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

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SQL Script (available at:

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

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. <u>Added: Feedback, Removed: Comments, Ratings</u>: 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. <u>Added: UserType</u>: 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. <u>User -> UserInfo, UserAge, UserBMI</u>: 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 admin
2 contributor
```

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

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

UserAge (<u>birthday</u>, age)

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

UserBMI(<u>weight</u>, <u>height</u>, BMI)

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	∏ WEIGHT ≎	<u>∏</u> 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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	<u>∏</u> 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		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	

 $\label{eq:version} \textit{Version}(\underline{\textit{versionID}}, \ \underline{\textit{recipeID}}, \ \textit{instructions}, \ \textit{versionDate}, \ \textit{versionServing}, \\ \textit{calories})$

.∏a v	/ERSIONID : 💹 RECIPEID	: Instructions	: □ VERSIONDATE	: □ VERSIONS	RVING :	□ CALORIES :
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			350
2		2 Marinate chicken in soy sauce and garlic for 30 minutes before stir-frying. Add broccoli and peppers for added	2023-10-20			370
3		2 For a spicier version, add chili flakes and ginger while stir-frying the chicken. Serve with steamed rice.	2023-10-20			400
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			330
5		2 Make it gluten-free by using tamari sauce. Add water chestnuts and baby corn for a unique twist.	2023-10-20			360
6		3 Add a variety of colorful bell peppers for enhanced flavor and presentation.	2023-11-19			350
7		3 Include cherry tomatoes and cucumbers for a refreshing crunch.	2023-11-20			330
8		3 Try a balsamic vinaigrette dressing for a tangy twist. 3 Incorporate roasted nuts or seeds for added texture.	2023-11-21 2023-11-22			349 365
10		3 Mix in some grilled chicken or shrimp for a protein boost.	2023-11-23			380
11		3 For a crunchy texture, top the finished dish with roasted cashews or almonds just before serving.	2023-10-20			360
12		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			369
		3 Introduce a sweet element by including pineapple chunks and a dash of honey along with the vegetables.	2023-10-20			360
14		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			368
		3 For a vegetarian twist, replace chicken with firm tofu cubes and marinate in teriyaki sauce before stir-frying.	2023-10-20			360
		10 Vegetarian - remove meat.	2023-11-19			360
		10 Spicy - Additional pepper sauce.	2023-11-19 2023-11-19			360 500
10		1 Start by boiling water and cooking pasta until al dente. 4 Season beef and cook until browned. Serve with tortillas and toppings.	2023-11-19			450
20		5 Slowly stir broth into arborio rice for a creamy risotto.	2023-11-19			608
21		7 Fry rice noodles until soft, then add sauce and protein of choice.	2023-11-19			550
22		9 Marinate chicken in teriyaki sauce, then grill until fully cooked.				400
		11 Simmer coconut milk with green curry paste, adding vegetables and protein as desired.	2023-11-19			500
		13 Combine miso paste with dashi broth, adding tofu and seaweed.				300
		14 Stir-fry chicken with chili sauce and bell peppers.	2023-11-19			450
26		15 Mix beef with broccoli in a savory stir-fry sauce.	2023-11-19			500
		1 Add a pinch of basil and oregano for enhanced flavor. 1 Try with whole wheat pasta for a healthier alternative.	2023-11-28 2023-11-21			520 500
		4 Use corn tortillas and top with fresh cilantro.	2023-11-21			468
		4 Try a spicy variant with jalapeños and hot salsa.	2023-11-21			478
39	1	21 Grill salmon fillets and serve with a lemon b 2023-11-19			4	400
	1	22 Sauté shrimp in garlic butter and serve over 2023-11-19			4	500
	1	23 Assemble fish tacos with cabbage slaw and a c 2023-11-19			4	350
	1	24 Simmer lobster shells in a rich and creamy br 2023-11-19			4	550
	1	25 Combine crab meat with spices and fry until g 2023-11-19			4	400
	1	26 Stir-fry a mix of fresh vegetables with soy s 2023-11-19			4	250
	1	Cook mushrooms and onions in a creamy sauce, 2023-11-19			4	600
	1	28 Layer fried eggplant with marinara sauce and 2023-11-19			6	550
	1	29 Grill veggie patties and serve on buns with y 2023-11-19			4	350
	1	30 Layer lasagna sheets with spinach, ricotta, a 2023-11-19			6	700
	1	31 Wrap chicken and cheese in tortillas and bake 2023-11-19			4	550
	1	32 Toss romaine lettuce with Caesar dressing, cr 2023-11-19			4	300
	1	33 Combine tomatoes, cucumbers, olives, and feta 2023-11-19			4	250
	1	34 Mix cooked guinoa with vegetables and a lemon 2023-11-19			4	350
02		34 HIX cooked doing with vegetables and a tellion 2023-11-19			4	330

MealPlan(mealplanID, userID, mealplanName, mealplanCategory)



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

- 10					
ı	<u>, M</u> EALID ≑	<u> </u>			
	1	6	Breakfast Burrito	Breakfast	2023-10-21
	2	6	Quinoa Salad	Salad	2023-10-22
	3	6	Veggie Stir-Fry	Asian	2023-10-23
	4	6	Tofu Scramble	Breakfast	2023-10-24
	5	3	Sushi Rolls	Asian	2023-10-25
- 11					

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	☐ GROCERYLISTID ÷	<u>∏</u> 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(<u>ingredientName</u>, 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(<u>feedbackID</u>, **versionID**, **recipeID**, **userID**, feedbackComment, feedbackRating, feedbackDate)

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

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				1 Chilli Chicken had a great balance of spices.	4 2023-09-07
				1 Beef and Broccoli Stir-Fry lacked seasoning.	2 2023-10-12
				1 Chocolate Fudge Cake was absolutely delicious.	5 2023-11-02
				1 Apple Pie crust was too hard.	1 2023-12-20
				1 Cheesecake was creamy and just perfect.	5 2023-02-28
				1 Tiramisu lacked the coffee flavor I was expecting.	3 2023-04-14
				1 Lemon Tart was too sour for my liking.	2 2023-05-06
				1 Grilled Salmon was cooked to perfection.	4 2023-06-19
				1 Shrimp Scampi was a bit too greasy.	2 2023-07-12
	38			1 Fish Tacos were okay, nothing special.	3 2023-08-23
				1 Lobster Bisque had a fantastic depth of flavor.	5 2023-09-17
				1 Crab Cakes fell apart while cooking.	2 2023-10-29
				1 Vegetable Stir-Fry was surprisingly good.	4 2023-11-11
				1 Mushroom Stroganoff needed more seasoning.	3 2023-01-22
				1 Eggplant Parmesan was a hit in my family.	5 2023-03-05
				1 Veggie Burger lacked flavor.	1 2023-04-18
			30	1 Spinach and Ricotta Lasagna was just okay.	3 2023-06-08
				1 Chicken Enchiladas were too dry.	2 2023-07-21
				1 Caesar Salad dressing was spot on.	4 2023-08-30
				1 Greek Salad was fresh and tasty.	4 2023-09-25
				1 Quinoa Salad lacked a punch of flavor.	2 2023-10-15
				2 Too salty.	2 2023-01-07
				2 Loved it.	5 2023-02-13
				2 Not my taste.	1 2023-03-22
				2 Delightful!	4 2023-04-18
				2 Just okay.	3 2023-05-25
				2 Amazing flavor!	5 2023-06-09
56	56	1	10	2 Bit bland.	2 2023-07-14
				2 Too spicy.	1 2023-08-06
				2 Really good.	4 2023-09-10
				2 Lacks flavor.	2 2023-10-03
				2 Perfect!	5 2023-11-11
				2 Too greasy.	2 2023-12-15
				2 Yummy!	5 2023-01-28
				2 Undercooked.	1 2023-02-19
				2 Great texture.	4 2023-03-21
				2 Needs more coffee.	3 2023-04-12
				2 Too tart.	2 2023-05-17
				2 Well cooked.	4 2023-06-23
				2 Lacking seasoning.	2 2023-07-29
				2 Fair enough.	3 2023-08-15
				2 Rich and creamy.	5 2023-09-18
				2 Not fresh.	1 2023-10-21
				2 Quite good.	4 2023-11-07
				2 Mushy texture.	2 2023-12-09
				2 Delicious!	5 2023-01-15
				2 Very dry.	1 2023-02-22
				2 Not bad.	3 2023-03-18
				2 Overcooked.	2 2023-04-20
				O Federal de	4 2023-05-28
				2 Enjoyed it.	
				2 Too plain.	2 2023-06-16

Contains (grocerylistID, ingredientName, quantity)

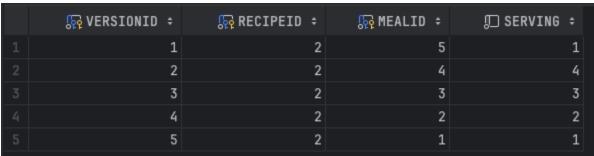
	ৣ GROCERYLISTID		ুকু INGREDIENTNAME ÷	∏ QUANTITY	
1		1	Chicken		1
2		1	Broccoli		2
3		1	Soy Sauce		1
4		1	Rice		2
5		1	Garlic		1

Uses (versionID, recipeID, ingredientName, measure)

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References (versionID, recipeID, mealID, serving)



D. List of all SQL Queries & Locations

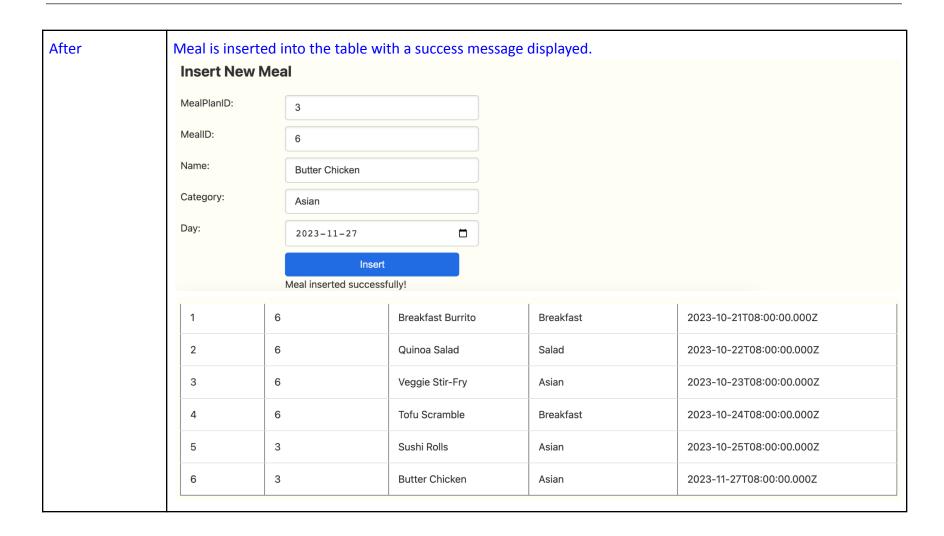
SQL Queries	Location	Line #
INSERT	appService.js/insertMeal	181
DELETE	appService.js/deleteRecipe	196
UPDATE	appService.js/updateFeedback	210
SELECTION	appService.js/getRecipe	133
PROJECTION	appService.js/queryTable	242, 253
JOIN	appService.js/joinFeedbackRating	227
AGGREGATION W/ GROUP BY	appService.js/countFeedbackByUser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

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E. Screenshots Demonstrating Functionality

INSFRT

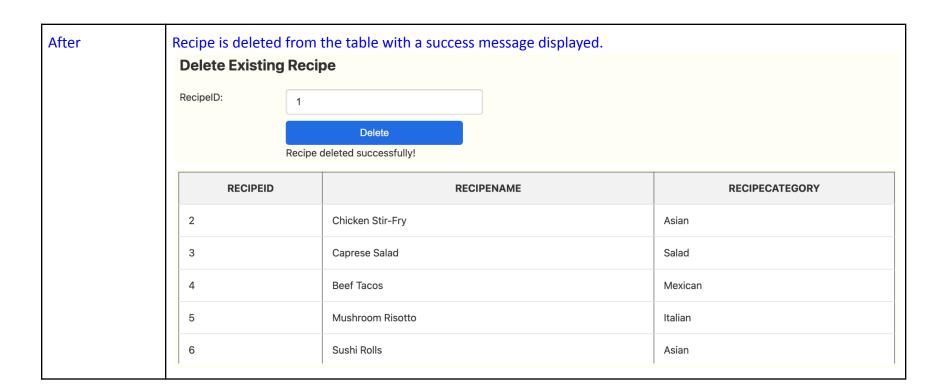
Before	There is a table displaying the "list of all meals" from a contributor. The foreign key is MealPlanID.							
	MEALID	MEALPLANID	MEALNAME	MEALCATEGORY	MEALDAY			
	1	6	Breakfast Burrito	Breakfast	2023-10-21T08:00:00.000Z			
	2	6	Quinoa Salad	Salad	2023-10-22T08:00:00.000Z			
	3	6	Veggie Stir-Fry	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			
During	Insert New Meal							
	MealPlanID:	3						
	MealID:	6						
	Name:	Butter Chicken						
	Category:	Asian						
	Day:	2023-11-27						
		Inse	ert					



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DELETE

Before	There is a table displa	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					
	RecipeID: 1	Delete						



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UPDATE

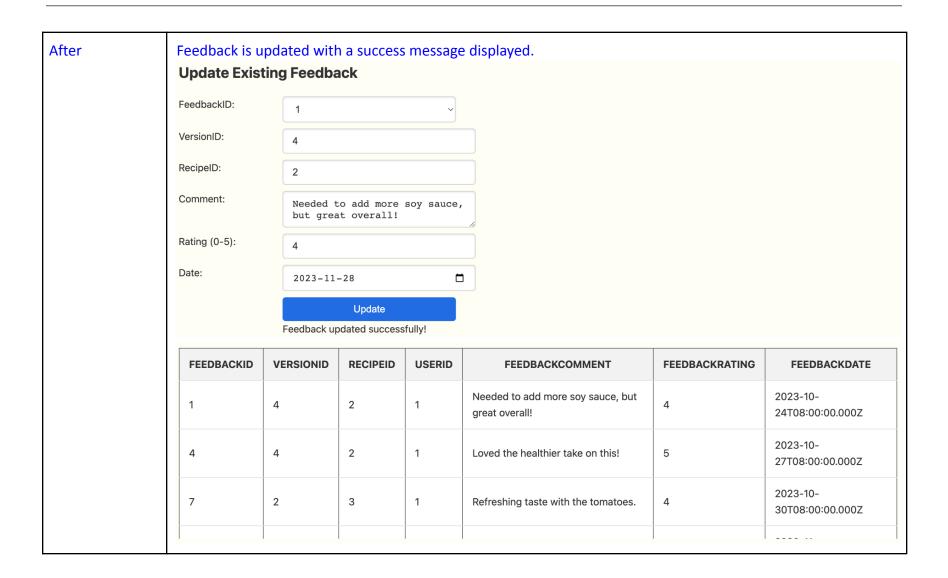
Before

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.

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

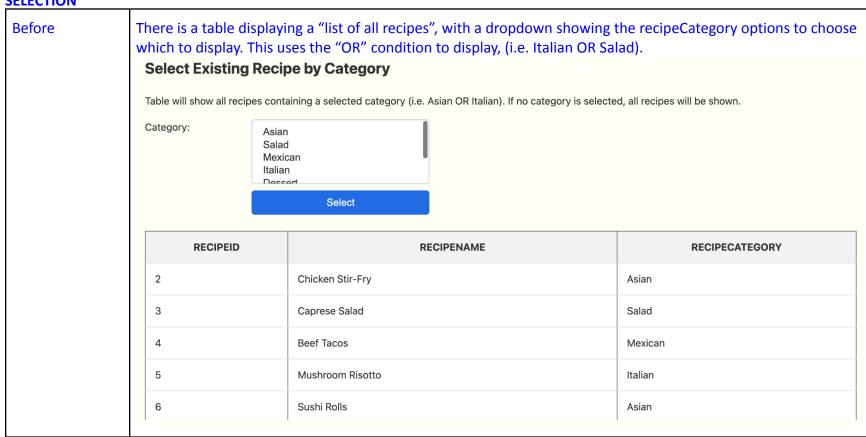
During

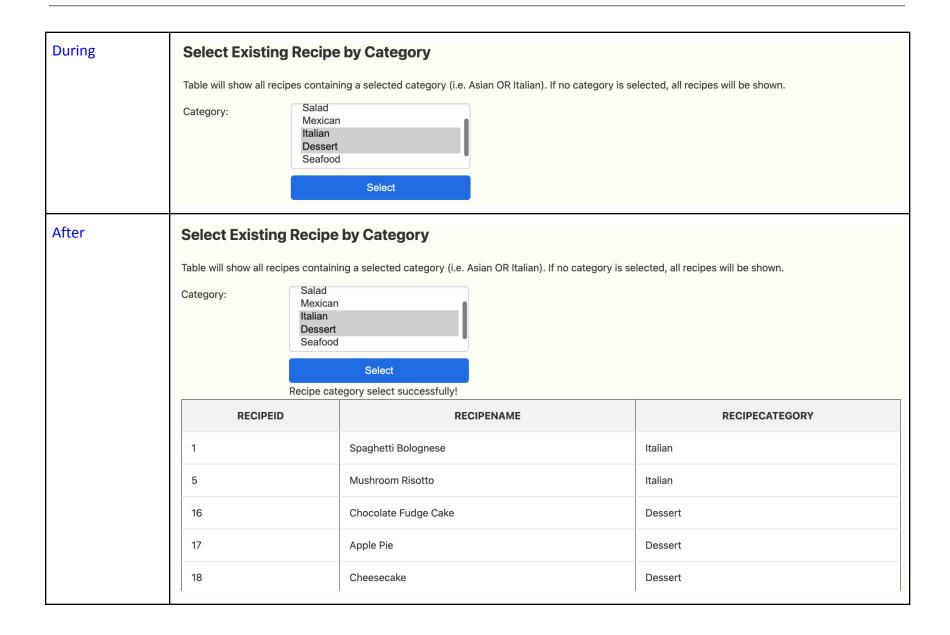


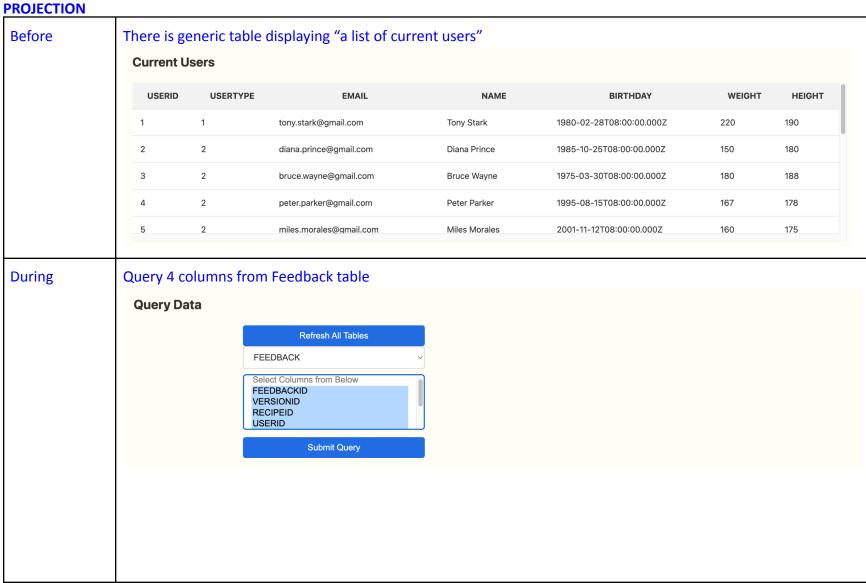


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SELECTION



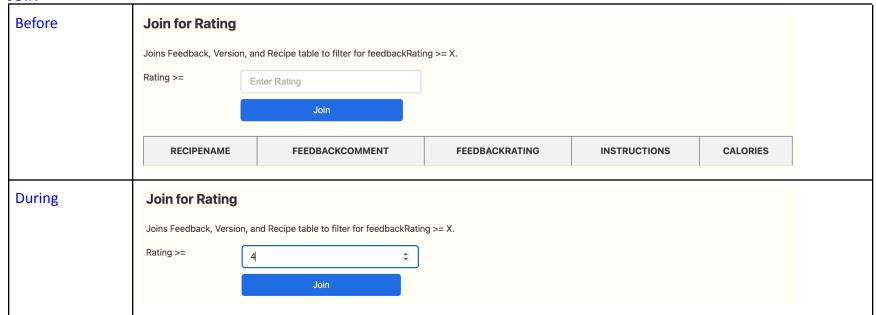


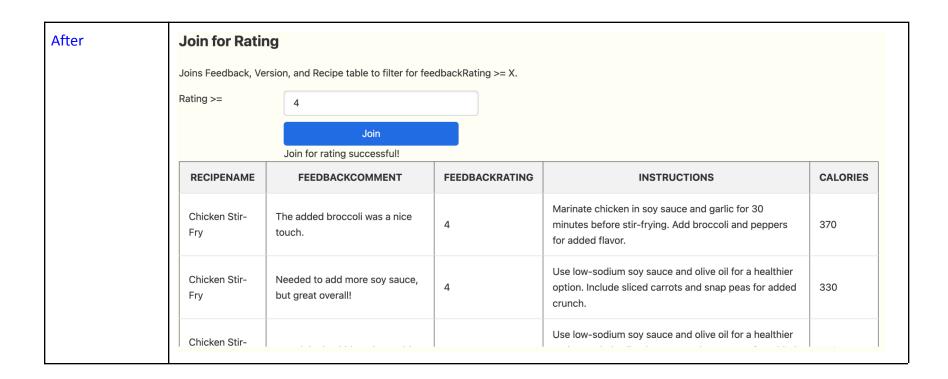


fter	4 columns only show Queried Results	/n			
	FEEDBACK	ID	VERSIONID	RECIPEID	USERID
	1	1	2		1
	2	2	2		2
	3	3	2		3
	4	4	2		1
	5	5	2		2

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JOIN





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AGGREGATION WITH GROUP BY

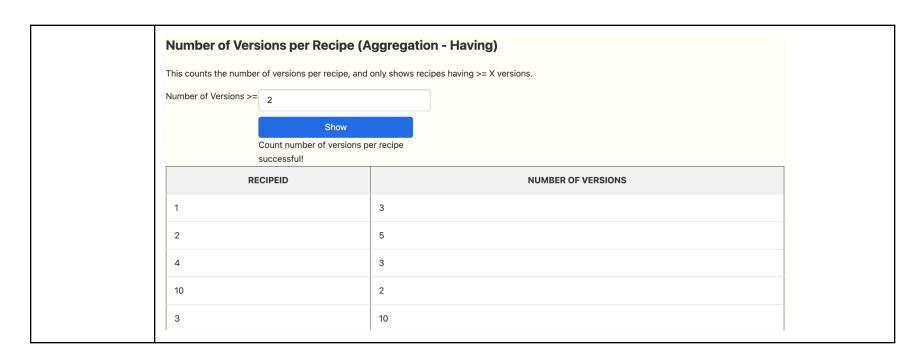
Before	Nothing to show				
	USERID	NUMBER OF FEEDBACK			
During	Button pressed will display Count User Contribution	Button pressed will display Count User Contributions (Aggregation - Group By)			
	This uses userId to count each user's	This uses userId to count each user's feedback contributions. Count Feedback by User			
After	This uses userId to count each user's	ns (Aggregation - Group By)			
	USERID	NUMBER OF FEEDBACK			
	1	7			
	2	7			
	3	6			

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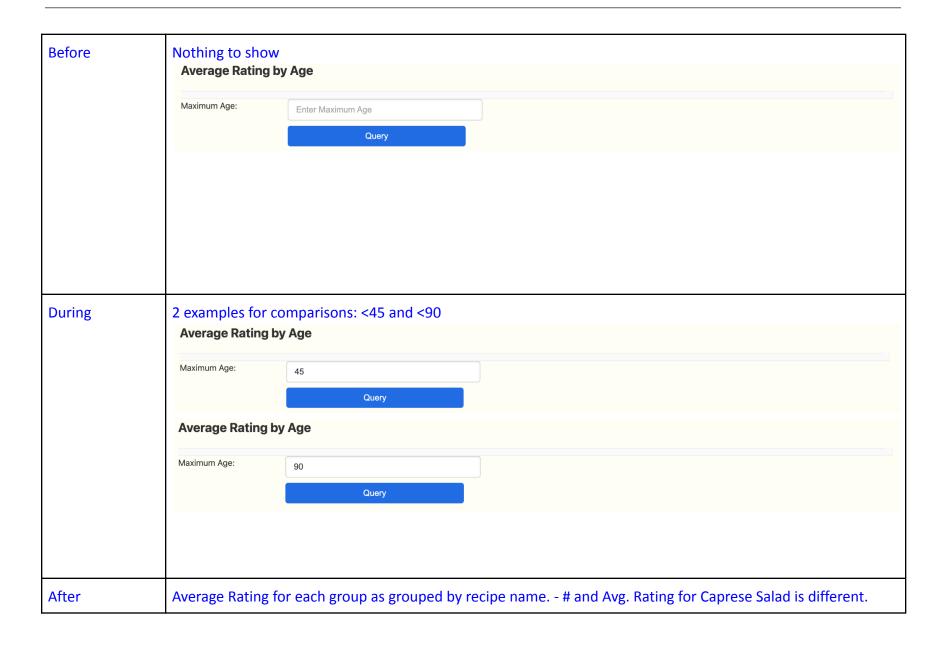
AGGREGATION WITH HAVING

Before	Table showing nothing			
	RECIPEID NUMBER OF VERSIONS			
During	Filter the number of recipes HAVING more than typed versions 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 >= 2			
After	Results shown in table are the recipes >= the number of versions we are asking for			

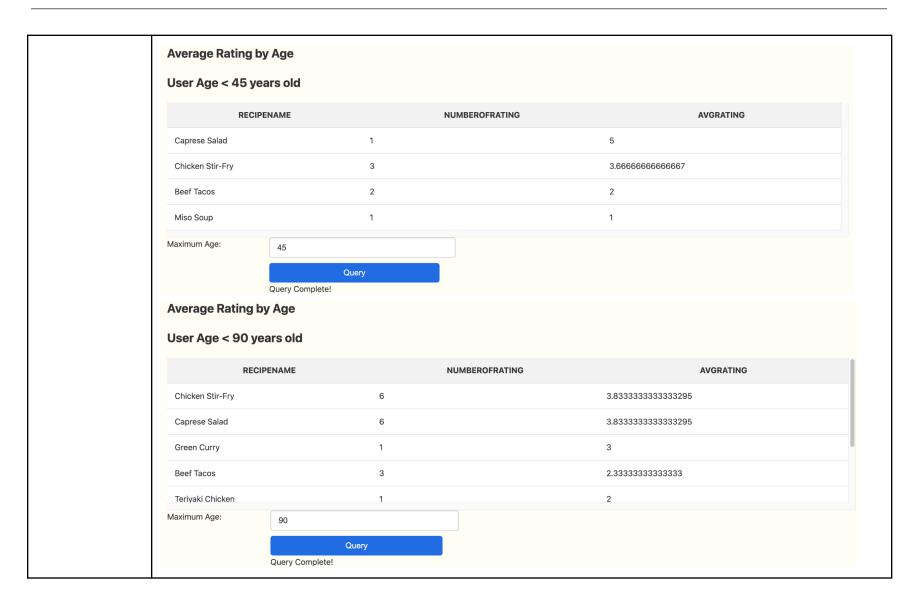
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NESTED AGGREGATION WITH GROUP BY



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DIVISION

