", "Parmesean", "Ricotta", "Cloves", "Lentils", "Coriander", "Chickpeas", "Cinnamon", "Saffron", "Cardamom", "Tofu", "Garam Masala", "Coconut", "Rice Noodles", "Fish Sauce", "Hoisin", "Lemongrass", "Jasmine Rice", "Shrimp Paste", "Shallots", "Thai Basil", "Lemon", "Turmeric" "Black Beans", "Corn", "Jalepenos", "Avocados", "Lime", "Tortillas", "Chorizo", "Cilantro", "Pinto Beans", "White Beans" "Oil", "Bacon", "Butter", "Cereal", "Pancake Mix", "White Bread", "Twinkies", "Jell-o", "American Cheese", "Potato Chips"

Foods: ----------

"Sushi", "Miso Soup", "Tonkotsu Ramen", "Onigiri", "Tempura", "Soba Noodles", "Udon Noodles", "Wonton Soup", "Orange Chicken", "Sesame Chicken", "Sweet and Sour Pork", "Kung Pao Chicken", "Potstickers", "Risotto", "Lasagne", "Linguine", "Alfredo", "Cannoli",

"Breadsticks", "Meatloaf", "Mashed Potatoes", "Macaroni and Cheese", "Deep Fried Oreos", "Chicken Wings", "Scrambled Eggs", "Cereal", "Samosa", "Butter Chicken", "Tandoori Chicken", "Tikka Masala", "Dosas", "Pho", "Bahn Mi", "Spring Rolls", "Lemongrass Chicken", "Spicy Beef Soup", "Tacos", "Enchiladas", "Burritos", "Quesadillas", "Taquitos"