

# CPSC 304 Project Cover Page

Milestone #: 4

Date: December 1, 2023

Group Number: 4

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

**SQL Script (available at:**

[https://github.students.cs.ubc.ca/CPSC304-2023W-T1/project\\_i0q5c\\_p9k6b\\_u3s3n/blob/main/db/schema\\_and\\_samples.sql](https://github.students.cs.ubc.ca/CPSC304-2023W-T1/project_i0q5c_p9k6b_u3s3n/blob/main/db/schema_and_samples.sql))

**README.txt (available at:**

[https://github.students.cs.ubc.ca/CPSC304-2023W-T1/project\\_i0q5c\\_p9k6b\\_u3s3n#readme](https://github.students.cs.ubc.ca/CPSC304-2023W-T1/project_i0q5c_p9k6b_u3s3n#readme))

## A. Summary of Project

"EatHub" is an application that will allow users to easily track their recipes and manage all aspects of the recipe creation process. The application will model recipe information, collaboration and version control, and ingredient management. The database will allow users to create, edit, clone, fork, and share, and access past versions of recipes.

The version we arrived at does not yet support cloning or forking. However, a user is able to create, edit, rate, and access versions of different recipes.

## B. Changes in Schema

1. Added: Feedback, Removed: Comments, Ratings: For our purpose of having comments and ratings linked to Versions in a Recipe, it was easier for us to modify feedback in a single table instead of having to join two separate Comment and Rating tables.
2. Added: UserType: Used to differentiate two types of users that would use the app, and used for the login screen to determine a user's functionality access.
3. User -> UserInfo, UserAge, UserBMI: After going through table normalization process, we decided it is inefficient to keep some of the variables in one table since there are some dependencies. So the table User was split into three.

## C. Relational Schemas & Screenshots of Instances

UserType (userType, typeName)

	USERTYPE	TYPENAME
1	1	admin
2	2	contributor

UserInfo (userID, userType, email, name, birthday, weight, height)

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	USERID	USERTYPE	EMAIL	NAME	BIRTHDAY	WEIGHT	HEIGHT
1	1	1	tony.stark@gmail.com	Tony Stark	1980-02-28	220	190
2	2	2	diana.prince@gmail.com	Diana Prince	1985-10-25	150	180
3	3	2	bruce.wayne@gmail.com	Bruce Wayne	1975-03-30	180	188
4	4	2	peter.parker@gmail.com	Peter Parker	1995-08-15	167	178
5	5	2	miles.morales@gmail.com	Miles Morales	2001-11-12	160	175
6	6	2	jiyoung.lee@gmail.com	Jiyoung Lee	1990-05-20	140	165
7	7	2	hiroshi.tanaka@gmail.com	Hiroshi Tanaka	1988-09-10	170	175
8	8	2	aisha.kumar@gmail.com	Aisha Kumar	1993-12-05	155	160
9	9	2	rajesh.singh@gmail.com	Rajesh Singh	1982-07-18	180	175
10	10	2	sakura.yamamoto@gmail.com	Sakura Yamamoto	1998-03-15	120	155
11	11	2	jung-hoon.kim@gmail.com	Jung-Hoon Kim	1987-11-08	160	170
12	12	2	mei.lin@gmail.com	Mei Lin	1995-06-22	130	160
13	13	2	suresh.sharma@gmail.com	Suresh Sharma	1984-04-30	175	178
14	14	2	xiaoming.chen@gmail.com	Xiaoming Chen	1991-08-12	155	165
15	15	2	natsuki.takahashi@gmail.com	Natsuki Takahashi	1996-01-25	140	162

UserAge([birthday](#), [age](#))

	BIRTHDAY	AGE
1	1980-02-28	53
2	1985-10-25	38
3	1975-03-30	48
4	1995-08-15	28
5	2001-11-12	22
6	1990-05-20	32
7	1988-09-10	34
8	1993-12-05	28
9	1982-07-18	41
10	1998-03-15	25
11	1987-11-08	36
12	1995-06-22	26
13	1984-04-30	38
14	1991-08-12	31
15	1996-01-25	27

UserBMI([weight](#), [height](#), BMI)

	 WEIGHT 	 HEIGHT 	 BMI 
1	220	190	24
2	150	180	21
3	180	188	27
4	167	178	24
5	160	175	25
6	140	165	21
7	170	175	55
8	155	160	35
9	180	175	59
10	120	155	25
11	160	170	55
12	130	160	31
13	175	178	55
14	155	165	38
15	140	162	27

Recipe(recipeID, recipeName, recipeCategory)

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	 RECIPEID ↕	 RECIPENAME ↕	 RECIPECATEGORY ↕
1	1	Spaghetti Bolognese	Italian
2	2	Chicken Stir-Fry	Asian
3	3	Caprese Salad	Salad
4	4	Beef Tacos	Mexican
5	5	Mushroom Risotto	Italian
6	6	Sushi Rolls	Asian
7	7	Pad Thai	Asian
8	8	Kimchi Fried Rice	Asian
9	9	Teriyaki Chicken	Asian
10	10	Bibimbap	Asian
11	11	Green Curry	Asian
12	12	Dim Sum Platter	Asian
13	13	Miso Soup	Asian
14	14	Chilli Chicken	Asian
15	15	Beef and Broccoli Stir-Fry	Asian
16	16	Chocolate Fudge Cake	Dessert
17	17	Apple Pie	Dessert
18	18	Cheesecake	Dessert
19	19	Tiramisu	Dessert
20	20	Lemon Tart	Dessert
21	21	Grilled Salmon	Seafood
22	22	Shrimp Scampi	Seafood
23	23	Fish Tacos	Seafood
24	24	Lobster Bisque	Seafood
25	25	Crab Cakes	Seafood
26	26	Vegetable Stir-Fry	Vegetarian
27	27	Mushroom Stroganoff	Vegetarian
28	28	Eggplant Parmesan	Vegetarian
29	29	Veggie Burger	Vegetarian
30	30	Spinach and Ricotta Lasagna	Vegetarian
31	31	Chicken Enchiladas	Mexican
32	32	Caesar Salad	Salad
33	33	Greek Salad	Salad
34	34	Quinoa Salad	Salad

Version(versionID, recipeID, instructions, versionDate, versionServing, calories)

	🔍 VERSIONID ↕	📖 RECIPEID ↕	📖 INSTRUCTIONS	📅 VERSIONDATE ↕	🍴 VERSIONSERVING ↕	🔥 CALORIES ↕
1	1	2	Heat oil in a wok. Add chicken and stir-fry for 5 minutes. Add vegetables and sauce. Stir-fry for an additiona...	2023-10-20	4	350
2	2	2	Marinate chicken in soy sauce and garlic for 30 minutes before stir-frying. Add broccoli and peppers for added...	2023-10-20	4	370
3	3	2	For a spicier version, add chili flakes and ginger while stir-frying the chicken. Serve with steamed rice.	2023-10-20	4	400
4	4	2	Use low-sodium soy sauce and olive oil for a healthier option. Include sliced carrots and snap peas for added ...	2023-10-20	4	330
5	5	2	Make it gluten-free by using tamari sauce. Add water chestnuts and baby corn for a unique twist.	2023-10-20	4	360
6	1	3	Add a variety of colorful bell peppers for enhanced flavor and presentation.	2023-11-19	4	350
7	2	3	Include cherry tomatoes and cucumbers for a refreshing crunch.	2023-11-20	4	330
8	3	3	Try a balsamic vinaigrette dressing for a tangy twist.	2023-11-21	4	340
9	4	3	Incorporate roasted nuts or seeds for added texture.	2023-11-22	4	365
10	5	3	Mix in some grilled chicken or shrimp for a protein boost.	2023-11-23	4	380
11	6	3	For a crunchy texture, top the finished dish with roasted cashews or almonds just before serving.	2023-10-20	4	360
12	7	3	Boost the nutritional value by incorporating a mix of kale and spinach into the stir-fry during the last two m...	2023-10-20	4	360
13	8	3	Introduce a sweet element by including pineapple chunks and a dash of honey along with the vegetables.	2023-10-20	4	360
14	9	3	Enhance the flavors by adding a tablespoon of oyster sauce and a teaspoon of sesame oil to the stir-fry sauce.	2023-10-20	4	360
15	10	3	For a vegetarian twist, replace chicken with firm tofu cubes and marinate in teriyaki sauce before stir-frying.	2023-10-20	4	360
16	1	10	Vegetarian - remove meat.	2023-11-19	1	360
17	2	10	Spicy - Additional pepper sauce.	2023-11-19	1	360
18	1	1	Start by boiling water and cooking pasta until al dente.	2023-11-19	4	500
19	1	4	Season beef and cook until browned. Serve with tortillas and toppings.	2023-11-19	4	450
20	1	5	Slowly stir broth into arborio rice for a creamy risotto.	2023-11-19	2	600
21	1	7	Fry rice noodles until soft, then add sauce and protein of choice.	2023-11-19	3	550
22	1	9	Marinate chicken in teriyaki sauce, then grill until fully cooked.	2023-11-19	3	400
23	1	11	Simmer coconut milk with green curry paste, adding vegetables and protein as desired.	2023-11-19	4	500
24	1	13	Combine miso paste with dashi broth, adding tofu and seaweed.	2023-11-19	2	300
25	1	14	Stir-fry chicken with chili sauce and bell peppers.	2023-11-19	4	450
26	1	15	Mix beef with broccoli in a savory stir-fry sauce.	2023-11-19	4	500
27	2	1	Add a pinch of basil and oregano for enhanced flavor.	2023-11-20	4	520
28	3	1	Try with whole wheat pasta for a healthier alternative.	2023-11-21	4	500
29	2	4	Use corn tortillas and top with fresh cilantro.	2023-11-20	4	460
30	3	4	Try a spicy variant with jalapeños and hot salsa.	2023-11-21	4	470
39	1	21	Grill salmon fillets and serve with a lemon b...	2023-11-19	4	400
40	1	22	Sauté shrimp in garlic butter and serve over ...	2023-11-19	4	500
41	1	23	Assemble fish tacos with cabbage slaw and a c...	2023-11-19	4	350
42	1	24	Simmer lobster shells in a rich and creamy br...	2023-11-19	4	550
43	1	25	Combine crab meat with spices and fry until g...	2023-11-19	4	400
44	1	26	Stir-fry a mix of fresh vegetables with soy s...	2023-11-19	4	250
45	1	27	Cook mushrooms and onions in a creamy sauce, ...	2023-11-19	4	600
46	1	28	Layer fried eggplant with marinara sauce and ...	2023-11-19	6	550
47	1	29	Grill veggie patties and serve on buns with y...	2023-11-19	4	350
48	1	30	Layer lasagna sheets with spinach, ricotta, a...	2023-11-19	6	700
49	1	31	Wrap chicken and cheese in tortillas and bake...	2023-11-19	4	550
50	1	32	Toss romaine lettuce with Caesar dressing, cr...	2023-11-19	4	300
51	1	33	Combine tomatoes, cucumbers, olives, and feta...	2023-11-19	4	250
52	1	34	Mix cooked quinoa with vegetables and a lemon...	2023-11-19	4	350

MealPlan(mealplanID, userID, mealplanName, mealplanCategory)





	🔍 MEALPLANID ↕	👤 USERID ↕	📖 MEALPLANNAME	📖 MEALPLANCATEGORY
1	3	1	Family Dinners	Homestyle
2	4	2	Gluten-Free Week	Gluten-Free
3	5	1	Mediterranean Feast	Mediterranean
4	6	2	Vegan Challenge	Vegan
5	7	1	Asian Fusion	Asian

Meal(mealID, mealplanID, mealName, mealCategory, mealDay)

	🔍 MEALID ↕	🔍 MEALPLANID ↕	📖 MEALNAME	📖 MEALCATEGORY	📅 MEALDAY ↕
1	1	6	Breakfast Burrito	Breakfast	2023-10-21
2	2	6	Quinoa Salad	Salad	2023-10-22
3	3	6	Veggie Stir-Fry	Asian	2023-10-23
4	4	6	Tofu Scramble	Breakfast	2023-10-24
5	5	3	Sushi Rolls	Asian	2023-10-25

GroceryList(grocerylistID, userID, createDate, fulfillDate)

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	 GROCERYLISTID ↕	 USERID ↕	 CREATEDATE ↕	 FULFILLDATE ↕
1	1	1	2023-10-20	2023-10-27
2	2	1	2023-10-20	2023-10-31
3	3	1	2023-10-20	2023-11-03
4	4	1	2023-10-20	2023-11-07
5	5	1	2023-10-20	2023-11-10

Ingredient(ingredientName, unitOfMeasure, ingredientCategory)

	 INGREDIENTNAME ↕	 UNITOFMEASURE ↕	 INGREDIENTCATEGORY ↕
1	Chicken	Pound	Meat
2	Broccoli	Ounce	Vegetable
3	Soy Sauce	Tablespoon	Sauce
4	Rice	Cup	Grain
5	Garlic	Cloves	Vegetable

Feedback(feedbackID, **versionID**, **recipeID**, **userID**, feedbackComment, feedbackRating, feedbackDate)

	 FEEDBACKID ↕	 VERSIONID ↕	 RECIPEID ↕	 USERID ↕	 FEEDBACKCOMMENT ↕	 FEEDBACKRATING ↕	 FEEDBACKDATE ↕
1	1	1	2	1	Great recipe! I loved it.	5	2023-10-24
2	2	2	2	2	The added broccoli was a nice touch.	4	2023-10-25
3	3	3	2	3	A bit too spicy for me.	2	2023-10-26
4	4	4	2	1	Loved the healthier take on this!	5	2023-10-27
5	5	5	2	2	The gluten-free version is excellent.	4	2023-10-28
6	6	1	3	3	The bell peppers added great color.	3	2023-10-29
7	7	2	3	1	Refreshing taste with the tomatoes.	4	2023-10-30
8	8	3	3	2	Loved the tangy balsamic dressing.	5	2023-10-31
9	9	4	3	3	Roasted nuts were a great addition.	4	2023-11-01
10	10	5	3	1	Chicken made it more filling.	5	2023-11-02
11	11	1	4	2	Beef was a bit overcooked.	2	2023-11-03
12	12	1	5	3	Risotto was too salty for my taste.	1	2023-11-04
13	13	2	4	1	Needed more seasoning.	3	2023-11-05
14	14	2	4	2	Texture was not quite right.	2	2023-11-06
15	15	1	7	3	Noodles were undercooked.	1	2023-11-07
16	16	1	9	1	Chicken was dry.	2	2023-11-08
17	17	2	2	2	Lacked flavor.	3	2023-11-09
18	18	2	3	3	Sauce was too sweet.	2	2023-11-10
19	19	1	11	1	Curry was too mild.	3	2023-11-11
20	20	1	13	2	Soup lacked depth in flavor.	1	2023-11-12

29	29	1	14	1 Chilll Chicken had a great balance of spices.	4	2023-09-07
30	30	1	15	1 Beef and Broccoli Stir-Fry lacked seasoning.	2	2023-10-12
31	31	1	16	1 Chocolate Fudge Cake was absolutely delicious.	5	2023-11-02
32	32	1	17	1 Apple Pie crust was too hard.	1	2023-12-20
33	33	1	18	1 Cheesecake was creamy and just perfect.	5	2023-02-28
34	34	1	19	1 Tiramisu lacked the coffee flavor I was expecting.	3	2023-04-14
35	35	1	20	1 Lemon Tart was too sour for my liking.	2	2023-05-06
36	36	1	21	1 Grilled Salmon was cooked to perfection.	4	2023-06-19
37	37	1	22	1 Shrimp Scampi was a bit too greasy.	2	2023-07-12
38	38	1	23	1 Fish Tacos were okay, nothing special.	3	2023-08-23
39	39	1	24	1 Lobster Bisque had a fantastic depth of flavor.	5	2023-09-17
40	40	1	25	1 Crab Cakes fell apart while cooking.	2	2023-10-29
41	41	1	26	1 Vegetable Stir-Fry was surprisingly good.	4	2023-11-11
42	42	1	27	1 Mushroom Stroganoff needed more seasoning.	3	2023-01-22
43	43	1	28	1 Eggplant Parmesan was a hit in my family.	5	2023-03-05
44	44	1	29	1 Veggie Burger lacked flavor.	1	2023-04-18
45	45	1	30	1 Spinach and Ricotta Lasagna was just okay.	3	2023-06-08
46	46	1	31	1 Chicken Enchiladas were too dry.	2	2023-07-21
47	47	1	32	1 Caesar Salad dressing was spot on.	4	2023-08-30
48	48	1	33	1 Greek Salad was fresh and tasty.	4	2023-09-25
49	49	1	34	1 Quinoa Salad lacked a punch of flavor.	2	2023-10-15
50	50	1	1	2 Too salty.	2	2023-01-07
51	51	1	5	2 Loved it.	5	2023-02-13
52	52	1	6	2 Not my taste.	1	2023-03-22
53	53	1	7	2 Delightful!	4	2023-04-18
54	54	1	8	2 Just okay.	3	2023-05-25
55	55	1	9	2 Amazing flavor!	5	2023-06-09
56	56	1	10	2 Bit bland.	2	2023-07-14
57	57	1	11	2 Too spicy.	1	2023-08-06
58	58	1	12	2 Really good.	4	2023-09-10
59	59	1	13	2 Lacks flavor.	2	2023-10-03
60	60	1	14	2 Perfect!	5	2023-11-11
61	61	1	15	2 Too greasy.	2	2023-12-15
62	62	1	16	2 Yummy!	5	2023-01-28
63	63	1	17	2 Undercooked.	1	2023-02-19
64	64	1	18	2 Great texture.	4	2023-03-21
65	65	1	19	2 Needs more coffee.	3	2023-04-12
66	66	1	20	2 Too tart.	2	2023-05-17
67	67	1	21	2 Well cooked.	4	2023-06-23
68	68	1	22	2 Lacking seasoning.	2	2023-07-29
69	69	1	23	2 Fair enough.	3	2023-08-15
70	70	1	24	2 Rich and creamy.	5	2023-09-18
71	71	1	25	2 Not fresh.	1	2023-10-21
72	72	1	26	2 Quite good.	4	2023-11-07
73	73	1	27	2 Mushy texture.	2	2023-12-09
74	74	1	28	2 Delicious!	5	2023-01-15
75	75	1	29	2 Very dry.	1	2023-02-22
76	76	1	30	2 Not bad.	3	2023-03-18
77	77	1	31	2 Overcooked.	2	2023-04-20
78	78	1	32	2 Enjoyed it.	4	2023-05-28
79	79	1	33	2 Too plain.	2	2023-06-16
80	80	1	34	2 Fresh and tasty.	4	2023-07-24

Contains (grocerylistID, ingredientName, quantity)

	 GROCERYLISTID ÷	 INGREDIENTNAME ÷	 QUANTITY ÷
1	1	Chicken	1
2	1	Broccoli	2
3	1	Soy Sauce	1
4	1	Rice	2
5	1	Garlic	1

Uses (versionID, recipeID, ingredientName, measure)



	VERSIONID ÷	RECIPEID ÷	INGREDIENTNAME ÷	MEASURE ÷
1	1	2	Chicken	1
2	2	2	Broccoli	8
3	3	2	Rice	1
4	4	2	Garlic	1
5	5	2	Soy Sauce	1

References ([versionID](#), [recipeID](#), [mealID](#), [serving](#))


	VERSIONID ÷	RECIPEID ÷	MEALID ÷	SERVING ÷
1	1	2	5	1
2	2	2	4	4
3	3	2	3	3
4	4	2	2	2
5	5	2	1	1

#### D. List of all SQL Queries & Locations

SQL Queries	Location	Line #
INSERT	<a href="#">appService.js/insertMeal</a>	181
DELETE	<a href="#">appService.js/deleteRecipe</a>	196
UPDATE	<a href="#">appService.js/updateFeedback</a>	210
SELECTION	<a href="#">appService.js/getRecipe</a>	133
PROJECTION	<a href="#">appService.js/queryTable</a>	242, 253
JOIN	<a href="#">appService.js/joinFeedbackRating</a>	227
AGGREGATION W/ GROUP BY	<a href="#">appService.js/countFeedbackByUser</a>	281
AGGREGATION W/ HAVING	<a href="#">appService.js/aggregationHaving</a>	265
NESTED AGGREGATION W/ GROUP BY	<a href="#">appService.js/nestedQueryFeedback</a>	293
DIVISION	<a href="#">appService.js/division</a>	319

## E. Screenshots Demonstrating Functionality

### INSERT

<b>Before</b>	<p>There is a table displaying the “list of all meals” from a contributor. The foreign key is MealPlanID.</p> <table border="1"><thead><tr><th>MEALID</th><th>MEALPLANID</th><th>MEALNAME</th><th>MEALCATEGORY</th><th>MEALDAY</th></tr></thead><tbody><tr><td>1</td><td>6</td><td>Breakfast Burrito</td><td>Breakfast</td><td>2023-10-21T08:00:00.000Z</td></tr><tr><td>2</td><td>6</td><td>Quinoa Salad</td><td>Salad</td><td>2023-10-22T08:00:00.000Z</td></tr><tr><td>3</td><td>6</td><td>Veggie Stir-Fry</td><td>Asian</td><td>2023-10-23T08:00:00.000Z</td></tr><tr><td>4</td><td>6</td><td>Tofu Scramble</td><td>Breakfast</td><td>2023-10-24T08:00:00.000Z</td></tr><tr><td>5</td><td>3</td><td>Sushi Rolls</td><td>Asian</td><td>2023-10-25T08:00:00.000Z</td></tr></tbody></table>	MEALID	MEALPLANID	MEALNAME	MEALCATEGORY	MEALDAY	1	6	Breakfast Burrito	Breakfast	2023-10-21T08:00:00.000Z	2	6	Quinoa Salad	Salad	2023-10-22T08:00:00.000Z	3	6	Veggie Stir-Fry	Asian	2023-10-23T08:00:00.000Z	4	6	Tofu Scramble	Breakfast	2023-10-24T08:00:00.000Z	5	3	Sushi Rolls	Asian	2023-10-25T08:00:00.000Z
MEALID	MEALPLANID	MEALNAME	MEALCATEGORY	MEALDAY																											
1	6	Breakfast Burrito	Breakfast	2023-10-21T08:00:00.000Z																											
2	6	Quinoa Salad	Salad	2023-10-22T08:00:00.000Z																											
3	6	Veggie Stir-Fry	Asian	2023-10-23T08:00:00.000Z																											
4	6	Tofu Scramble	Breakfast	2023-10-24T08:00:00.000Z																											
5	3	Sushi Rolls	Asian	2023-10-25T08:00:00.000Z																											
<b>During</b>	<div><h3>Insert New Meal</h3><p>MealPlanID: <input type="text" value="3"/></p><p>MealID: <input type="text" value="6"/></p><p>Name: <input type="text" value="Butter Chicken"/></p><p>Category: <input type="text" value="Asian"/></p><p>Day: <input type="text" value="2023-11-27"/> </p><p><input type="button" value="Insert"/></p></div>																														

After

Meal is inserted into the table with a success message displayed.

Insert New Meal

MealPlanID:

3

MealID:

6

Name:

Butter Chicken

Category:

Asian

Day:

2023-11-27

Insert

Meal inserted successfully!

1	6	Breakfast Burrito	Breakfast	2023-10-21T08:00:00.000Z
2	6	Quinoa Salad	Salad	2023-10-22T08:00:00.000Z
3	6	Veggie Stir-Fry	Asian	2023-10-23T08:00:00.000Z
4	6	Tofu Scramble	Breakfast	2023-10-24T08:00:00.000Z
5	3	Sushi Rolls	Asian	2023-10-25T08:00:00.000Z
6	3	Butter Chicken	Asian	2023-11-27T08:00:00.000Z

## DELETE

Before

There is a table displaying the “list of all recipes”.

RECIPEID	RECIPENAME	RECIPECATEGORY
1	Spaghetti Bolognese	Italian
2	Chicken Stir-Fry	Asian
3	Caprese Salad	Salad
4	Beef Tacos	Mexican
5	Mushroom Risotto	Italian

During

Delete Existing Recipe

RecipeID:

1

Delete

After

Recipe is deleted from the table with a success message displayed.

Delete Existing Recipe

RecipeID:

Delete

Recipe deleted successfully!

RECIPEID	RECIPENAME	RECIPECATEGORY
2	Chicken Stir-Fry	Asian
3	Caprese Salad	Salad
4	Beef Tacos	Mexican
5	Mushroom Risotto	Italian
6	Sushi Rolls	Asian

UPDATE

Before

There is a table displaying the “list of all feedback” from a contributor. The primary key is feedbackID. The non-primary key foreign key is versionID and recipeID. The non-primary keys are: versionID, recipeID, feedbackComment, feedbackRating, and feedbackDate.

FEEDBACKID	VERSIONID	RECIPEID	USERID	FEEDBACKCOMMENT	FEEDBACKRATING	FEEDBACKDATE
1	1	2	1	Great recipe! I loved it.	5	2023-10-24T08:00:00.000Z
4	4	2	1	Loved the healthier take on this!	5	2023-10-27T08:00:00.000Z
7	2	3	1	Refreshing taste with the tomatoes.	4	2023-10-30T08:00:00.000Z
						-----

During

Update Existing Feedback

FeedbackID:

1

▼

VersionID:

4

RecipeID:

2

Comment:

Needed to add more soy sauce, but great overall!

Rating (0-5):

4

Date:

2023-11-28

Update

Feedback is updated with a success message displayed.

FeedbackID:	<input type="text" value="1"/>
VersionID:	<input type="text" value="4"/>
RecipeID:	<input type="text" value="2"/>
Comment:	<input type="text" value="Needed to add more soy sauce, but great overall!"/>
Rating (0-5):	<input type="text" value="4"/>
Date:	<input type="text" value="2023-11-28"/>

Feedback updated successfully!

FEEDBACKID	VERSIONID	RECIPEID	USERID	FEEDBACKCOMMENT	FEEDBACKRATING	FEEDBACKDATE
1	4	2	1	Needed to add more soy sauce, but great overall!	4	2023-10-24T08:00:00.000Z
4	4	2	1	Loved the healthier take on this!	5	2023-10-27T08:00:00.000Z
7	2	3	1	Refreshing taste with the tomatoes.	4	2023-10-30T08:00:00.000Z

SELECTION

Before

There is a table displaying a “list of all recipes”, with a dropdown showing the recipeCategory options to choose which to display. This uses the “OR” condition to display, (i.e. Italian OR Salad).

**Select Existing Recipe by Category**

Table will show all recipes containing a selected category (i.e. Asian OR Italian). If no category is selected, all recipes will be shown.

Category:

Asian  
Salad  
Mexican  
Italian  
Dessert

Select

RECIPEID	RECIPENAME	RECIPECATEGORY
2	Chicken Stir-Fry	Asian
3	Caprese Salad	Salad
4	Beef Tacos	Mexican
5	Mushroom Risotto	Italian
6	Sushi Rolls	Asian



During

Select Existing Recipe by Category

Table will show all recipes containing a selected category (i.e. Asian OR Italian). If no category is selected, all recipes will be shown.

Category: 

Salad

Mexican

Italian

Dessert

Seafood

Select

After

Select Existing Recipe by Category

Table will show all recipes containing a selected category (i.e. Asian OR Italian). If no category is selected, all recipes will be shown.

Category: 

Salad

Mexican

Italian

Dessert

Seafood

Select

Recipe category select successfully!

RECIPEID	RECIPENAME	RECIPECATEGORY
1	Spaghetti Bolognese	Italian
5	Mushroom Risotto	Italian
16	Chocolate Fudge Cake	Dessert
17	Apple Pie	Dessert
18	Cheesecake	Dessert

## PROJECTION

Before

There is generic table displaying “a list of current users”

Current Users

USERID	USERTYPE	EMAIL	NAME	BIRTHDAY	WEIGHT	HEIGHT
1	1	tony.stark@gmail.com	Tony Stark	1980-02-28T08:00:00.000Z	220	190
2	2	diana.prince@gmail.com	Diana Prince	1985-10-25T08:00:00.000Z	150	180
3	2	bruce.wayne@gmail.com	Bruce Wayne	1975-03-30T08:00:00.000Z	180	188
4	2	peter.parker@gmail.com	Peter Parker	1995-08-15T08:00:00.000Z	167	178
5	2	miles.morales@gmail.com	Miles Morales	2001-11-12T08:00:00.000Z	160	175

During

Query 4 columns from Feedback table

Query Data

Refresh All Tables

FEEDBACK

Select Columns from Below

FEEDBACKID  
VERSIONID  
RECIPEID  
USERID

Submit Query

After	4 columns only shown			
	Queried Results			
	FEEDBACKID	VERSIONID	RECIPEID	USERID
	1	1	2	1
	2	2	2	2
	3	3	2	3
	4	4	2	1
	5	5	2	2

JOIN

Before

Join for Rating

Joins Feedback, Version, and Recipe table to filter for feedbackRating >= X.

Rating >= 

Enter Rating

Join

RECIPENAME	FEEDBACKCOMMENT	FEEDBACKRATING	INSTRUCTIONS	CALORIES
------------	-----------------	----------------	--------------	----------

During

Join for Rating

Joins Feedback, Version, and Recipe table to filter for feedbackRating >= X.

Rating >= 

4

Join

After

Join for Rating

Joins Feedback, Version, and Recipe table to filter for feedbackRating >= X.

Rating >=

Join

Join for rating successful!

RECIPENAME	FEEDBACKCOMMENT	FEEDBACKRATING	INSTRUCTIONS	CALORIES
Chicken Stir-Fry	The added broccoli was a nice touch.	4	Marinate chicken in soy sauce and garlic for 30 minutes before stir-frying. Add broccoli and peppers for added flavor.	370
Chicken Stir-Fry	Needed to add more soy sauce, but great overall!	4	Use low-sodium soy sauce and olive oil for a healthier option. Include sliced carrots and snap peas for added crunch.	330
Chicken Stir-			Use low-sodium soy sauce and olive oil for a healthier	

### AGGREGATION WITH GROUP BY

Before	<p>Nothing to show</p> <table><tr><th>USERID</th><th>NUMBER OF FEEDBACK</th></tr></table>	USERID	NUMBER OF FEEDBACK						
USERID	NUMBER OF FEEDBACK								
During	<p>Button pressed will display</p> <p><b>Count User Contributions (Aggregation - Group By)</b></p> <p>This uses userID to count each user's feedback contributions.</p> <p>Count Feedback by User</p>								
After	<p>Display the number of feedback per userID</p> <p><b>Count User Contributions (Aggregation - Group By)</b></p> <p>This uses userID to count each user's feedback contributions.</p> <p>Count Feedback by User</p> <p>Count feedback by user successful!</p> <table><tr><th>USERID</th><th>NUMBER OF FEEDBACK</th></tr><tr><td>1</td><td>7</td></tr><tr><td>2</td><td>7</td></tr><tr><td>3</td><td>6</td></tr></table>	USERID	NUMBER OF FEEDBACK	1	7	2	7	3	6
USERID	NUMBER OF FEEDBACK								
1	7								
2	7								
3	6								

## AGGREGATION WITH HAVING

Before	<p>Table showing nothing</p> <table><thead><tr><th>RECIPEID</th><th>NUMBER OF VERSIONS</th></tr></thead></table>	RECIPEID	NUMBER OF VERSIONS
RECIPEID	NUMBER OF VERSIONS		
During	<p>Filter the number of recipes HAVING more than typed versions</p> <p><b>Number of Versions per Recipe (Aggregation - Having)</b></p> <p>This counts the number of versions per recipe, and only shows recipes having <math>\geq</math> X versions.</p> <p>Number of Versions <math>\geq</math> <input type="text" value="2"/></p> <p>Show</p>		
After	<p>Results shown in table are the recipes <math>\geq</math> the number of versions we are asking for</p>		

Number of Versions per Recipe (Aggregation - Having)

This counts the number of versions per recipe, and only shows recipes having >= X versions.

Number of Versions >=

Show

Count number of versions per recipe  
successful!

RECIPEID	NUMBER OF VERSIONS
1	3
2	5
4	3
10	2
3	10

NESTED AGGREGATION WITH GROUP BY



Before	<p>Nothing to show</p> <p><b>Average Rating by Age</b></p> <div><div>Maximum Age:</div><div><input type="text" value="Enter Maximum Age"/></div></div> <div>Query</div>
During	<p>2 examples for comparisons: &lt;45 and &lt;90</p> <p><b>Average Rating by Age</b></p> <div><div>Maximum Age:</div><div><input type="text" value="45"/></div></div> <div>Query</div> <p><b>Average Rating by Age</b></p> <div><div>Maximum Age:</div><div><input type="text" value="90"/></div></div> <div>Query</div>
After	Average Rating for each group as grouped by recipe name. - # and Avg. Rating for Caprese Salad is different.



Before	<p>Nothing to show</p> <table><thead><tr><th>NAME</th><th>USERID</th></tr></thead><tbody></tbody></table>	NAME	USERID				
NAME	USERID						
During	<p>Button clicked will find all users that left a feedback on all recipes</p> <div><p><b>Who left a feedback on every recipe (Division)</b></p><p>This counts the number of users that let a feedback on all recipes.</p><p>Who Commented on every recipe <button>Show</button></p><table><thead><tr><th>NAME</th><th>USERID</th></tr></thead><tbody></tbody></table></div>	NAME	USERID				
NAME	USERID						
After	<p>Displays the user name and ID that have left a feedback on every recipe</p> <div><p><b>Who left a feedback on every recipe (Division)</b></p><p>This counts the number of users that let a feedback on all recipes.</p><p>Who Commented on every recipe <button>Show</button></p><p>Number of user that commented on all recipes successful!</p><table><thead><tr><th>NAME</th><th>USERID</th></tr></thead><tbody><tr><td>Tony Stark</td><td>1</td></tr><tr><td>Diana Prince</td><td>2</td></tr></tbody></table></div>	NAME	USERID	Tony Stark	1	Diana Prince	2
NAME	USERID						
Tony Stark	1						
Diana Prince	2						