

# CPSC 304 Project Cover Page

Milestone #: 2

Date: 2024/08/05

Group Number: 16

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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

## 2. Single SQL Script

- SQL script can be found under **cs304-backend/SQLScripts**

## 3. PDF File Contents:

- **Project Description:**
  - A short description of the final project and its accomplishments.
  - Our project, “The UBC survival kit” , maps locations of various amenities such as microwaves, water fountains, washrooms, and cafes (that serve caffeinated drinks) on campus. The UBC Survival Kit aims to address the common issue faced by students in locating essential amenities within campus buildings. The user can log in to leave reviews, submit requests for utilities that are missing and perform complex queries such as finding cafes that serve all of their favourite drinks.
- **Schema Description:**
  - User had isAdmin added to the schema to handle the functions that only admins can do such as accept and deny requests from other users.
- **Schema and Data:**

Utility (utilityID:Integer PK,  
overallRating: float,  
isRecommended: boolean,  
**buildingCode: Char[10]** FK references Building NOT NULL,  
**imageID: Char[50]** FK references Image,  
**locationID: Integer** FK references location NOT NULL,  
operatingHours: Char[150])

Washroom (utilityID:Integer PK FK references Utility,  
gender: Char[20], NOT NULL  
numStalls: Integer,  
accessibilityFeature: Char[250])

waterFountain(utilityID:Integer PK FK references Utility,  
hasColdWater: Boolean,  
hasHotWater: Boolean)

microwave(utilityID:Integer PK FK references Utility,  
size: Char[50])

Review(reviewID: Integer PK,  
**utilityID: Integer** FK references Utility, PK  
**userID: Integer** FK references User,  
cleanliness: Integer  
functionality: Integer,  
accessibility: Integer,  
overall: float  
description: Char[250])

Location(LocationID: Integer PK,  
floor: Int, NOT NULL  
locationDescription: Char[250] NOT NULL)

User(userID: Integer PK,  
username: Char[20], NOT NULL  
email: Char[50] CK, NOT NULL UNIQUE  
password: Char [20]) NOT NULL)

Request(requestID: Integer PK,  
date: Date  
status: Char[20]  
requestDescription: Char[250],  
requestType: Char[20],  
amenityType: Char [20], NOT NULL  
buildingName: Char [20], NOT NULL  
**userID: Integer** FK references User, NOT NULL  
**imageID: Char[50]** FK references Image)

Building(buildingCode: Char[10] PK,  
operatingHours: Char[20],  
name: Char[20] CK, UNIQUE NOT NULL)

Image(url: Char[20] PK,  
description: Char[150])

Cafe (cafeID: Integer PK,  
name: Char[50],  
operatingHours: Char[50]

**buildingCode: Char[20] NOT NULL FK REFERENCES Building,**  
**locationID: Integer NOT NULL FK REFERENCES Location)**

Drinks(name: Char[20] PK)

Serves(cafeID: Integer PK, FK references Cafe,  
drinkName: Char[20] PK, FK references Drinks)

Location:

LOCATIONID	FLOOR	LOCATIONDESCRIPTION
0	69	default location
1	2	near the elevator
2	2	by the mens washroom
3	4	by rooftop garden
4	1	by Science One exclusive lounge

Building:

BUILDINGCO	OPERATINGHOURS	NAME
BIOL	Mon to Fri: 7:30AM - 8:00PM, Sat/Sun/Holidays: Closed	Biological Sciences
ICCS	Mon to Fri: 7:30AM - 5:00PM, Sat/Sun/Holidays: Closed	Institute for Computing
NEST	Monday to Friday: 7AM - 11PM, Saturday to Sunday: 8AM - 11PM	AMS Student Nest
MATX	Mon to Fri: 7:30AM - 5:00PM, Sat/Sun/Holidays: Closed	Mathematics Annex
KAIS	Mon to Fri: 7:00AM - 6:00PM, Sat/Sun/Holidays: Closed	Fred Kaiser

Rating:

OVERALLRATING	ISRECOMMEN
4.5	TRUE
3.8	FALSE
4.9	TRUE
2.7	FALSE
5	TRUE

Image:

URL	DESCRIPTION
/images/iced-latte	iced latte
/images/london-fog	london fog
/images/cappuccino	cappuccino
/images/sauder-tim-hortons	Tim Hortons (Sauder location)
/images/ICICS	ICICS top floor
/images/BIOL	BIOL lower floor
/images/MATX	MATX lower floor
/images/NEST	NEST lower floor
/images/KAIS	KAIS lower floor

Drink:

NAME
Cappuccino
Dark Roast
Espresso
Iced Latte
London Fog

Utility:

UTILITYID	OVERALLRATING	BUILDINGCO	IMAGEURL	LOCATIONID
10000000	5	BIOL	/images/BIOL	0
10000001	5	ICCS	/images/ICICS	2
10000002	5	MATX	/images/MATX	1
10000003	5	NEST	/images/NEST	3
10000004	2.7	KAIS	/images/KAIS	4
20000000	5	BIOL	/images/BIOL	0
20000001	5	ICCS	/images/ICICS	1
20000002	5	MATX	/images/MATX	2
20000003	5	NEST	/images/NEST	3
20000004	5	KAIS	/images/KAIS	4
30000000	5	BIOL	/images/BIOL	0
30000001	5	ICCS	/images/ICICS	1
30000002	5	MATX	/images/MATX	2
30000003	2.7	NEST	/images/NEST	3
UTILITYID	OVERALLRATING	BUILDINGCO	IMAGEURL	LOCATIONID
30000004	5	KAIS	/images/KAIS	4

UserInfo:

USERID	USERNAME	EMAIL	PASSWORD	ISADM
0	defaultUser	d@email.com	password	true
1	Kyle	k@email.com	password	true
2	Sarah	s@email.com	password	false
3	Maddie	m@email.com	password	false
4	Joey	j@email.com	password	

Request:

REQUESTID	REQUESTDA	STATUS	REQUESTDESCRIPTION	REQUESTTYPE	AMENITYTYPE	BUILDINGNAME	USERID
0	01-JUL-24	PENDING	default	update	fountain	CS building	0
1	01-JAN-24	PENDING	water fountain broke	update	fountain	Nest	2
2	01-FEB-24	PENDING	new cafe	add	cafe	fred kaiser	3
3	01-APR-24	PENDING	new neutral washroom	add	washroom	math annex	4
4	01-MAY-24	PENDING	microwave broke	update	microwave	biology	1

Cafe:

CAFEID	NAME	OPERATINGHOURS	BUILDINGCO	LOCATIONID
6000	Tim Hortons	9:00 - 21:00	ICCS	0
6001	Starbucks	8:30 - 23:00	KAIS	0
6002	Blue Chip Cafe	9:00 - 17:00	NEST	0
6003	Loafe Cafe	8:00 - 17:00	NEST	0
6004	JJ Bean Coffee Roasters	8:00 - 17:00	MATX	0

Serves:

CAFEID	DRINKNAME
6000	Iced Latte
6001	Espresso
6002	London Fog
6003	Dark Roast
6004	Iced Latte

Hours:

BUILDINGCO	OPERATINGHOUR
ICCS	Mon-Fri: 8am-10pm, Sat: 9am-8pm, Sun: 10am-6pm
BIOL	Mon-Fri: 7am-11pm, Sat-Sun: 8am-9pm
KAIS	Mon-Fri: 9am-9pm, Sat: 10am-6pm, Sun: Closed
NEST	Mon-Sat: 8am-8pm, Sun: 9am-5pm
MATX	Mon-Fri: 6am-12am, Sat-Sun: 7am-10pm

Washroom:

UTILITYID	GENDER	NUMSTALLS	ACCESSIBILITYFEATURE
10000000	FEMALE	2	WHEELCHAIR STALL
10000001	FEMALE	5	WHEELCHAIR STALL
10000002	NEUTRAL	1	GRAB BAR
10000003	MALE	2	NONE
10000004	MALE	4	NONE

Microwave:

UTILITYID	MICROWAVESIZE
20000000	SMALL
20000001	LARGE
20000002	MEDIUM
20000003	SMALL
20000004	MEDIUM

WaterFountain:



UTILITYID	HASCO	HASHO
30000000	TRUE	FALSE
30000001	TRUE	FALSE
30000002	TRUE	TRUE
30000003	TRUE	FALSE
30000004	TRUE	TRUE

AverageRating:

CLEANLINESS	FUNCTIONALITY	ACCESSIBILITY	AVERAGERATING
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4

Review:

REVIEWID	UTILITYID	USERID	CLEANLINESS	FUNCTIONALITY	ACCESSIBILITY	DESCRIPTION
1	10000000	0	1	1	1	REALLY BAD
2	10000001	1	1	1	1	AWFUL
3	10000002	2	2	2	2	MEH
4	10000004	3	3	3	3	AMAZING
5	20000001	4	4	4	4	GREAT!
6	20000001	2	2	2	2	I hated it!

- **SQL Queries:**

- A list of all SQL queries used, including where they can be found in the code (file name and line number(s)).
- For SQL query requirements, refer to the rubric listed on Canvas for Milestone 4.
- 

query	Location – all in cs304-backend/appService.js
SELECT * FROM WATERFOUNTAIN	Line 83

<pre> SELECT utilityID, overallRating, buildingCode, imageUrl, operatingHour FROM WASHROOM NATURAL JOIN UTILITY NATURAL JOIN HOURS` </pre> <pre> SELECT utilityID, overallRating, buildingCode, imageUrl, operatingHour FROM MICROWAVE NATURAL JOIN UTILITY NATURAL JOIN HOURS </pre> <pre> SELECT utilityID, overallRating, buildingCode, imageUrl, operatingHour FROM WATERFOUNTAIN NATURAL JOIN UTILITY NATURAL JOIN HOURS </pre>	Line 93 - 133
<pre> SELECT utilityID, buildingCode, operatingHour FROM WASHROOM NATURAL JOIN UTILITY NATURAL JOIN HOURS </pre> <pre> SELECT utilityID, buildingCode, operatingHour FROM MICROWAVE NATURAL JOIN UTILITY NATURAL JOIN HOURS </pre> <pre> SELECT utilityID, buildingCode, operatingHour FROM WATERFOUNTAIN NATURAL JOIN UTILITY NATURAL JOIN HOUR </pre>	Line 134-172 PROJECTION
<pre> SELECT * FROM UTILITY NATURAL JOIN ` + table + ` NATURAL JOIN HOURS NATURAL JOIN RATING NATURAL JOIN LOCATION WHERE utilityID = :utilityID ` </pre>	Line 188 (function begins 173) JOIN
<pre> SELECT * FROM REVIEW r NATURAL JOIN AVERAGERATING WHERE r.utilityID = :utilityID </pre>	Line 203
<pre> SELECT * FROM REVIEW r WHERE r.userID = :userID </pre>	Line 222

<pre>SELECT name FROM DRINK r</pre>	Line 238
<pre>SELECT * FROM Request r WHERE r.userID = :userID</pre>	Line 254
<pre>SELECT * FROM REQUEST</pre>	Line 271
<pre>SELECT name, operatingHours, buildingCode FROM CAFE c</pre>	Line 286
<pre>SELECT * FROM CAFE c WHERE cafeID = :cafeID</pre>	Line 300
<pre>INSERT INTO UTILITY (utilityID, overallRating, buildingCode, imageUrl, locationID) VALUES (:utilityID, :overallRating, :buildingCode, :imageURL, :locationID)</pre>	316
<pre>INSERT INTO WATERFOUNTAIN (utilityID, hasColdWater, hasHotWater) VALUES (:utilityID, :hasColdWater, :hasHotWater)</pre>	337
<pre>let query = `SELECT UTILITY.utilityID, overallRating, UTILITY.buildingCode, imageUrl, HOURS.operatingHour         FROM UTILITY         LEFT JOIN HOURS ON UTILITY.buildingCode = HOURS.buildingCode`;  if (wrClicked) {     query += ` LEFT JOIN WASHROOM ON UTILITY.utilityID = WASHROOM.utilityID`; }  if (mClicked) {     query += ` LEFT JOIN MICROWAVE ON UTILITY.utilityID = MICROWAVE.utilityID`; }</pre>	357 SELECTION

<pre> if (wfClicked) {   query += ` LEFT JOIN WATERFOUNTAIN ON UTILITY.utilityID = WATERFOUNTAIN.utilityID`; }  query += ` WHERE UTILITY.buildingCode = :buildingCode`; </pre>	
<pre> SELECT name, operatingHours, buildingCode FROM CAFE c WHERE buildingCode = :buildingCode </pre>	389 SELECTION
<pre> SELECT r.utilityID, COUNT(*) AS Reviews FROM Review r GROUP BY r.utilityID HAVING COUNT(*) &gt;= :minReviewNum </pre>	411 AGGREGATION HAVING
<pre> INSERT INTO LOCATION (locationID,floor, description) VALUES (:locationID,:floor, :description) </pre>	430
<pre> INSERT INTO USERINFO (userID, username, email, password, isAdmin) VALUES (:userID, :username, :email, :password, :isAdmin) </pre>	451
<pre> SELECT userID, username, isAdmin FROM USERINFO WHERE email = :email AND password = :password </pre>	471
<pre> INSERT INTO MICROWAVE (utilityID, microwaveSize) VALUES (:utilityID, :microwaveSize) </pre>	502 INSERT Fn starts at 492 after inserting utility
<pre> SELECT MAX(utilityID) as maxID FROM \${tableName}  In appControlller.js (140 but more instances) const newUtilID = await appService.findMaxUtilityID('WA TERFOUNTAIN');  if (newUtilID === undefined    </pre>	521 Called with set values rather than userinput

<pre> newUtilID === null) {     return res.status(400).json({ success: false, message: "Failed to find suitable utilID" }); } </pre>	
<pre> SELECT MAX(caffeID) as maxID FROM CAFE </pre>	537
<pre> SELECT MAX(locationID) as maxID FROM LOCATION </pre>	551
<pre> SELECT MAX(requestID) as requestID FROM REQUEST </pre>	566
<pre> SELECT MAX(reviewID) as reviewID FROM REVIEW WHERE utilityID = :utilityID </pre>	580
<pre> SELECT MAX(userID) as maxID FROM USERINFO </pre>	598
<pre> INSERT INTO CAFE VALUES (:caffeID, :name, :operatingHours, :buildingCode, :locationID) </pre>	613
<pre> INSERT INTO WASHROOM (utilityID, gender, numStalls, accessibilityFeature) VALUES (:utilityID, :gender, :numStalls, :accessibilityFeature) </pre>	642
<pre> SELECT c.* FROM Cafe c WHERE NOT EXISTS (     (SELECT name FROM Drink WHERE name IN (\${drinksList}))     MINUS     (SELECT s.drinkName     FROM Serves s     WHERE s.caffeID = c.caffeID) ) </pre>	664 DIVISION
<pre> INSERT INTO Review (reviewID, utilityID, userID, cleanliness, functionality, accessibility, description) VALUES (:reviewID, :utilityID, :userID, </pre>	690

<pre>:cleanliness, :functionality, :accessibility, :description)</pre>	
<pre>INSERT INTO Request (requestID, requestDate, status, requestDescription, requestType, amenityType, buildingName, userID, imageURL) VALUES (:requestID, TO_DATE(:requestDate, 'YYYY-MM-DD'), :status, :requestDescription, :requestType, :amenityType, :buildingName, :userID, :imageURL)</pre>	713
<pre>DELETE FROM Review WHERE reviewID = :reviewID AND utilityID = :utilityID</pre>	742
<pre>DELETE FROM UserInfo WHERE userID = :userID</pre>	761 DELETION CASCADES for user's review and requests
<pre>DELETE FROM Request WHERE requestID = :requestID</pre>	780
<pre>UPDATE UserInfo SET username=:newName where userID=:userID</pre>	800 UPDATE
<pre>UPDATE UserInfo SET email = :newEmail WHERE userID = :userID</pre>	821
<pre>UPDATE UserInfo SET password=:newPassword where userID=:userID</pre>	845
<pre>SELECT t.buildingCode, t.average FROM ( SELECT buildingCode, AVG(overallRating) as average FROM Building NATURAL JOIN Utility GROUP BY buildingCode) t WHERE t.average in (SELECT MAX(s.average) FROM ( SELECT buildingCode, AVG(overallRating) as average</pre>	865 NESTED AGGREGATION WITH GROUP BY

<pre>FROM Building NATURAL JOIN Utility  GROUP BY buildingCode)s)</pre>	
<pre>SELECT b.buildingCode, AVG(u.overallRating) FROM Utility u, Building b WHERE u.buildingCode=b.buildingCode GROUP BY b.buildingCode</pre>	891 AGGREGATION GROUP BY

- 
- 

- **Functionality Demonstration:**

- Screenshots demonstrating the functionality of each query using the GUI.
- Provide a before/during/after progression of events:
  - Before: Data in the table before running the query.
  - During: How the query is triggered using the GUI.
  - After: Data in the table after the query is executed.
- Label each set of screenshots with the name of the query (e.g., “Insert Operation”).
- Include screenshots only for the required queries; screenshots for additional queries are not needed.

**INSERT**

**BEFORE**

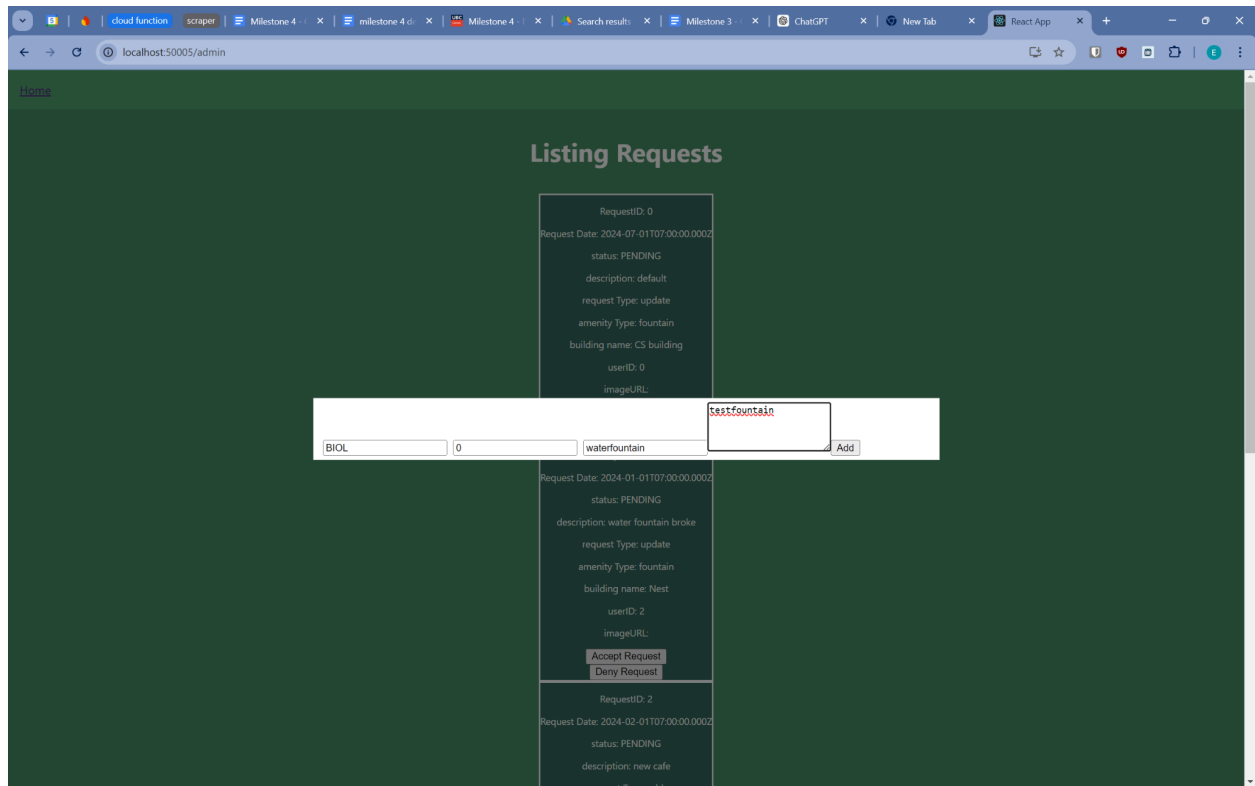
```
select * from waterfountain natural join utility;
```

UTILITYID	HASCO	HASHO	OVERALLRATING	BUILDINGCO	LOCATIONID
30000000	TRUE	FALSE	5	BIOL	0
30000001	TRUE	FALSE	5	ICCS	1
30000002	TRUE	TRUE	5	MATX	2

UTILITYID	HASCO	HASHO	OVERALLRATING	BUILDINGCO	LOCATIONID
30000003	TRUE	FALSE	2.7	NEST	3
30000004	TRUE	TRUE	5	KAIS	4

DURING – admin page





AFTER

UTILITYID	HASCO	HASHO	OVERALLRATING	BUILDINGCO	LOCATIONID
30000000	TRUE	FALSE	5	BIOL	0
30000001	TRUE	FALSE	5	ICCS	1
30000002	TRUE	TRUE	5	MATX	2
30000003	TRUE	FALSE	2.7	NEST	3
30000004	TRUE	TRUE	5	KAIS	4
30000005				BIOL	0

6 rows selected.

DELETE

```
select * from userinfo;
```

USERID	USERNAME	EMAIL	PASSWORD	ISADM
0	defaultUser	d@email.com	password	true
1	Kyle	k@email.com	password	true
2	Sarah	s@email.com	password	false

USERID	USERNAME	EMAIL	PASSWORD	ISADM
3	Maddie	m@email.com	password	false
4	Joey	j@email.com	password	

```
select * from review where userId = 0;
```

REVIEWID	UTILITYID	USERID	CLEANLINESS	FUNCTIONALITY	ACCESSIBILITY
1	10000000	0	1	1	1
REALLY BAD					

```
select * from request where userId = 0;
```

REQUESTID	REQUESTDA	STATUS
REQUESTDESCRIPTION		
REQUESTTYPE	AMENITYTYPE	BUILDINGNAME
USERID		
IMAGEURL		
0	01-JUL-24	PENDING
default update	fountain	CS building
		0

## During

Home

Change email:

Change username:

Change password:

Review for util: 10000000

Cleanliness: 1

Functionality: 1

Accessibility: 1

Description: REALLY BAD

-----

Request

Request Type: update

Amenity Type: fountain

Status: PENDING

Description: default

-----

---

## Delete account button

## AFTER

```
select * from userinfo;
```

USERID	USERNAME		
1	Kyle		
k@email.com		password	true
2	Sarah		
s@email.com		password	false
3	Maddie		
m@email.com		password	false
4	Joey		
j@email.com		password	

```
select * from request where userId = 0;
```

```
no rows selected
```

```
select * from review where userId = 0;
```

```
no rows selected
```

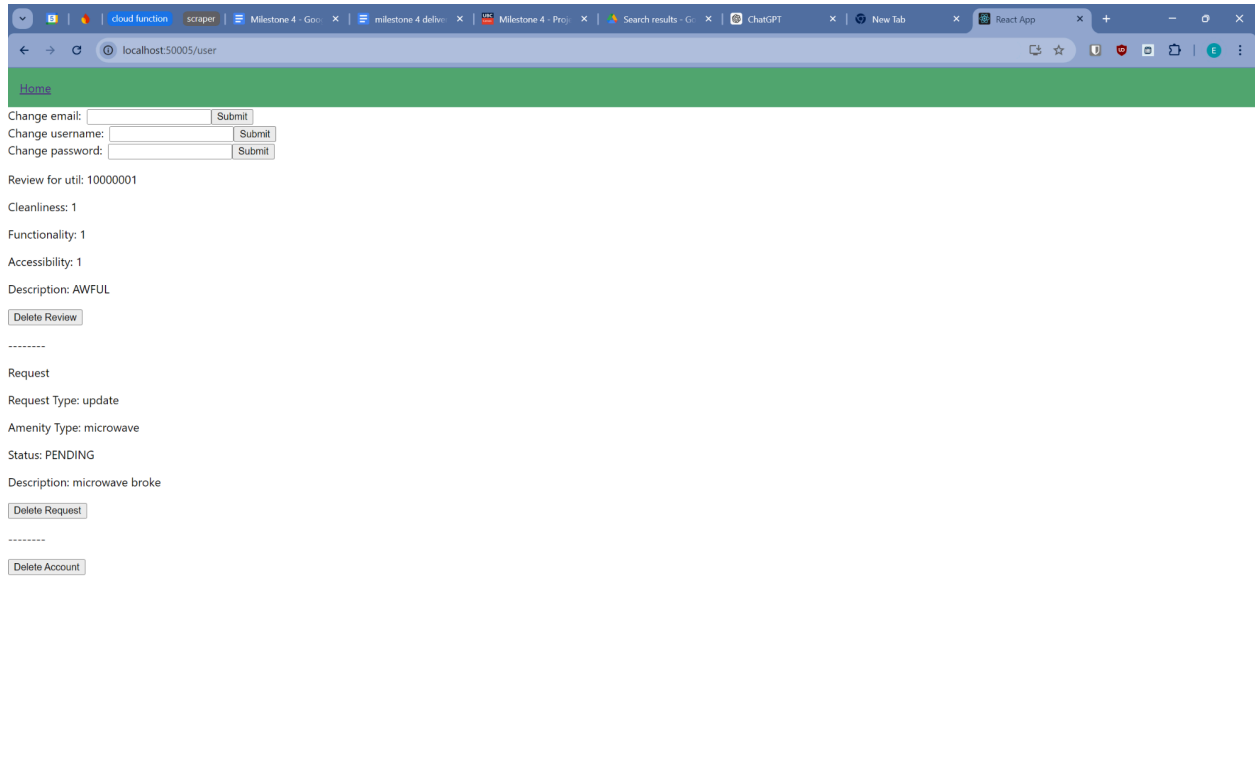
UPDATE

BEFORE

```
select * from userinfo where userID = 1;
```

USERID	USERNAME		
1	Kyle		
k@email.com		password	true

DURING



Change email, username, password buttons

AFTER

```
select * from userinfo where userID = 1;
```

USERID	USERNAME	EMAIL	PASSWORD	ISADM
1	kylo	kyle@email.com	password2	true

Selection

BEFORE

```
select * from utility;
```

UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
100000000	5	BIOL	0
100000001	5	ICCS	2
100000002	5	MATX	1

UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
100000003	5	NEST	3
100000004	2.7	KAIS	4
200000000	5	BIOL	0

UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
200000001	5	ICCS	1
200000002	5	MATX	2
200000003	5	NEST	3

UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
20000004	5	KAIS	4
/images/KAIS			
30000000	5	BIOL	0
/images/BIOL			
30000001	5	ICCS	1
/images/ICICS			

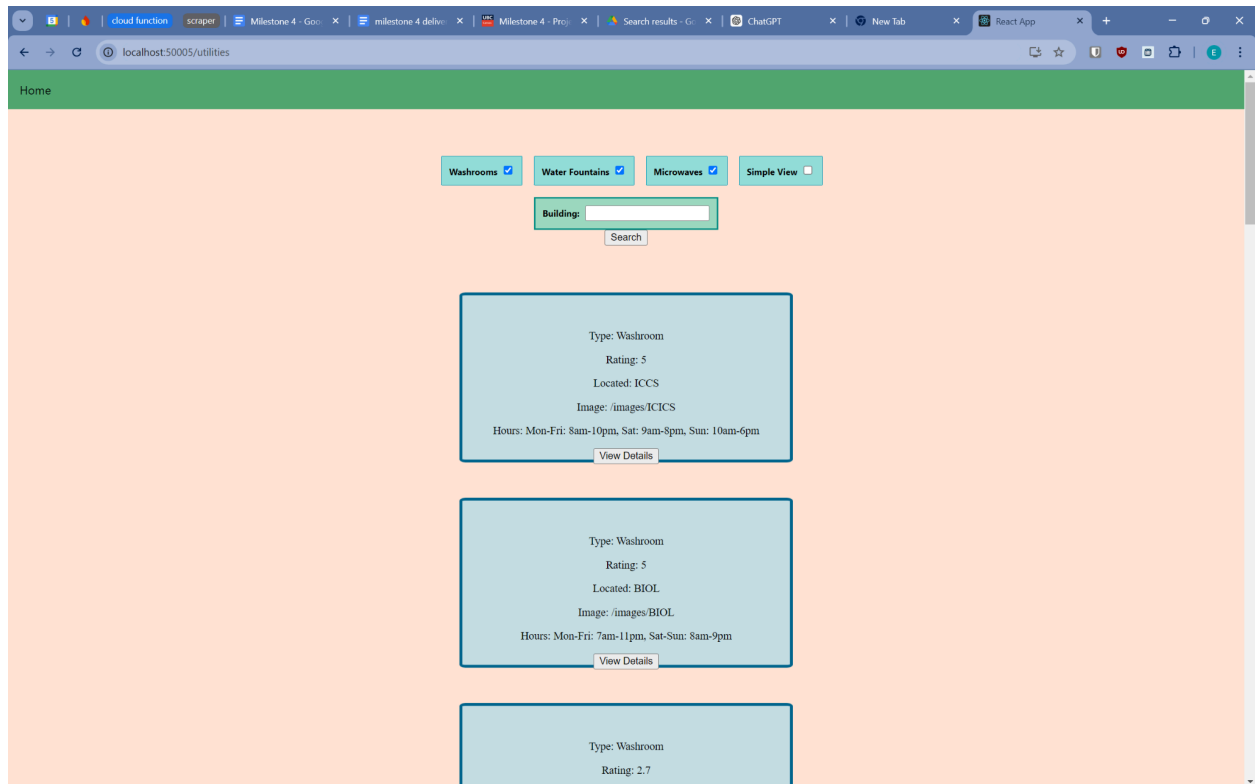
UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
30000002	5	MATX	2
/images/MATX			
30000003	2.7	NEST	3
/images/NEST			
30000004	5	KAIS	4
/images/KAIS			

UTILITYID	OVERALLRATING	BUILDINGCO	LOCATIONID
30000005		BIOL	0

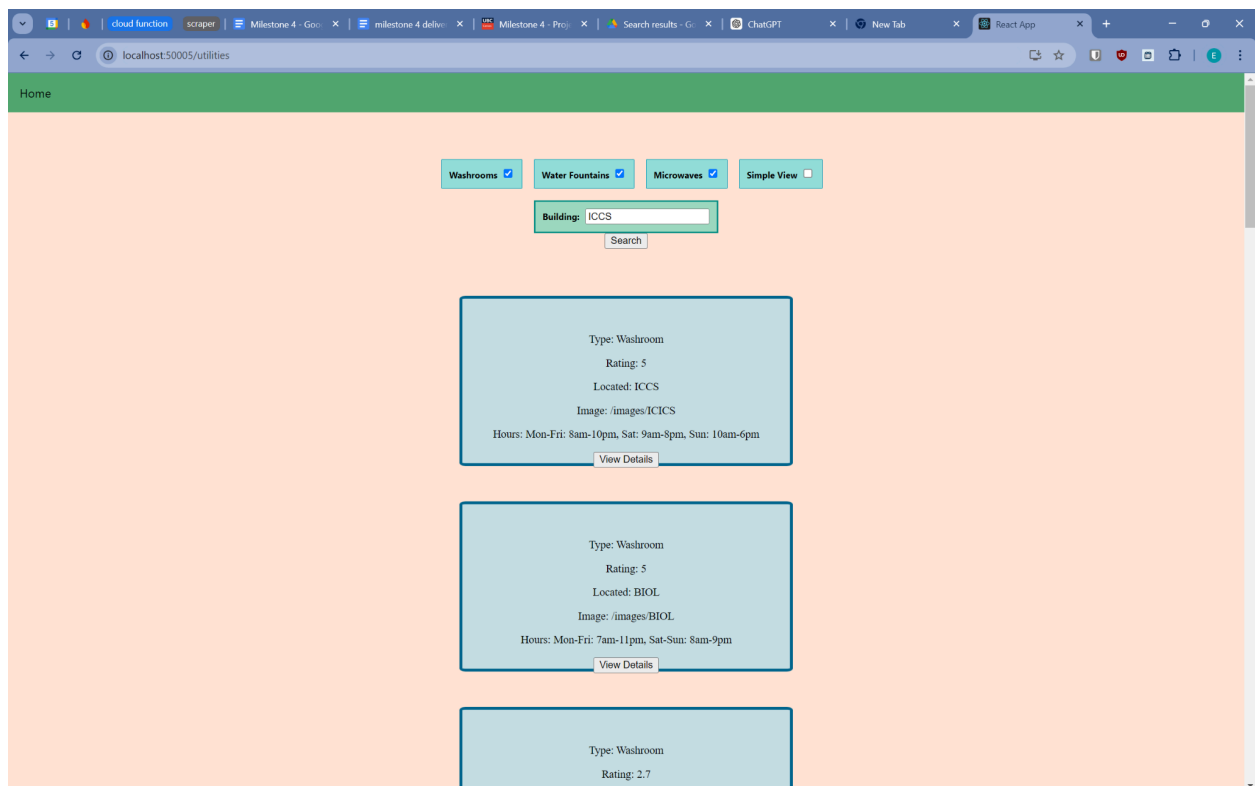
16 rows selected.

DURING





Building search bar



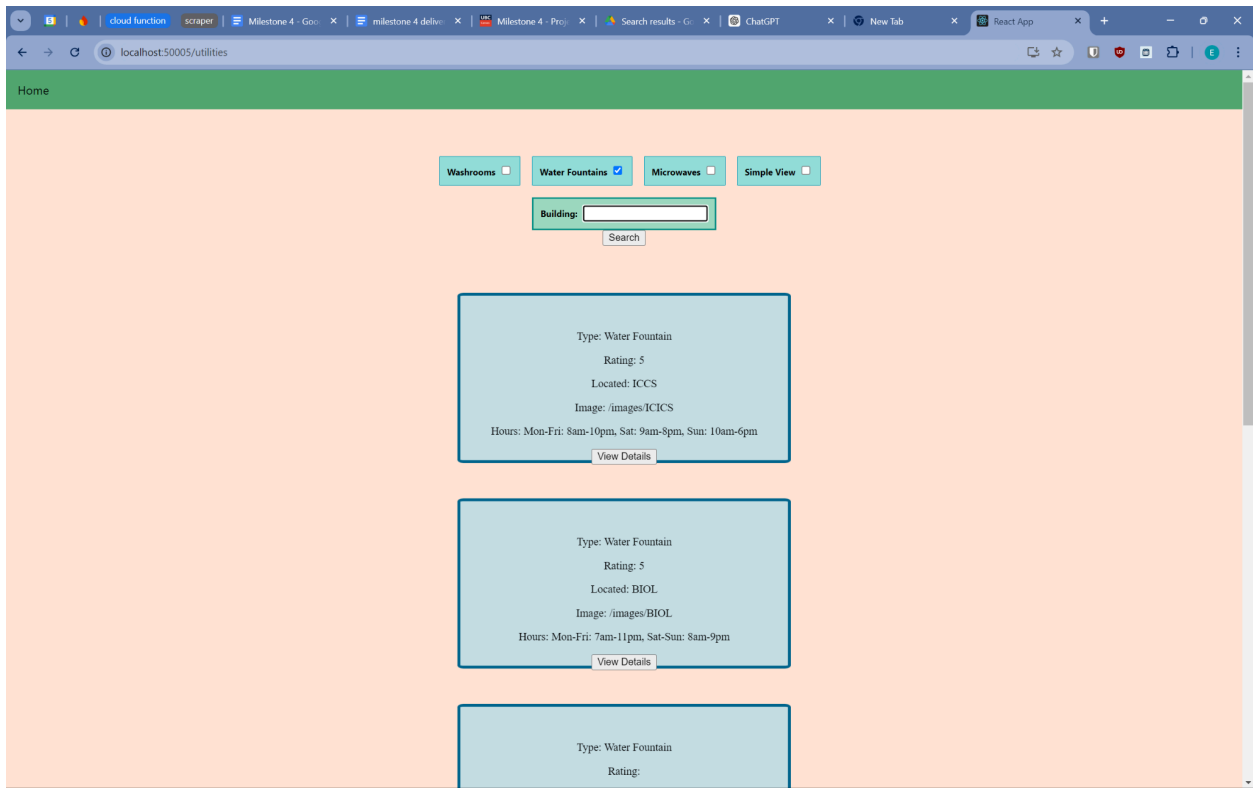
AFTER

```
select * from utility where buildingcode = 'ICCS';
```

UTILITYID	OVERALLRATING	BUILDINGCO	IMAGEURL	LOCATIONID
10000001	5	ICCS	/images/ICICS	2
20000001	5	ICCS	/images/ICICS	1
30000001	5	ICCS	/images/ICICS	1

PROJECTION

BEFORE



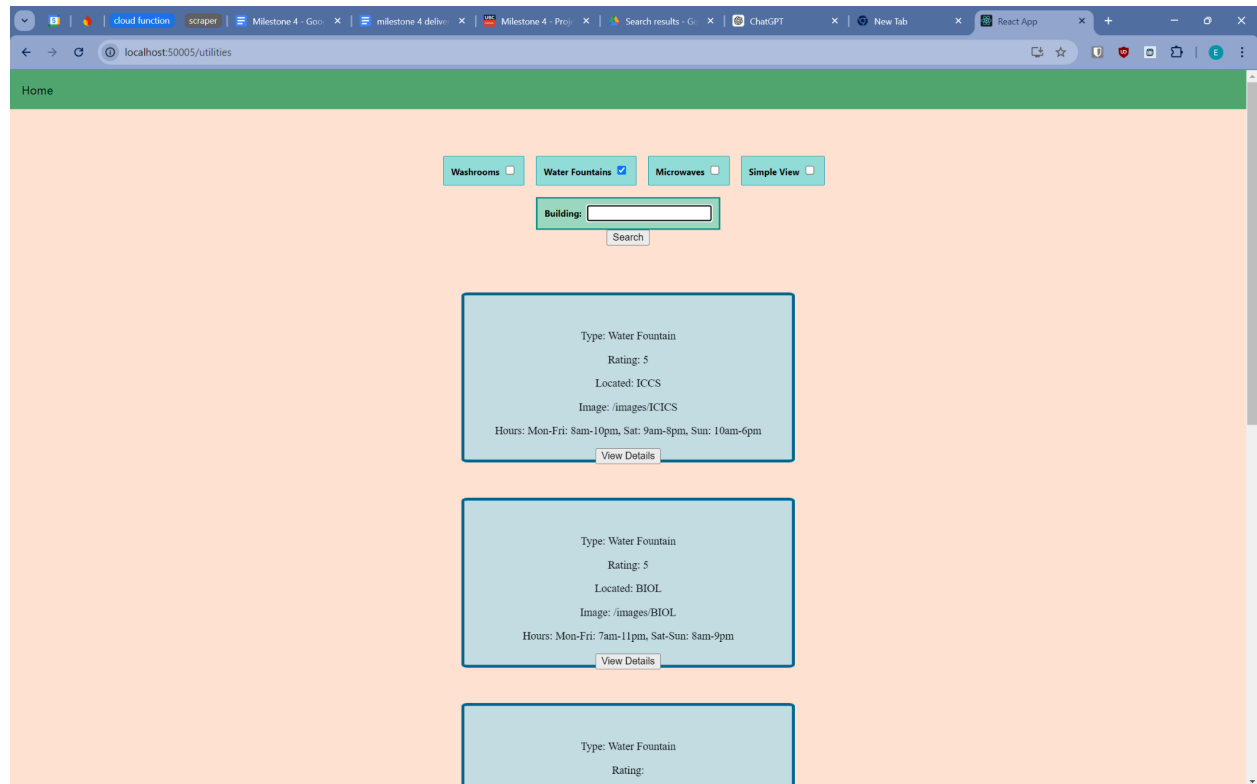
```
select * from waterfountain natural join utility;
```

UTILITYID	HASCO	HASHO	OVERALLRATING	BUILDINGCO	LOCATIONID
30000000	TRUE	FALSE	5	BIOL	0
30000001	TRUE	FALSE	5	ICCS	1
30000002	TRUE	TRUE	5	MATX	2

UTILITYID	HASCO	HASHO	OVERALLRATING	BUILDINGCO	LOCATIONID
30000003	TRUE	FALSE	2.7	NEST	3
30000004	TRUE	TRUE	5	KAIS	4
30000005				BIOL	0

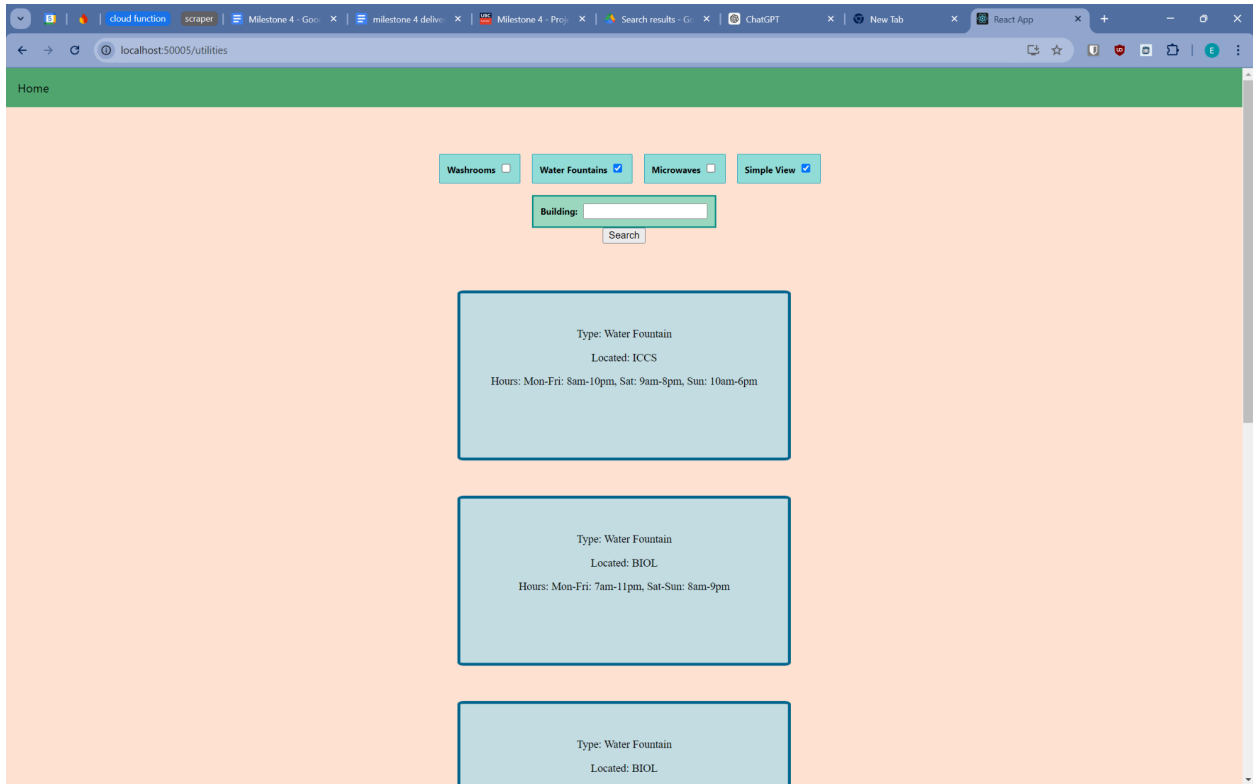
```
6 rows selected.
```

DURING



Simple view button

AFTER



```
SELECT utilityID, buildingCode, operatingHour
      FROM WATERFOUNTAIN NATURAL JOIN UTILITY NATURAL JOIN HOURS;
```

```
UTILITYID BUILDINGCO
```

```
OPERATINGHOUR
```

```
-----
30000001 ICCS
Mon-Fri: 8am-10pm, Sat: 9am-8pm, Sun: 10am-6pm
```

```
30000000 BIOL
Mon-Fri: 7am-11pm, Sat-Sun: 8am-9pm
```

```
30000005 BIOL
Mon-Fri: 7am-11pm, Sat-Sun: 8am-9pm
```

```
UTILITYID BUILDINGCO
```

```
OPERATINGHOUR
```

```
-----
30000004 KAIS
Mon-Fri: 9am-9pm, Sat: 10am-6pm, Sun: Closed
```

```
30000003 NEST
Mon-Sat: 8am-8pm, Sun: 9am-5pm
```

```
30000002 MATX
Mon-Fri: 6am-12am, Sat-Sun: 7am-10pm
```

```
6 rows selected.
```

JOIN

BEFORE

```
select * from utility where utilityid = 10000000;
```

UTILITYID	OVERALLRATING	BUILDINGCO
10000000	5	BIOL

IMAGEURL	LOCATIONID
/images/BIOL	0

```
select * from washroom where utilityID = 10000000;
```

UTILITYID	GENDER	NUMSTALLS
10000000	FEMALE	2

ACCESSIBILITYFEATURE
WHEELCHAIR STALL

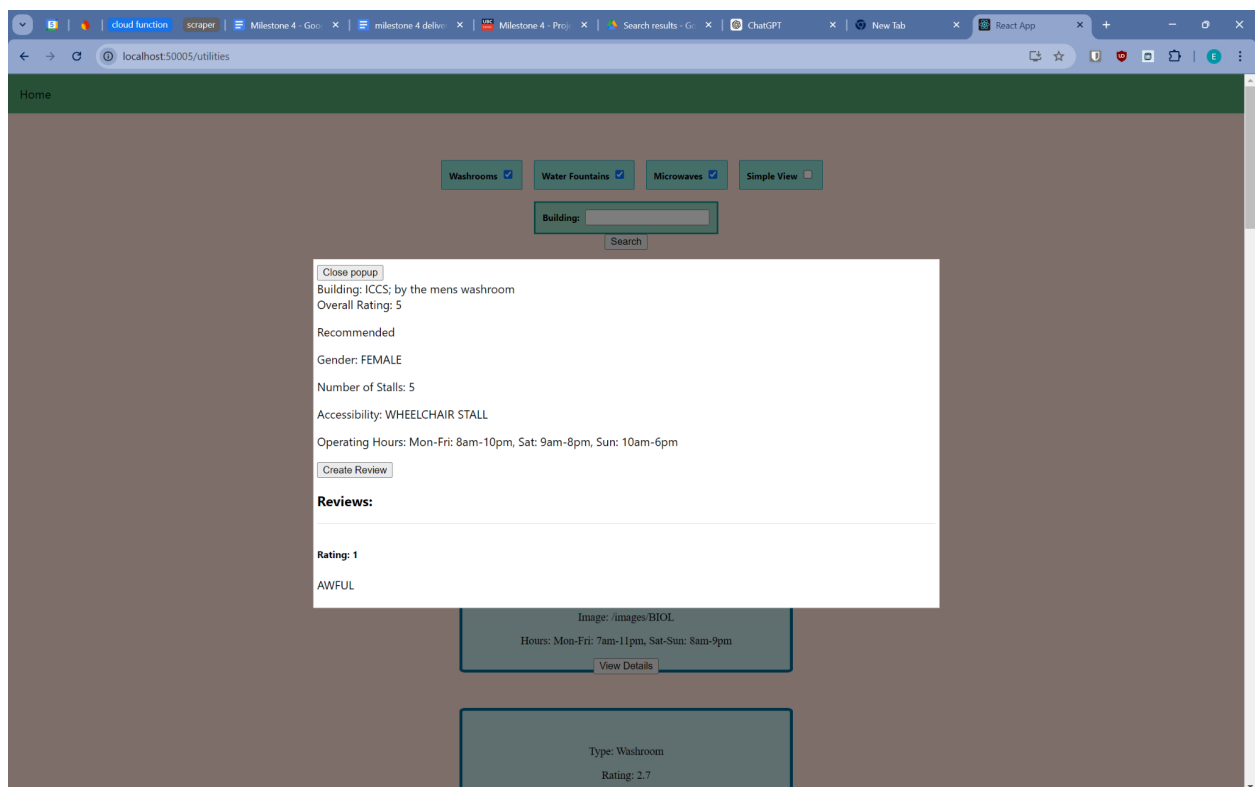
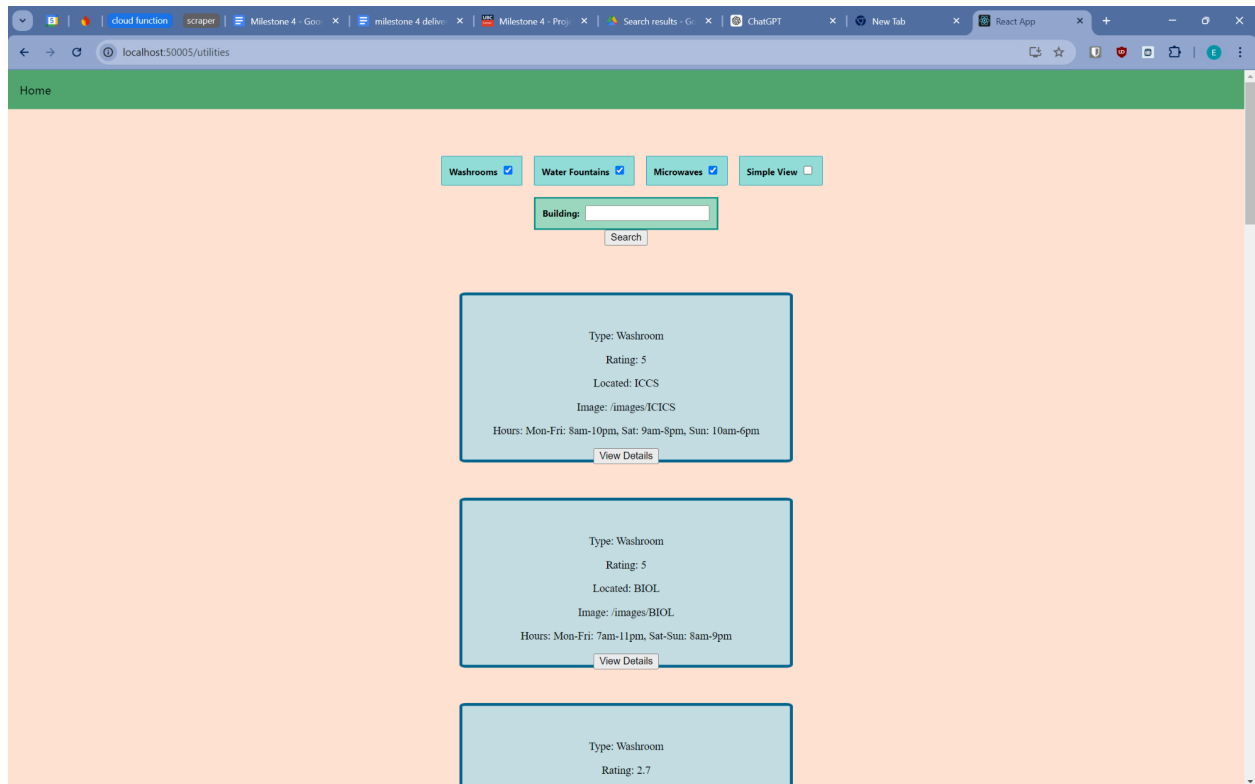
```
select * from location where locationID = 0;
```

LOCATIONID	FLOOR
0	69

LOCATIONDESCRIPTION
default location

DURING – view details button



After

```
Command Prompt - ssh: ellee' X + v
2 SELECT *
3 FROM UTILITY NATURAL JOIN WASHROOM
4 NATURAL JOIN HOURS NATURAL JOIN RATING NATURAL JOIN LOCATION
WHERE utilityID = 10000000;

LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----
0 5 BIOL 10000000
LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----
/images/BIOL
LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----
FEMALE 2
```

```
Command Prompt - ssh: ellee' X + v
LOCATIONDESCRIPTION
-----
Mon-Fri: 7am-11pm, Sat-Sun: 8am-9pm
LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----
TRUE 69
LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----
default location
LOCATIONID OVERALLRATING BUILDINGCO UTILITYID
-----
IMAGEURL
-----
GENDER NUMSTALLS
-----
ACCESSIBILITYFEATURE
-----
OPERATINGHOUR
-----
ISRECOMMEN FLOOR
-----
LOCATIONDESCRIPTION
-----

SQL>
```



AGGREGATION+ GROUP BY	<div data-bbox="519 350 857 457"><div>Find average rating of building utils</div><div>Find Average Rating of Buildings</div></div>	<div data-bbox="883 350 1221 457"><div>Find average rating of building utils</div><div>Find Average Rating of Buildings</div></div> <div data-bbox="883 464 1185 531">(USER CLICKING THE BUTTON)</div>	<div data-bbox="1256 350 1601 768"><div>Find average rating of building utils</div><div>Find Average Rating of Buildings</div><div>Building: NEST</div><div>Rating: 4.23</div><div>Building: MATX</div><div>Rating: 5.00</div><div>Building: KAIS</div><div>Rating: 4.23</div><div>Building: BIOL</div><div>Rating: 5.00</div><div>Building: ICCS</div><div>Rating: 5.00</div></div>
AGGREGATION + HAVING	<div data-bbox="519 804 847 854"><div>Find utils with minimum amount of ratings</div><div>Show Amenities with At Least X Reviews: <input type="text"/> Send Request</div></div>	<div data-bbox="883 804 1227 854"><div>Find utils with minimum amount of ratings</div><div>Show Amenities with At Least X Reviews: <input type="text"/> Send Request</div></div>	<div data-bbox="1256 804 1601 1096"><div>Show Amenities with At Least X Reviews: <input type="text"/> Send Request</div><div>Type: Washroom</div><div>Rating: 1</div><div>Utility ID: 10000000</div><div>Type: Washroom</div><div>Rating: 1</div><div>Utility ID: 10000002</div><div>Type: Washroom</div><div>Rating: 1</div><div>Utility ID: 10000001</div><div>Type: Washroom</div><div>Rating: 1</div><div>Utility ID: 10000004</div><div>Type: Microwave</div><div>Rating: 2</div><div>Utility ID: 20000001</div></div>
NESTED AGGREGATION	<div data-bbox="519 1165 857 1249"><div>Find building with highest average util rating</div><div>Find Building with the highest average Utility Rating</div></div>	<div data-bbox="883 1165 1221 1318"><div>(user clicking the button)</div><div>Find building with highest average util rating</div><div>Find Building with the highest average Utility Rating</div></div>	<div data-bbox="1256 1144 1601 1404"><div>Find building with highest average util rating</div><div>Find Building with the highest average Utility Rating</div><div>Building Code: MATX</div><div>Rating: 5</div><div>Building Code: BIOL</div><div>Rating: 5</div><div>Building Code: ICCS</div><div>Rating: 5</div></div>

DIVISION

Available Drinks

Drink Name: Cappuccino

Drink Name: Dark Roast

Drink Name: Espresso

Drink Name: Iced Latte

Drink Name: London Fog

Which Drinks do you want?

Drinks

Submit

Available Drinks

Drink Name: Cappuccino

Drink Name: Dark Roast

Drink Name: Espresso

Drink Name: Iced Latte

Drink Name: London Fog

Which Drinks do you want?

Dark Roast

Submit

Available Drinks

Drink Name: Cappuccino

Drink Name: Dark Roast

Drink Name: Espresso

Drink Name: Iced Latte

Drink Name: London Fog

Which Drinks do you want?

Espresso, Iced Latte

Submit

Cafe Name: Starbucks

Building Code: KAIS

Operating Hours: 8:30 - 23:00