Scenario

Summary

We want to create a recipe creating/sharing and grocery list app. You'll be planning out what tables we'll need, what information they'll store, and how the data will relate to each other.

Features

- users can sign into the app with their email and password -
- users can create recipes with ingredients and instructions -
- recipes can be marked as public or private -
- users can view other people's recipes - (friend list or just set recipe public/private?)
- ingredients from recipes can be added to **user's grocery lists** -
- users can create their own occasions and assign recipes to occasions

Part 1: Conceptual Planning - Word/Google/Pages Doc

Features

Brainstorming things to keep track:

- User_id
- User_name
- User_email
- User_password
- User_profile (text)
- User_profile_photo (imageURL)
- Recipe_id
- Recipe_title (heading?)
- Recipe_visibility (public/private)
- Recipe_instructions (text)
- Recipe_image_URL
- Recipe_ingredients (ingredient_ID?)
- Ingredient_amount
- Grocery_list
- List_id
- Ingredients
- Ingredient_amount (quantity?)
- User_friend_list
- Occasion_ID
- Occasion_description
- Recipe_ID for occasion

Table Ideas:

- **User Table: This table will hold the key user info for identification**
    - User_id
    - Username
    - User_email
    - User_password
    - User_firstname
    - User_lastname
- **Recipe Table: This table holds unique info for each recipe**
    - Recipe_id
    - Recipe_title
    - Recipe_privacy (public/private)
    - Recipe_instructions (text)
    - Recipe_image_URL
    - Recipe_comments

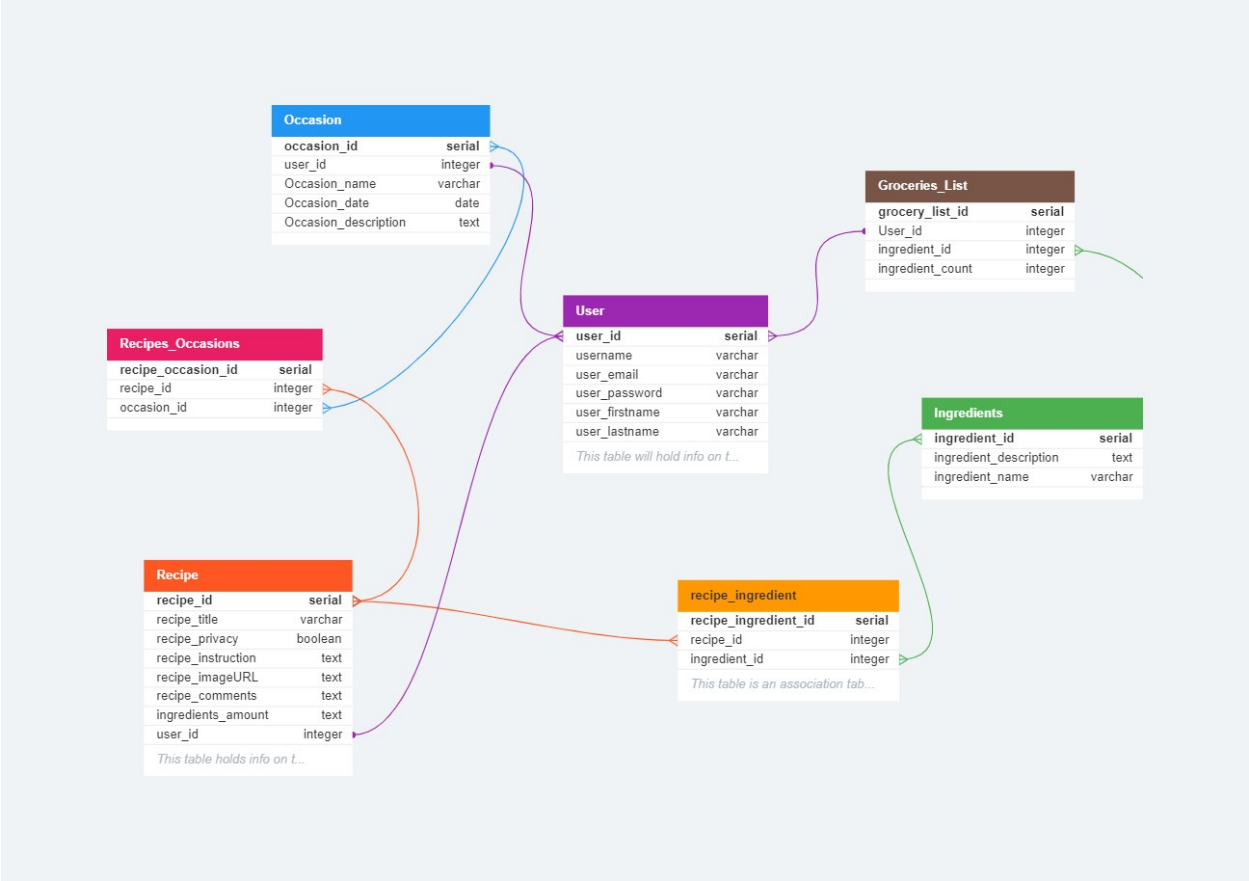
    - Ingredients_ID
    - Ingredient_amount (per recipe)
    - User_id
- **Ingredient Table: This table holds unique info on each ingredient**
    - Ingredients_ID
    - Ingredient_name
    - Ingredient_description
- **Groceries List Table: This is a middle table that contains the user info and ingredients because the user creates the groceries list based on their recipes**
    - Groceries_list_ID
    - User_id
    - Ingredients_ID
    - Ingredient_count (this is different than the ingredient_amount which is portion per each recipe)
- **Occasions Table: This stores info on each unique occasion**
    - Occasion_ID
    - User_ID
    - Occasion_name
    - Occasion_date
    - Occasion_description
- **Recipe_ingredient Table: This is an association table that link the recipe to the ingredient**
    - Recipe_ingredient_id
    - recipe_id
    - ingredient_id
- **Recipes_Occasions Table: This is an association table that link the recipe_id to occasion_id**
    - Recipe_Occasion_ID (Serial Primary Key)
    - Recipe_ID (tie to Recipe Table) (foreign key)
    - Occasion_Id (tie to Occasion Table) (foreign key)

Relationships

- One-to-One
    - **None**
- One-to-Many
    - **User Table to Recipe Table:** one user can have multiple recipes, but a recipe can only belong to one user and multiple recipes can also belong to one user.
    - **User Table to Occasions Table:**one user can have multiple occasions because the user has to create the occasion
    - **User Table to Groceries Table:** One user can create/edit multiple groceries list, but each grocery list only has one “owner user”.
- Many-to-Many
    - **Ingredient Table to Groceries Table:** one ingredient can belong to multiple groceries list, and one groceries list can contain multiple ingredients.
    - **User Table to Ingredients Table**: One user can consider many ingredients for a recipe or even a groceries list, and one ingredient can be considered by many users for a recipe or groceries list
    - **Recipes Table to Groceries Table:** one recipe can belong to many groceries list, and one groceries list can contain ingredients to make many recipes.
    - **Recipe Table to Ingredient Table:** the ingredient table contains the exact ingredient for the recipe.

Part 2: Table Planning - DB Designer & Word/Google/Pages Doc

Data Model Design using DB-DESIGNER.NET



Columns

- **User Signin Table: This table will hold info on the user**

User {
    user_id serial pk increments unique unique serial primary key for unique user_id
    username varchar(32) unique characters type with max 32 chars for unique username
    user_email varchar(32) unique characters type with max 32 chars for unique email
    user_password varchar(32) characters type with max 32 chars
    user_firstname varchar(32) characters type with max 32 chars
    user_lastname varchar(32) characters type with max 32 chars
}

- **Recipe Table: This table holds info on the recipe, instruction, ingredients, photos,**

Recipe {
    recipe_id serial pk increments unique unique serial primary key for unique recipe_id
    recipe_title varchar(100) chars type with max 100 chars
    recipe_privacy boolean boolean type (True/False) for Public/Private, with False as default case for Public
    recipe_instruction text chars type with max 500 chars for user to add instructions
    recipe_imageURL text null text type for user to add image URLs with as many chars as needed
    recipe_comments text null text type for user to comments with as many chars as needed
    ingredients_amount text text type for the amount/portion of ingredient for each recipe, this is text type because it is part of the instruction
    user_id integer unique >* User.user_id this is the creator of recipe, with id will always be integers or numbers in this example.
}

- **Ingredient Table: This table holds info on each ingredient type, the amount, user_id**

Ingredients {
    ingredient_id serial pk increments unique unique serial primary key for unique ingredient_id
    ingredient_description text text type for user to add description to each ingredient
    ingredient_name varchar(100) chars type for each ingredient name
}

- **Groceries Table: Only the user has access to this groceries list**

Groceries_List {
    grocery_list_id serial pk increments unique serial primary key for unique grocery_list_id
    User_id integer unique >* User.user_id unique id for the creator of each grocery list, id should be numbers or integers
    ingredient_id integer *>* Ingredients.ingredient_id unique id for each ingredient, id should be numbers of integers
    ingredient_count integer *>* Ingredients.ingredient_amount integer type for each ingredient amount, portion
}

- **Occasions Table: This stores info on the occasion for the user to make a recipe, user can create their own occasion and assign the recipe**

Occasion {
    occasion_id serial pk increments unique unique serial primary key for unique occasion_id
    user_id integer >* User.user_id unique id for the creator of each grocery list, id should be numbers or integers
    Occasion_name varchar(100) chars type with max 100 chars for each occasion name
    Occasion_date date unique unique date type for each occasion date
    Occasion_description text null text type for user to add description of occasion
}

- **Recipes_Occasion Bridge Table**

Recipes_Occasions {

recipe_occasion_id serial pk increments unique unique serial primary key for unique occasion_id

recipe_id integer unique *>* Recipe.recipe_id integer type for the recipe_id (tie back to recipe table)

occasion_id integer unique *>* Occasion.occasion_id integer type for the occasion_id (tie back to occasion table)

}

- **Recipe_Ingredient Bridge Table**

recipe_ingredient {

recipe_ingredient_id serial pk increments unique serial primary key for unique recipe_ingredient_id

recipe_id integer *>* Recipe.recipe_id integer type for the recipe_id (tie back to recipe table)

ingredient_id integer *>* Ingredients.ingredient_id integer type for ingredient_id (tie back to ingredient table)

}

Part 3: Create Tables in SQL - Postgres Sandbox & Word/Google/Pages Doc

SQL code examples using DB-FIDDLE.COM:

SCHEMA SQL:

```
-- Ingredients table -
CREATE TABLE Ingredients (
   ingredient_id SERIAL PRIMARY KEY,
         ingredient_name VARCHAR,
         ingredient_description TEXT
);

-- User table-
CREATE TABLE Users (
   user_id SERIAL PRIMARY KEY,
   username VARCHAR(32) UNIQUE,
   user_email VARCHAR(32) UNIQUE,
   user_password VARCHAR(32),
   user_firstname VARCHAR(32),
   user_lastname VARCHAR(32)
);

-- Occasion table -
CREATE TABLE Occasion (
   occasion_id SERIAL PRIMARY KEY,
   user_id INTEGER REFERENCES Users(user_id),
   Occasion_name VARCHAR(100),
   Occasion_date DATE UNIQUE,
   Occasion_description TEXT
);

-- Recipe table-
CREATE TABLE Recipe (
   recipe_id SERIAL PRIMARY KEY,
   recipe_title VARCHAR(100),
   recipe_privacy BOOLEAN,
   recipe_instruction TEXT,
   recipe_imageURL TEXT NULL,
   recipe_comments TEXT NULL,
   ingredients_amount TEXT,
```

```
    user_id INTEGER REFERENCES Users(user_id)
);

-- Groceries_List table-
CREATE TABLE Groceries_List (
    grocery_list_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES Users(user_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id),
    ingredient_count INTEGER
);

-- Recipes_Occasions table
CREATE TABLE Recipes_Occasions (
    recipe_occasion_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    occasion_id INTEGER REFERENCES Occasion(occasion_id)
);

-- recipe_ingredient table
CREATE TABLE recipe_ingredient (
    recipe_ingredient_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id)
);
```

QUERY SQL to insert data:

```
-- Insert a new user
INSERT INTO Users (username, user_email, user_password, user_firstname, user_lastname)
VALUES ('annabanana', 'ann@email.com', 'pass123', 'Ann', 'Banana');

-- Insert a new recipe
INSERT INTO Recipe (recipe_title, recipe_privacy, recipe_instruction, recipe_imageURL,
recipe_comments, ingredients_amount, user_id)
VALUES ('Shrimp Spring Rolls', true, 'Boil shrimp, Wash Veggies, Roll in Rice Paper, Make
Dipping Sauce', 'yummyspringroll.jpg', 'Delicious recipe!', 'Yummy', 1);

-- Insert ingredients for the recipe
INSERT INTO Ingredients (ingredient_name, ingredient_description)
VALUES ('Shrimp', 'Shrimp for protein'),
       ('Veggies & Herbs', 'Veggies for daily greens that you like'),
       ('rice paper', 'soft but chewy rice paper to wrap'),
       ('fish sauce', '3 crabs fish sauce brand');

-- Get the ingredient IDs for the recipe
```

```
SELECT ingredient_id FROM Ingredients WHERE ingredient_name IN ('Shrimp', 'Veggies &
Herbs', 'rice paper', 'fish sauce');

-- -- -- Insert the recipe's ingredients into the recipe_ingredient table
INSERT INTO recipe_ingredient (recipe_id, ingredient_id)
VALUES (1, 1), (1, 2), (1, 3), (1, 4);

-- -- -- Insert a new occasion
INSERT INTO Occasion (user_id, Occasion_name, Occasion_date, Occasion_description)
VALUES (1, 'Weekend_lunch', '2023-07-22', 'Lunch during the weekend when I want something
healthy and have time to make fresh spring rolls');


-- -- display all the tables to check
SELECT * FROM users;
SELECT * FROM Recipe;
SELECT * FROM Groceries_List;
SELECT * FROM Ingredients;
SELECT * FROM Occasion;

**Schema (PostgreSQL v15)**

    -- Ingredients table -
    CREATE TABLE Ingredients (
        ingredient_id SERIAL PRIMARY KEY,
            ingredient_name VARCHAR,
            ingredient_description TEXT
    );

    -- User table-
    CREATE TABLE Users (
        user_id SERIAL PRIMARY KEY,
        username VARCHAR(32) UNIQUE,
        user_email VARCHAR(32) UNIQUE,
        user_password VARCHAR(32),
        user_firstname VARCHAR(32),
        user_lastname VARCHAR(32)
    );

    -- Occasion table -
    CREATE TABLE Occasion (
        occasion_id SERIAL PRIMARY KEY,
        user_id INTEGER REFERENCES Users(user_id),
        Occasion_name VARCHAR(100),
```

```
    Occasion_date DATE UNIQUE,
    Occasion_description TEXT
);

-- Recipe table-
CREATE TABLE Recipe (
    recipe_id SERIAL PRIMARY KEY,
    recipe_title VARCHAR(100),
    recipe_privacy BOOLEAN,
    recipe_instruction TEXT,
    recipe_imageURL TEXT NULL,
    recipe_comments TEXT NULL,
    ingredients_amount TEXT,
    user_id INTEGER REFERENCES Users(user_id)
);

-- Groceries_List table-
CREATE TABLE Groceries_List (
    grocery_list_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES Users(user_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id),
    ingredient_count INTEGER
);

-- Recipes_Occasions table
CREATE TABLE Recipes_Occasions (
    recipe_occasion_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    occasion_id INTEGER REFERENCES Occasion(occasion_id)
);

-- recipe_ingredient table
CREATE TABLE recipe_ingredient (
    recipe_ingredient_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id)
);
```

Results: (Markdown)

Schema (PostgreSQL v15)

```
-- Ingredients table -
CREATE TABLE Ingredients (
    ingredient_id SERIAL PRIMARY KEY,
        ingredient_name VARCHAR,
        ingredient_description TEXT
);

-- User table-
CREATE TABLE Users (
    user_id SERIAL PRIMARY KEY,
    username VARCHAR(32) UNIQUE,
    user_email VARCHAR(32) UNIQUE,
    user_password VARCHAR(32),
    user_firstname VARCHAR(32),
    user_lastname VARCHAR(32)
);

-- Occasion table -
CREATE TABLE Occasion (
    occasion_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES Users(user_id),
    Occasion_name VARCHAR(100),
    Occasion_date DATE UNIQUE,
    Occasion_description TEXT
);

-- Recipe table-
CREATE TABLE Recipe (
    recipe_id SERIAL PRIMARY KEY,
    recipe_title VARCHAR(100),
    recipe_privacy BOOLEAN,
    recipe_instruction TEXT,
    recipe_imageURL TEXT NULL,
    recipe_comments TEXT NULL,
    ingredients_amount TEXT,
    user_id INTEGER REFERENCES Users(user_id)
);

-- Groceries_List table-
```

```
CREATE TABLE Groceries_List (
    grocery_list_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES Users(user_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id),
    ingredient_count INTEGER
);

-- Recipes_Occasions table
CREATE TABLE Recipes_Occasions (
    recipe_occasion_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    occasion_id INTEGER REFERENCES Occasion(occasion_id)
);

-- recipe_ingredient table
CREATE TABLE recipe_ingredient (
    recipe_ingredient_id SERIAL PRIMARY KEY,
    recipe_id INTEGER REFERENCES Recipe(recipe_id),
    ingredient_id INTEGER REFERENCES Ingredients(ingredient_id)
);
```

Query #1

```
INSERT INTO Users (username, user_email, user_password, user_firstname,
user_lastname)
VALUES ('annabanana', 'ann@email.com', 'pass123', 'Ann', 'Banana');
```

There are no results to be displayed.

Query #2

```
INSERT INTO Recipe (recipe_title, recipe_privacy, recipe_instruction, recipe_imageURL,
recipe_comments, ingredients_amount, user_id)
VALUES ('Shrimp Spring Rolls', true, 'Boil shrimp, Wash Veggies, Roll in Rice Paper, Make
Dipping Sauce', 'yummyspringroll.jpg', 'Delicious recipe!', 'Yummy', 1);
```

There are no results to be displayed.

Query #3

```
INSERT INTO Ingredients (ingredient_name, ingredient_description)
VALUES ('Shrimp', 'Shrimp for protein'),
    ('Veggies & Herbs', 'Veggies for daily greens that you like'),
    ('rice paper', 'soft but chewy rice paper to wrap'),
    ('fish sauce', '3 crabs fish sauce brand');
```

There are no results to be displayed.

Query #4

```
SELECT ingredient_id FROM Ingredients WHERE ingredient_name IN ('Shrimp', 'Veggies & Herbs', 'rice paper', 'fish sauce');
```

ingredient_id
1
2
3
4

Query #5

```
INSERT INTO recipe_ingredient (recipe_id, ingredient_id)
VALUES (1, 1), (1, 2), (1, 3), (1, 4);
```

There are no results to be displayed.

Query #6

```
INSERT INTO Occasion (user_id, Occasion_name, Occasion_date, Occasion_description)
VALUES (1, 'Weekend_lunch', '2023-07-22', 'Lunch during the weekend when I want something healthy and have time to make fresh spring rolls');
```

There are no results to be displayed.

Query #7

```
SELECT * FROM users;
```

user_id	username	user_email	user_password	user_firstname	user_lastname
1	annabanana	ann@email.com	pass123	Ann	Banana

Query #8

```
SELECT * FROM Recipe;
```

recipe_id	recipe_title	recipe_privacy	recipe_instruction	recipe_imageurl	recipe_comments	ingredients_amount	user_id
1	Shrimp Spring Rolls	true	Boil shrimp, Wash Veggies, Roll in Rice Paper, Make Dipping Sauce	yummyspringroll.jpg	Delicious recipe!	Yummy	1

Query #9

```
SELECT * FROM Groceries_List;
```

There are no results to be displayed.

Query #10

```
SELECT * FROM Ingredients;
```

ingredient_id	ingredient_name	ingredient_description
1	Shrimp	Shrimp for protein
2	Veggies & Herbs	Veggies for daily greens that you like
3	rice paper	soft but chewy rice paper to wrap
4	fish sauce	3 crabs fish sauce brand

Query #11

```
SELECT * FROM Occasion;
```

occasion_id	user_id	occasion_name	occasion_date	occasion_description

| 1 | 1 | Weekend_lunch | 2023-07-22T00:00:00.000Z | Lunch during the weekend when I want something healthy and have time to make fresh spring rolls |

[View on DB Fiddle](https://www.db-fiddle.com/f/tw2ZC8DrDX36BDZd7ZXhd4/0)