

Daily Recipe Final Report

CS157A Introduction to Database Management Systems

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1. Project Requirements

Functional Requirements

Login in / Sign Up:

- Users will be required to sign up for their own accounts to get access to the website if they didn't make those yet.
- Users will be able to login to their own account to visit the website.

View Profile:

- Users will be able to view their profile that includes the user's own recipes, favorite recipes, and subscribed users.

Edit Profile:

- Users will be able to edit their profile, such as editing the password and other information.

Create Recipe:

- User can create a new recipe with a list of ingredients, time of preparation, photos, personal comments about your new recipe, process of preparation,
- User can create their own recipe with the elements they want to add, but the most important will be the name of the recipe, the ingredients, and process of preparation

View Recipe:

- Users will be able to see the recipes posted by other users. In other words, the user will be able to access the Recipe Forum, where other user's recipes are posted and ordered by date of creation.

Search for Recipes:

- Users will be able to search for a recipe using the title as a criterion. The search functionality will provide the users with a shortcut to find their targeted recipes if posted before by the users.

Delete Recipes:

- Users will be able to delete their own recipes that they already posted.

Subscribe / Unsubscribe:

- Users will be able to subscribe another user who uploaded their favorite recipe, so they can follow up on his/her newest updated recipe. Also, an unsubscribe option is provided for users to unfollow whom they are no more interested in.

Rate Recipes:

- Users will be able to rate recipes from 1 to 5.
- Users will be able to see the average of all ratings when they view recipes.

Report an inaccurate recipe:

- Users will be able to report inappropriate recipes that have cross contamination or that are harmful for human consumption. We need to make humans aware of what they are eating because there are many animals, plants, and other ingredients that are not suitable for intake.
- If some users keep reporting without proper reasons, users would be warned and cannot use the site for a certain period of time.

Bookmark Recipe:

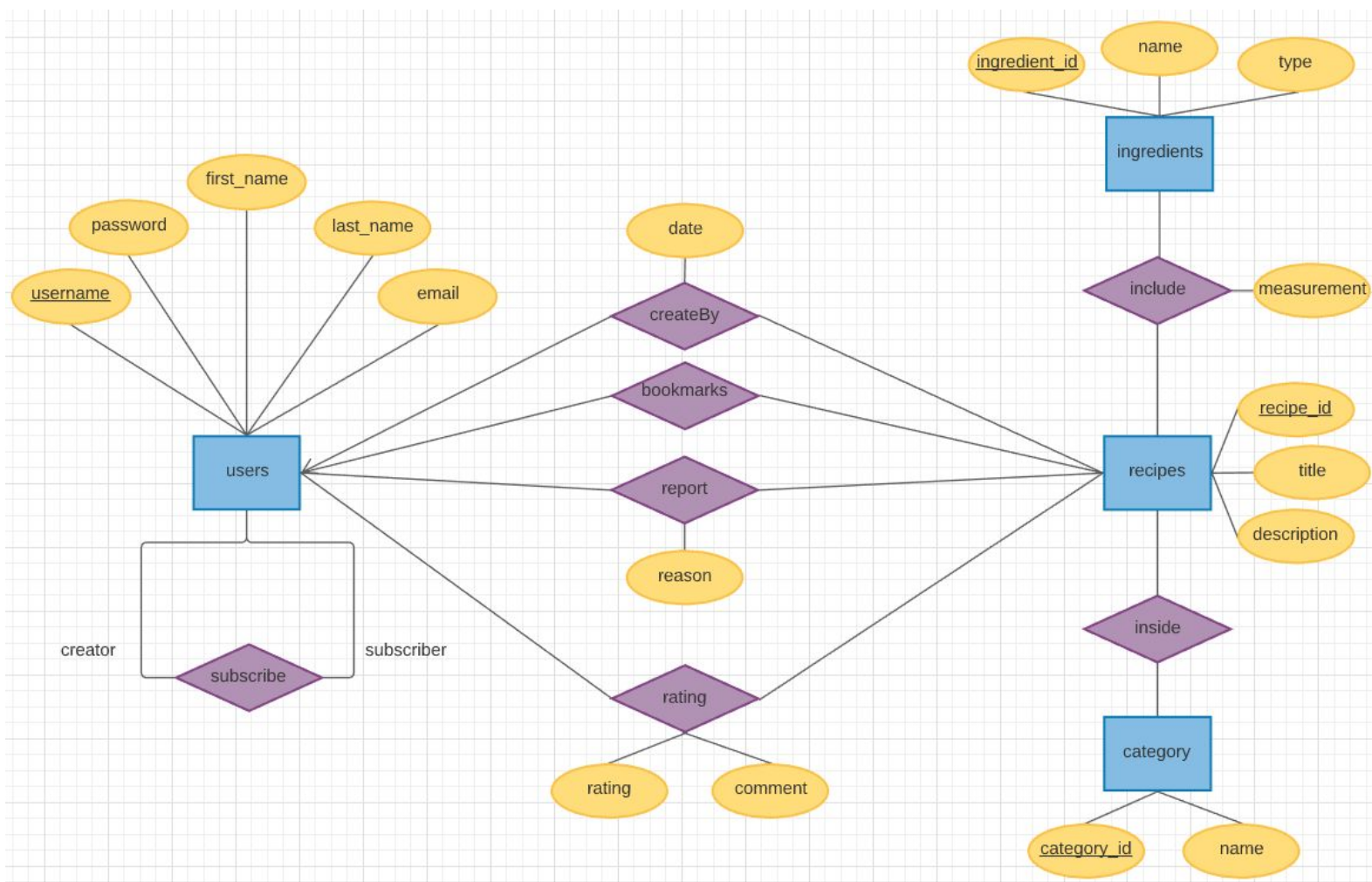
- Users will be able to add the recipes they liked to a bookmark list.
- Users will be able to have a list of bookmarked recipes, so they can just look at their list quickly.

View My Favorite Recipes:

- Users will be able to access the recipes that they added in their bookmark list through their profile page.
- Users will be able to delete a recipe from their bookmark list.

2. Project Design

Entity Relationship Diagram



Relational Schemas

- Entity-set schemas

users(username, password, last_name, first_name, email)

- User table contains every user login information.

The screenshot shows a database management interface with a 'Navigator' pane on the left and a 'Query 1' pane on the right. The 'Navigator' pane displays a list of schemas: cs157a, recipe, sakila, soyeon_wang, and sys. The 'Query 1' pane shows a SQL query: `SELECT * FROM recipe.users;` and a 'Result Grid' displaying the data from the 'users' table.

Table: users

Columns:

Column Name	Data Type
<u>username</u>	varchar(30) PK
password	varchar(30)
last_name	varchar(30)
first_name	varchar(30)
email	varchar(30)

Result Grid Data:

username	password	last_name	first_name	email
bbbbbbbbb	zxcfqkh	Wu	Butler	898czxc@gmail.com
ddddddddd	qasdw	Gricelda	Tecun	gricelda.tecun@sjsu.edu
ggggggggg	zxcfqkh	Wu	Jamie	12zcwera@gmail.com
izeduvek	urmd3v2inb	Mike	Wu	8324sa@sjsu.edu
jasonkwok	lol1234567	Guo	Jason	123@sjsu.edu
jjjjjjjjj	zxcfqkh	Octor	Han	124sadwqexv@gmail.com
lllllllll	zxcqsqa	Lu	Maybe	azcqwe@gmail.com
mmmmmmmm	qweasd	Zhu	Dylan	123aszqdg@gmail.com
okuvadav	l5mh3edff3	Liu	Michael	12412@sjsu.edu
ooooooooo	zxcqwe	Lee	Mike	xzxcqw@gmail.com
qqqqqqqqq	asdwwaz	Lee	Tecun	124sadzz@gmail.com
qweasdzxc	gfgsdfx	James	Lebron	masdhiwqe@gmail.com
soyeonw	qwer123	Wang	Soyeon	soyeon.wang@sjsu.edu
test	qwer	last	first	email@somethin.com
udufifas	uhz0f6z24v	Wu	Kelvin	1412s12@sjsu.edu
vbefgqw	asdqwxc	Kobe	Byrant	kobe@sjsu.edu
zzzzzzzzz	wwwwwww	Angela	Baby	9213s@sjsu.edu
NULL	NULL	NULL	NULL	NULL

recipes(recipe_id, title, description)

- Recipes table contains every recipe information created by the user.

The screenshot displays a database management interface. On the left, the 'SCHEMAS' pane shows a tree view with 'recipe' expanded, listing tables like 'bookmarks', 'category', 'createdby', 'include', 'ingredients', 'inside', 'rating', 'recipes', 'report', 'subscribe', and 'users'. The 'recipes' table is selected. Below this, the 'Information' pane shows the table's structure: 'Table: recipes' with columns 'recipe_id' (int AI PK) and 'title' (varchar(30)).

The main pane shows a SQL query: `SELECT * FROM recipe.recipes;` and a 'Result Grid' displaying the data. The grid has columns 'recipe_id', 'title', and 'description'. The data includes 19 rows of recipes, with the last row showing 'NULL' values for all three columns.

recipe_id	title	description
1	GRILLED BASIL CHICKEN	After washing basil and tomatoes, blot them dr...
6	MOROCCAN CHICKEN	Wash hands with soap and water. In large skille...
7	FRESH SALAD	Salad recipes are my favorite way to showcase ...
8	SUPER SLAM eggs	Home style
9	Breakfast Burrito	Traditional pupusas from Mexico
10	Hotpot. Hotpot	Good vibes all around.
11	Beef Tacos	Home made
12	Shrimp Vermicelli and Garlic	Traditional pupusas from China
13	Chinese Noodles	Best traditional Chinese foods
14	Broccoli Salad	You won't miss the bacon in this lightened-up ta...
15	PUPUSAS	Traditional pupusas from EL Salvador
16	Cheesy Ground Beef Tacos	Good vibes all around.
17	Cheesy Ground Beef Tacos	Good vibes all around.
18	Greek Feta Dip	Need some gluten-free appetizers this holiday s...
19	Pizza	Home made style
NULL	NULL	NULL

ingredients(ingredient_id, name, type)

- Ingredients table contains every ingredient that a recipe includes.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane displays a tree view with 'recipe' expanded, showing various tables including 'ingredients'. The bottom pane shows the table structure for 'ingredients'.

Table: ingredients

Columns:

ingredient_id	name	type
int AI PK	varchar(30)	

The main pane shows a SQL query: `SELECT * FROM recipe.ingredients;` and a 'Result Grid' displaying the following data:

	ingredient_id	name	type
1	1	Eggs	chill
2	2	Tomato	chill
3	3	lettuce	chill
4	4	potato	ambient
5	5	shrimps	chill
6	6	Totilla	hot
7	7	water	ambient
8	8	sugar	ambient
9	9	salt	ambient
10	10	Pepper	ambient
11	11	celery	ambient
12	12	onion	chill
13	13	chile v...	chill
14	14	flour	ambient
15	15	nudos	ambient
*	NULL	NULL	NULL

category(category_id, name)

- Category table contains types where a recipe belongs to.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane displays a tree view with 'recipe' expanded, showing various tables including 'category'. The 'category' table is selected. Below the tree, the 'Table: category' is detailed with columns: 'category_id' (int AI PK) and 'name' (varchar(45)).

The main query editor shows the SQL statement: `SELECT * FROM recipe.category;`

The 'Result Grid' displays the following data:

	category_id	name
▶	1	sweet
	2	Dinner
	3	spicy
	4	cold
	5	ambient
	6	chill
	7	salty
	8	dietetic
	9	gluten free
	10	easy to make
	11	breakfast
	12	dessert
	13	frozen
	14	fast food
	15	healthy
*	NULL	NULL

- Relationship-set schema

subscribe(creator_username, subscriber_username)

- Subscribe table contains user's favorite recipe uploader which is a user as well. Self-relationship with users table.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' panel lists databases: cs157a, **recipe**, sakila, soyeon_wang, and sys. The 'recipe' database is selected. Below the schemas, the 'Administration' and 'Schemas' tabs are visible, with 'Schemas' active. The 'Information' tab shows details for the 'Table: subscribe'. The columns are listed as creator_username and subscriber_username, both with data types 'va' and 'pk'.

The main query editor shows the SQL statement: `SELECT * FROM recipe.subscribe;`

The 'Result Grid' displays the following data:

creator_username	subscriber_username
bbbbbbbbb	ggggggggg
mmmmmmmmm	ggggggggg
bbbbbbbbb	izeduvek
okuvadav	izeduvek
ooooooooo	izeduvek
uduffas	jasonkwok
ggggggggg	jjjjjjjjj
ooooooooo	jjjjjjjjj
ggggggggg	lllllllll
mmmmmmmmm	lllllllll
ooooooooo	lllllllll
bbbbbbbbb	mmmmmmmmm
ggggggggg	qweasdzxc
okuvadav	qweasdzxc
ooooooooo	qweasdzxc
uduffas	zzzzzzzzz
NULL	NULL

createdby(username, recipe_id, date)

- Createdby table contains a relationship between users table and recipes table that shows who is the creator of the recipe.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane lists databases: cs157a, **recipe**, sakila, soyeon_wang, and sys. The 'recipe' database is selected. Below the schemas, the 'Administration' and 'Schemas' tabs are visible, with 'Schemas' active. The 'Information' tab shows the structure of the 'createdby' table.

Table: createdby

Columns:

Column Name	Data Type	Constraints
<u>username</u>	varchar(30)	PK
<u>recipe_id</u>	int	PK
date	date	

On the right, the 'Result Grid' shows the data for the query `SELECT * FROM recipe.createdby;`

username	recipe_id	date
bbbbbbbb	1	2020-09-30
dddddddd	2	2020-10-10
gggggggg	3	2020-10-15
bbbbbbbb	4	2020-10-15
izeduvek	5	2020-10-17
	6	2020-10-17
gggggggg	7	2020-10-25
izeduvek	8	2020-10-25
mmmm...	9	2020-10-25
bbbbbbbb	34	2020-10-28
	35	2020-10-28
okuvadav	36	2020-10-30
bbbbbbbb	37	2020-10-30
uduffas	38	2020-10-30
bbbbbbbb	39	2020-10-30
	40	2020-10-30
NULL	NULL	NULL

bookmarks(username, recipe_id)

- Bookmarks table contains a user's favorite recipes. It shows the relationship between users table and recipes table.

The screenshot shows a database management interface with a 'SCHEMAS' panel on the left and a query editor on the right. The 'SCHEMAS' panel lists several databases, including 'recipe'. The 'recipe' database is selected, and the 'bookmarks' table is highlighted. Below the 'SCHEMAS' panel, the 'Table: bookmarks' is shown with its columns: 'username' (varchar(30) PK) and 'recipe_id' (int PK). The query editor on the right contains the SQL statement: `SELECT * FROM recipe.bookmarks;`. Below the query, the 'Result Grid' shows the data returned by the query. The data is as follows:

username	recipe_id
okuvadav	1
oooooooo	1
okuvadav	2
okuvadav	3
oooooooo	5
qqqqqqqq	5
qqqqqqqq	6
qqqqqqqq	7
zzzzzzzz	8
zzzzzzzz	9
zzzzzzzz	34
zzzzzzzz	35
izeduvek	38
izeduvek	39
izeduvek	40
NULL	NULL

report(username, recipe_id, reason)

- Report table contains reported recipes and the reason why those are reported. It is the relational table between users table and recipes table.

SCHEMAS

Filter objects

cs157a

recipe

sakila

soyeon_wang

sys

Administration

Schemas

Information

Table: **bookmarks**

Columns:

username

varchar(30)

PK

recipe_id

int

PK

1

SELECT * FROM recipe.report;

Limit to 10

Result Grid

Filter Rows:

Edit:

	username	recipe_id	reason
▶	bbbbbbbbb	2	inappropriate ingredient included
	bbbbbbbbb	5	empty
	ggggggggg	2	inappropriate ingredient included
	ggggggggg	5	empty
	izeduvek	1	inappropriate word included
	jjjjjjjjj	1	inappropriate word included
	lllllllll	1	inappropriate word included
	mmmmmmmmm	1	inappropriate word included
	mmmmmmmmm	5	empty
	okuvadav	1	inappropriate word included
	okuvadav	5	empty
	qqqqqqqqq	2	inappropriate ingredient included
	qqqqqqqqq	5	empty
	udufifas	1	inappropriate word included
	udufifas	2	inappropriate ingredient included
*	NULL	NULL	NULL

include(recipe_id, ingredient_id, measurement)

- Include table contains all ingredients that are needed for each recipe. It is the relational table between recipes table and ingredient table.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane displays a tree view of the database structure. The 'recipe' schema is expanded, showing various tables including 'include'. Below the tree, the 'Table: include' is detailed with its columns: 'recipe_id' (int PK), 'ingredient_id' (int PK), and 'measurement' (varchar(30)).

On the right, the SQL editor shows the query: `SELECT * FROM recipe.include;`. Below the editor, the 'Result Grid' displays the data returned by the query.

	recipe_id	ingredient_id	measurement
▶	1	2	2 spoon
	6	3	5 spoon
	6	4	3 spoon
	7	5	2 spoon
	7	6	2 spoon
	7	7	1 spoon
	8	6	1 spoon
	9	8	4 spoon
	10	8	3 spoon
	11	10	1 spoon
	12	10	3 spoon
	13	11	3 spoon
	14	12	5 spoon
	15	13	3 spoon
	16	15	1 spoon
*	NULL	NULL	NULL

rating(username, recipe_id, rating, comment)

- Rating table contains all rating scores from users for recipes. It is the relational table between recipes table and users table.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane displays a tree view of databases including 'jiaxiangguo', 'recipe', 'sakila', 'sys', and 'world'. The 'recipe' database is expanded, showing tables like 'bookmarks', 'category', 'createdby', 'include', 'ingredients', 'inside', 'rating', 'recipes', 'report', 'subscribe', and 'users'. The 'rating' table is selected, and its structure is shown in the 'Information' pane at the bottom left:

Table: rating

Columns:

- username varchar(30) PK
- recipe_id int PK

The main pane shows a SQL query: `SELECT * FROM recipe.rating;` and the 'Result Grid' displaying the data. The data is as follows:

username	recipe_id	rating	comment
bbbbbbbbb	8	5	delicious
ddddddddd	14	1	can be improved by using
ggggggggg	9	4	delicious
izeduvek	16	0	did not like the flavor
jasonkwok	18	2	too much calories
jasonkwok	19	2	too much sweet
jjjjjjjjj	7	5	delicious
lllllllll	11	2	not too delicious
mmmmmmmm	10	3	delicious
okuvadav	18	1	can be improved by using more celery
ooooooooo	12	4	delicious
qqqqqqqqq	13	2	did not like the Mix
qweasdzxc	6	4	delicious
udufifas	17	5	I love it
vbefgqw	1	1	too salty
zzzzzzzzz	15	1	did not like the flavor
NULL	NULL	NULL	NULL

inside(recipe_id, category_id)

- Inside table contains all the recipe's categories. It shows where a recipe should be in. It is the relational table between recipes table and category table.

The screenshot shows a database management interface. On the left, the 'SCHEMAS' pane displays a tree view of databases including 'jiaxiangguo', 'recipe', 'sakila', 'sys', and 'world'. The 'recipe' database is expanded, showing tables like 'bookmarks', 'category', 'createdby', 'include', 'ingredients', 'inside', 'rating', 'recipes', 'report', 'subscribe', and 'users'. The 'inside' table is selected.

Below the schema tree, the 'Information' pane displays details for the 'inside' table:

Table: inside

Columns:

- category_id int PK
- recipe_id int PK

On the right, the SQL editor shows the query: `SELECT * FROM recipe.inside;`

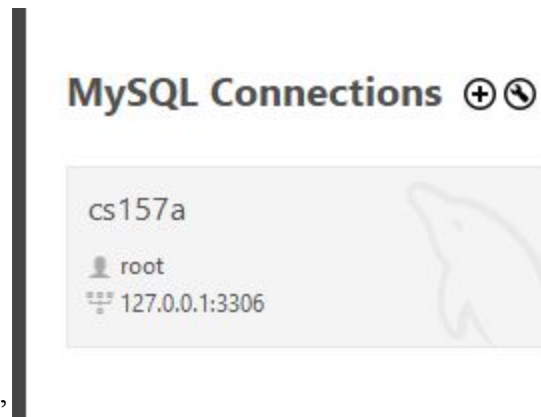
Below the SQL editor, the 'Result Grid' displays the data from the 'inside' table:

	category_id	recipe_id
▶	2	6
	2	9
	2	11
	3	8
	3	12
	3	13
	6	1
	6	6
	7	10
	7	15
	9	16
	9	17
	9	18
	10	1
	10	6
	10	7
	11	6
	11	14

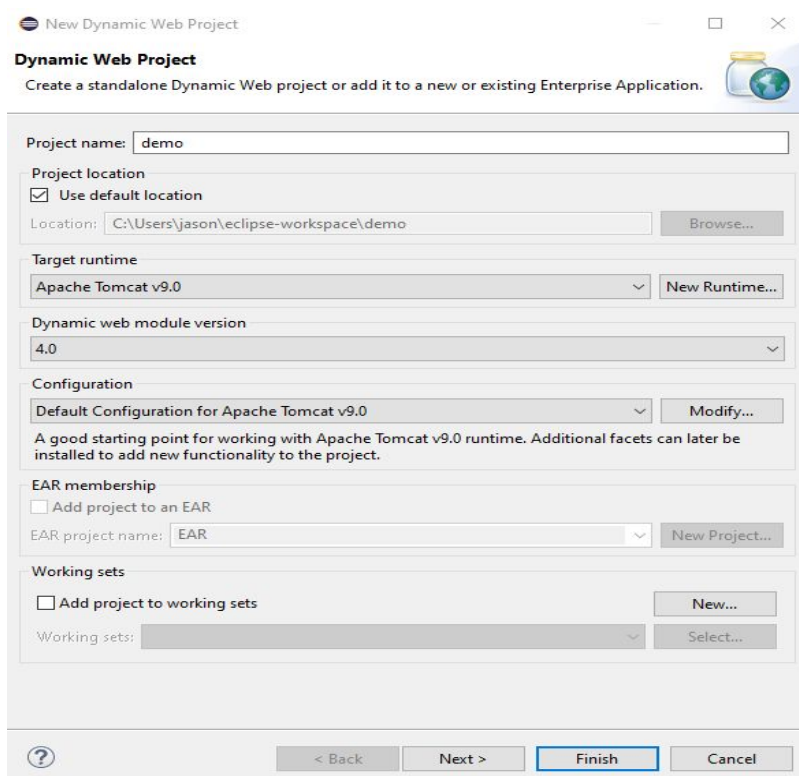
3. Project Implementation

0. How to Install the Project

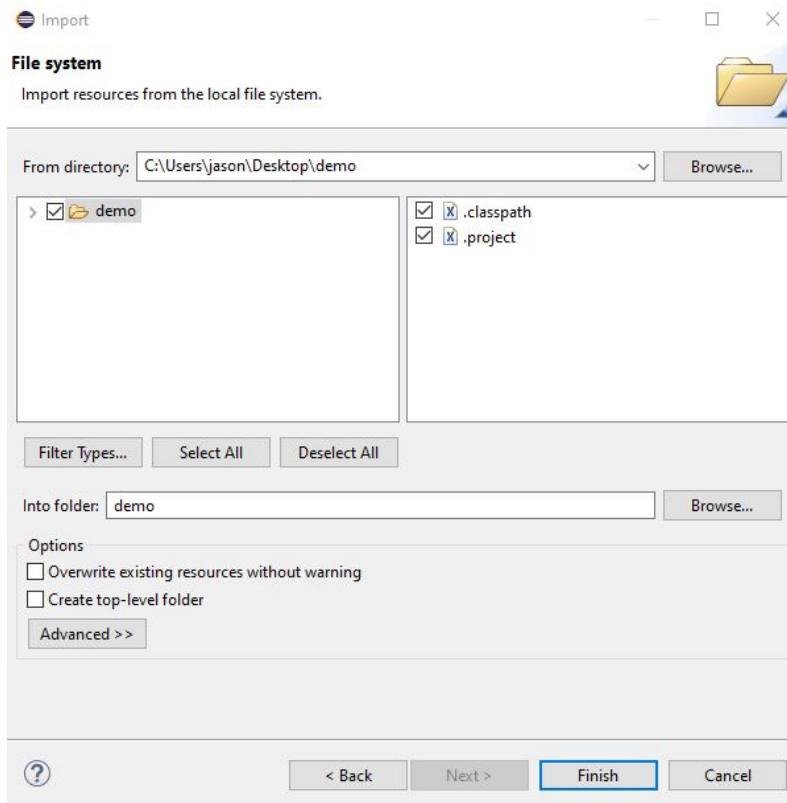
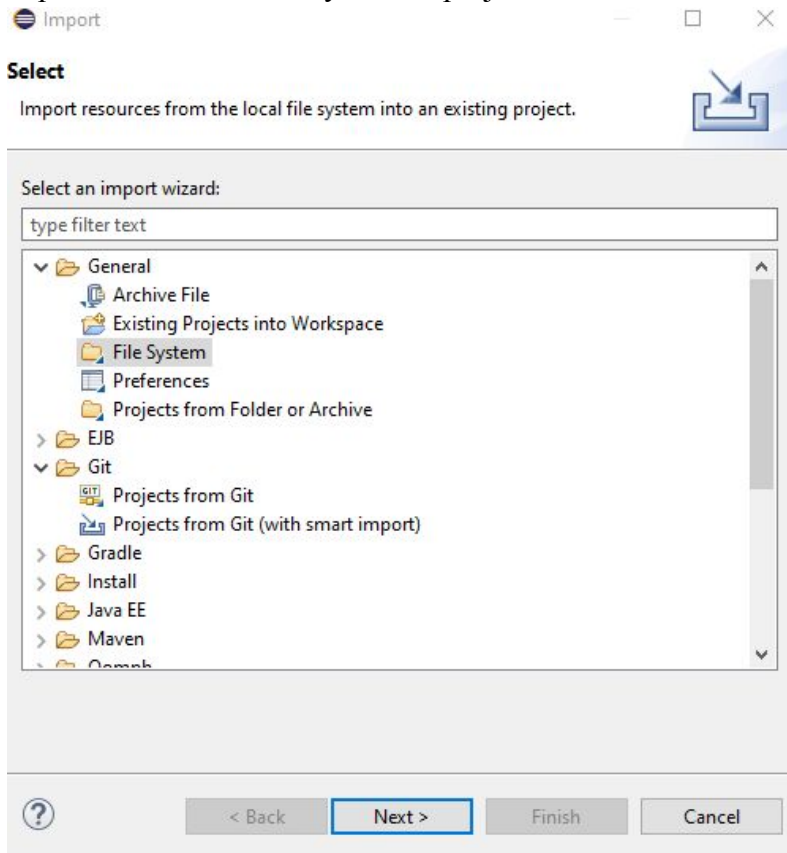
- 1) Install Tomcat and MySQL workbench in your local computer
- 2) Create a database schema called 'cs157a' and root = 'root' and password = 'root', and import mySQL database files.



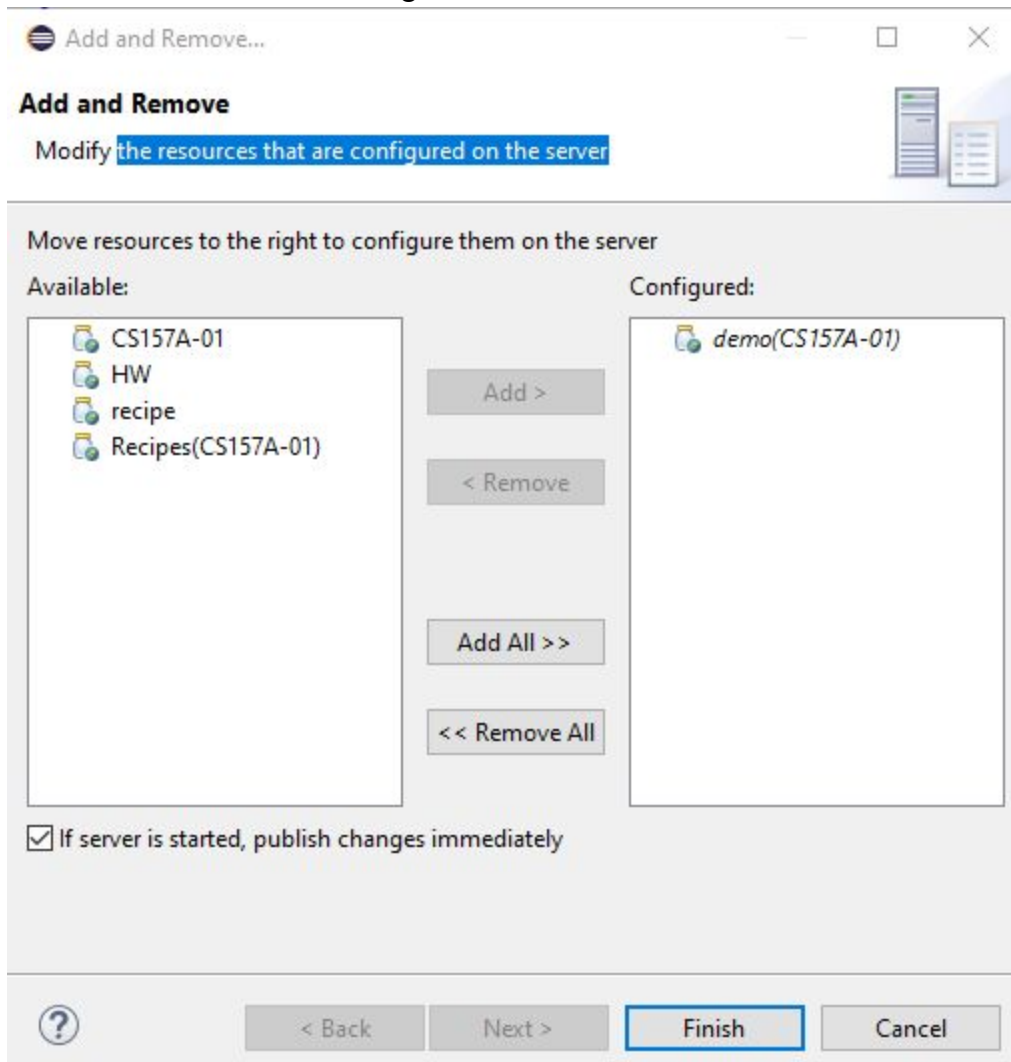
- 3) Open Eclipse and create a new Dynamic Web Project, for example, called 'demo' and hit finish.



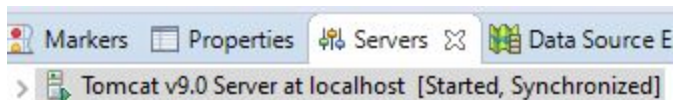
4) Import the General File system of project folder location to 'demo'



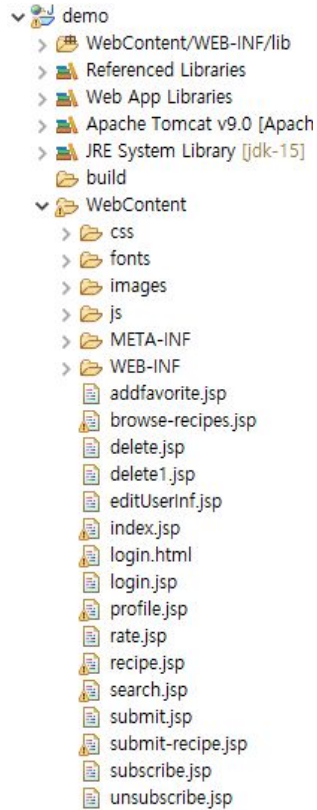
- 5) add the resources that are configured on the Tomcat server



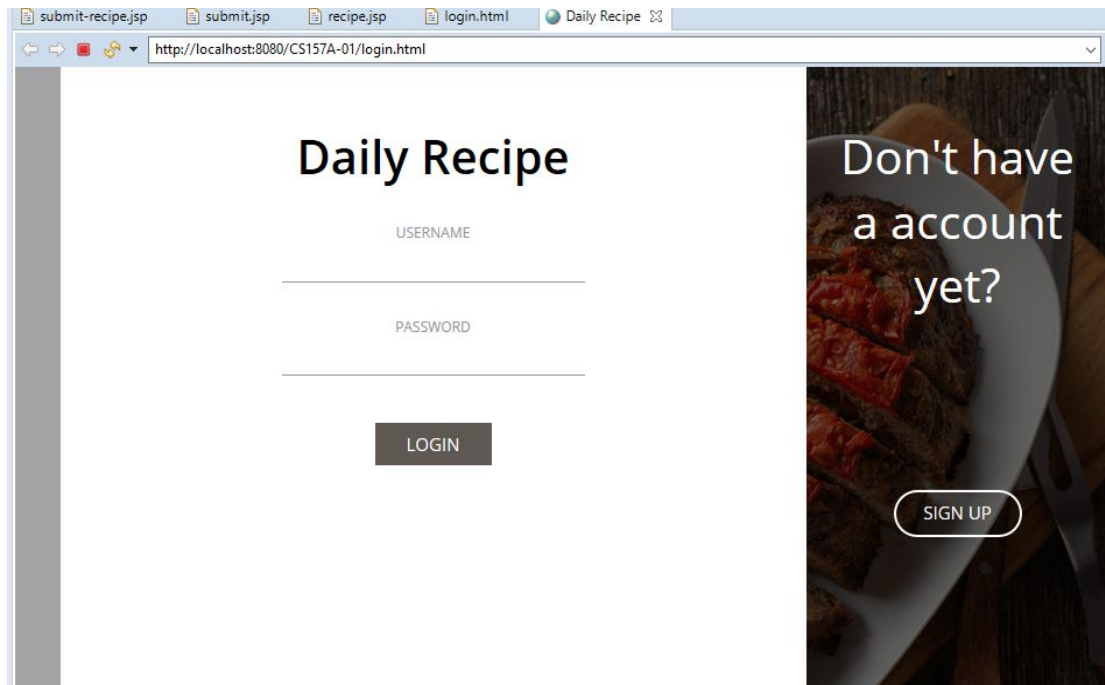
- 6) Start your Tomcat server



7) run the login.html file using tomcat



8) Then you are successfully running the project



1. Login in / Sign up

Our project starts with the “Log in” page. If users already have their own accounts, they can enter their username and password. Program would check whether this information exists in the “users” table in our database or not using the queries below.

Selection

```
if(username != ""){
    ResultSet rs = st.executeQuery("SELECT * FROM users WHERE username='"+username+"'");
    if(rs.next()){
        if(!rs.getString(2).equals(password)){
            String redirectURL = "http://localhost:8080/CS157A-01/login.html";
            response.sendRedirect(redirectURL);
        }
    }
    else{
        String redirectURL = "http://localhost:8080/CS157A-01/login.html";
        response.sendRedirect(redirectURL);
    }
}
} //not empty if
```

Also, for users who do not have their own account yet, there is the “Sign up” page. Users can enter their information such as username, password, first name, last name, and email address to make their own account. We used Insertion for this feature.

Insertion

```
"INSERT INTO users(username,password,last_name,first_name,email)values('"+username1+"',
 '"+password1+"', '"+lastname+"', '"+firstname+"', '"+email+"')"
```

2. View Profile

In the “View Profile” page, there are four tables.

- a) User’s information
 - Edit Information
- b) User’s recipes
 - Delete Recipe
- c) User’s favorite recipes (bookmark)
 - Remove the recipe from a favorite menu list.
- d) User’s favorite chef (subscribe)
 - Unsubscribe the chef

king's information

username	My password	Last Name	First Name	Email	Edit
king	111	guo	jiaxiang	jasonkwok228@gmail.com	
king ▾	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="edit"/>

Click on the user's information to edit

king's Menu

Title	Chef	Date	Deletion
SUPER SLAM eggs	king	2020-11-22	delete
Hotpot. Hotpot	king	2020-11-22	delete
Beef Tacos	king	2020-11-22	delete
Shrimp Vermicelli and Garlic	king	2020-11-22	delete
Chinese Noodles	king	2020-11-22	delete
Broccoli Salad	king	2020-11-22	delete
PUPUSAS	king	2020-11-22	delete
Cheesy Ground Beef Tacos	king	2020-11-22	delete
Cheesy Ground Beef Tacos	king	2020-11-22	delete
Pizza	king	2020-11-22	delete

Favorite Menu

Title	Chef	Date	Deletion
Nice salad	111	2020-11-27	remove

Favorite Chef

Title	Chef	Date	Unsubscribe
Mango pudding	dd	2020-11-27	unsubscribe
test2	dd	2020-11-27	unsubscribe
test3	dd	2020-11-27	unsubscribe
test4	dd	2020-11-27	unsubscribe
sweet chicken	dd	2020-11-27	unsubscribe

3. Edit Profile

When users want to modify their information such as password, name, and email address, they can edit from the “View Profile” page. Their information will be updated when they enter the information and click the button edit.

[Home](#) [Recipes](#) [Submit Recipe](#) [mikeWu](#)

Daily Recipes

mikeWu's information

username	My password	Last Name	First Name	Email	Edit
mikeWu	cs	Wu	Mike	Mike.wu@jsu.edu	
mikeWu ▼	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="edit"/>

Click on the user's information to edit

Updating

```
String sql = "UPDATE users SET password = '"+password+"', last_name= ' " + lName + "', first_name = ' " + FName
+ "', email = '"+ email + "'WHERE username = ' " + username+ " ' " ;
```


4. Create Recipe

To create recipes, users should click on “Submit Recipe”, and it will open this form.

Home Recipes Tecun Submit Recipe

Submit Recipe You are here: Home > Submit Recipe

Recipe Title

Creator

Choose Category

Description

Ingredients:

+	Name of ingredient	Notes (quantity, additional info)	X
+	Name of ingredient	Notes (quantity, additional info)	X
+	Name of ingredient	Notes (quantity, additional info)	X
+	Name of ingredient	Notes (quantity, additional info)	X
+	Name of ingredient	Notes (quantity, additional info)	X

ADD NEW INGREDIENT ADD SEPARATOR

Submit

Users can enter the title, 1 to 3 categories, ingredients, and description. Our program will automatically save Creator with the current user’s username. When users click the “submit” button, the new recipe would be created as users fill it out.

Insertion


```
String sql = "INSERT INTO recipes(title,description)values('"+title+"','"+description+"')";
String sql1 = "SELECT MAX(recipe_id) FROM recipes";
String sql3 = "Select * from ingredients where '"+name+"' IN (Select name From ingredients)";
String sql4 = "INSERT INTO ingredients(name)values('"+name+"')";
String sql5 = "Select ingredient_id from ingredients where name = '"+name+"'";

String sql2 = "INSERT INTO inside(category_id,recipe_id)values("+cate+", "+re_id+")";

String ing1_1 = "Select * from ingredients where '"+name1+"' IN (Select name From ingredients)";
String ing1_2 = "INSERT INTO ingredients(name)values('"+name1+"')";
String ing1_3 = "Select ingredient_id from ingredients where name = '"+name1+"'";

String ing1_4 = "INSERT INTO include(recipe_id,ingredient_id,measurement)values("+re_id+", "+in_id+", "+measurement1+"')";

String sql7 = "INSERT INTO createdby(username,recipe_id,date)values('"+username+"', "+re_id+", CURDATE())";
```

5. View Recipe

Users can view all existing recipes on the “Home” page.

<div> Home Recipes Submit Recipe Tecun </div>		
Daily Recipes		
Chef Menu		
Title	Chef	Date
Homemade Hot Chocolate	tecun	2020-11-29
Hotpot, Hotpot	okuvadav	2020-10-30
Beef Tacos	bbbbbbbbb	2020-10-30
Shrimp Vermicelli and Garlic	udufifas	2020-10-30
Chinese Noodles	bbbbbbbbb	2020-10-30
Pizza		2020-10-30
SLAM eggs	bbbbbbbbb	2020-10-28
Breakfast Burrito		2020-10-28
Cheesy Ground Beef Tacos	ggggggggg	2020-10-25
Cheesy Ground Beef Tacos	izeduvek	2020-10-25
Greek Feta Dip	mmmmmmmm	2020-10-25
Broccoli Salad	izeduvek	2020-10-17

To view a particular recipe, users can click the name of the recipe and a new page will open.

Selection

```
String sql ="SELECT recipes.recipe_id,recipes.title,createdby.username,createdby.date FROM recipes,
createdby where recipes.recipe_id = createdby.recipe_id Order by createdby.date DESC";
```

The page below is the view after users click the name of the recipe.

Chef Menu				
Title	Chef	Add to favorite?	Subscribe the Chef?	Report
Cup noodles	111	Add	Subscribe	report
Category				
Dinner				
easy to make				
Ingredient		Measurement		
water		500m		
salt		1mg		
noodles		1 pack		
Description				
Good to eat!				
Rating				
This recipe has No rating yet, be the first one to make a comment.				
User		Comment		

Selection

```
:"SELECT recipes.title,createdby.username FROM recipes,createdby where recipes.recipe_id= '"+id+"' and createdby.recipe_id= '"+id+"'";
="SELECT ingredients.name,include.measurement FROM include,ingredients where ingredients.ingredient_id = include.ingredient_id and include.recipe_id= '"+id+"'";
="SELECT description FROM recipes where recipe_id= '"+id+"'";
="SELECT AVG(rating) FROM rating where recipe_id= '"+id+"'";
="SELECT username,comment FROM rating where recipe_id= '"+id+"'";
="SELECT name FROM category,inside where inside.recipe_id= '"+id+"' and inside.category_id = category.category_id";
```

6. Search for Recipes

When users click “Recipes” and “Browse Recipe” button, it will open the page below.

Users can select a category and key ingredients to search. Then, when users click the green button named “Search for Recipes”, it will show the recipes with the selected category and key ingredients.

Selection

```
"SELECT recipes.recipe_id,recipes.title,createdby.username,createdby.date FROM recipes,createdby
where recipes.recipe_id = createdby.recipe_id Order by createdby.date DESC";
```

Chef Menu		
Title	Chef	Date
Homemade Hot Chocolate	tecun	2020-11-29

7. Delete Recipes

To delete the Recipe, there is a “delete” button for each recipe on the profile.

soyeonw's Menu

Title	Chef	Date	Deletion
Toast	soyeonw	2020-12-01	delete

When users press the button, the recipe would be deleted from all the schemas that included this using deletion queries below.

Deletion

```
String sql = "DELETE FROM include WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM inside WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM createdby WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM bookmarks WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM report WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM rating WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
sql = "DELETE FROM recipes WHERE recipe_id = '"+id+"'";
st.executeUpdate(sql);
```

8. Subscribe / Unsubscribe

- Subscribe: Users can subscribe when they click the “Subscribe” button on the specific recipe page.

Chef Menu

Title	Chef	Add to favorite?	Subscribe the Chef?	Report
Cup noodles	111	Add	Subscribe	report

Insertion

```
= st1.executeQuery("Select * from subscribe where creator_username = '"+username+"' and subscriber_username = '"+username1+"'");
"Insert into subscribe(creator_username,subscriber_username) value('"+username+"','"+username1+"')";
```

- Unsubscribe: Users can unsubscribe the particular chef from the “View Profile” page. By pressing the “Unsubscribe” button, that chef will be removed from the Favorite Chef list.

Favorite Chef

Title	Chef	Date	Unsubscribe
VEGGIE SALAD	gggggggg	2020-10-15	unsubscribe
Cheesy Ground Beef Tacos	gggggggg	2020-10-25	unsubscribe
Broccoli Salad	izeduvek	2020-10-17	unsubscribe
Cheesy Ground Beef Tacos	izeduvek	2020-10-25	unsubscribe
PUPUSAS		2020-10-17	unsubscribe
Breakfast Burrito		2020-10-28	unsubscribe
Pizza		2020-10-30	unsubscribe

Deletion

```
String sql = "DELETE FROM subscribe WHERE creator_username = '"+username+"' and subscriber_username = '"+username1+"'";
```

9. Rate Recipes

To rate a recipe, users can find the option at the bottom of each recipe. Users can rate from 1 to 5. As users rate the recipes, the rating shown on the recipe page will be updated.

Rate this recipe

Recipe Code

50

Rater

king

Rating

1

Comment

Rate and Comment

Insertion & Updating

```
sql = "INSERT INTO rating(username,recipe_id,rating,comment)values('" + username + "','" + id + "','" + rate + "','" + comment + "')";
sql1 = "UPDATE rating SET rating = '" + rate + "', comment = '" + comment + "' Where username = '" + username + "' and recipe_id = '" + id + "'";
```

10. Report an inaccurate recipe

To report a recipe, users can find the option on each recipe page. next to the subscribe button. Click there and write the reason why it is necessary to report the recipe.

Chef Menu

Title	Chef	Add to favorite?	Subscribe the Chef?	Report
Cup noodles	111	Add	Subscribe	report

Insertion

```
String sql = "Insert Into report (username,recipe_id) value('" + username + "','" + id + "')";
```

11. Bookmark Recipe

To Bookmark a recipe, users can click the blue button “add” under the question “Add to favorite?”

Chef Menu

Title	Chef	Add to favorite?	Subscribe the Chef?	Report
Cup noodles	111	Add	Subscribe	report

Insertion

```
String sql = "Insert into bookmarks(username,recipe_id) value('" + username + "','" + id + "')";
```

12. View My Favorite Recipes

To view favorite recipes, users should click their username and “view profile” at the top right-hand corner of the site. Then, there will be the section for the bookmarked recipes.

Favorite Menu

Title	Chef	Date	Deletion
Hotpot. Hotpot	okuvadav	2020-10-30	remove
Pizza		2020-10-30	remove
Homemade Hot Chocolate	tecun	2020-11-29	remove

In this table, users can delete a recipe from their bookmark list by pressing the “remove” button.

Deletion

```
String sql = "DELETE FROM bookmarks WHERE recipe_id = '"+id+"' and username = '"+username+"'" ;
```


4. Lesson Learned

Jiaxiang Guo

- At the end of the semester, I have learned about creating a 3-Tier Architecture project using MySQL Workbench and Tomcat Server. In this project, I have experienced thousands of bugs and difficulty of implementation but I still worked through them by doing research online and learning from other people's mistakes. I have used Selection, Insertion, Deletion, and Updating SQL query to finish this project. Also, creating the User interface is one of the difficult points while I do this project. This project gave me a full-stack development experience for the first time in my life. I think this is a very good project that I can put in my resume for future job interviews.

Soyeon Wang

- In this lecture, I have learned the fundamental concept of Database Management System, and how to build 3-Tier Architecture using MySQL and Tomcat Server. I could apply what I learned on this project. There were a lot of difficulties in implementing what we proposed because I was not familiar with using html. Through researching and learning, I could do step by step gradually. I have used ERD and SQL queries for this project, and what I learned in the class was useful. There was a lot to learn on this project, and it was a novel experience to do this team project.

Gricelda Tecun

- I learned how to connect MYSQL Workbench and Tomcat with eclipse to implement 3-Tier Architecture. I have learned that to connect to MYSQL we need to start the server and have the root and password to have access to the database. I have learned that to delete a tuple from a table must not have any dependencies on other tables because other tables are using its primary key. I had a great team and together we learned how to implement 3-Tier Architecture. I am so glad that we end the semester with this amazing web application which I can add to the resumen. It was a challenge and fun to learn the functionality and design of CSS. Also, editing was one of the most difficult user interfaces.