

Repository link:

https://github.students.cs.ubc.ca/CPSC304-2022W-T1/project_f5k3b_i7n2b_t3q7m

Description of the final project

The project allows users to retrieve information about food delivery platforms and their relevant data, for example restaurants, users, promotions, etc. Specific tasks that our project accomplishes are:

- Retrieving, inserting, deleting, and updating user addresses.
- Retrieving restaurants by filtering on rates, promotion discount code, platform.
 - Restaurants with a rating above a given threshold
 - Maximum rating for restaurant types with average rating higher than a given number
 - All restaurants on a given platform
 - All restaurants registered on all platforms
- Retrieving delivery persons' location, id, name, vehicle info.
- Retrieving platform-specific promotion and user balance details.
 - Minimum and maximum discounts per platform
 - Maximum user balance for each platform with more than one user

Final schema

Our final schema is almost the same as our previously submitted schema, except that it denormalizes Restaurant to only use one table, to make queries easier to write.

Platform(platformName:string)

User_1(username:string, userID:int, account_balance:float, platformName:string)

UserAddress(streetAddress:string, city:string, country:string, addressType:string, userID:int)

Restaurant(name:string, restaurantID:int, rating:int, location:string, type:string)

FoodItem(name:string, restaurantID:int)

DeliveryPerson(name:string, id:int, currentLocation:string)

Vehicle2(model:string, make:string)

Vehicle1(number_plate:string, model:string)

Promotion(promotionID:int, discountPercentage:float, platform:string)

PlatformWidePromotion(redeemCode:int, promotionID:int)

RestaurantSpecificDiscount(restaurantID:int, promotionID:int)

UsesVehicle (deliveryPersonID:int, number_plate:string)

WorksFor(deliveryPersonID:int, platform:string)

Hosts (platform:string, restaurantID:int)

Offers (restaurantID:int, promotionID:int)

Screenshots of data

Platform

PLATFORMNAME
DoorDash
Fantuan
Grubhub
SkipTheDishes
UberEats

User_1

USERNAME	USERID	ACCOUNT_BALANCE	PLATFORMNAME
foodlover2	1001	43.75	DoorDash
bluesweater	1002	2.54	UberEats
catperson	1003	20	DoorDash
sunflower34	1004	78.88	DoorDash
abcdef	1005	0	SkipTheDishes
paperkite	1006	13.99	UberEats

UserAddress

STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE	USERID
1 Apple Dr	Vancouver	Canada	delivery	1001
2 Banana St	Vancouver	Canada	billing	1002
3 Cherry Rd	Vancouver	Canada	delivery	1003
4 Donut Dr	Vancouver	Canada	delivery	1004
5 Eclair St	Vancouver	Canada	delivery	1005
6 Fig Rd	Vancouver	Canada	billing	1005
7 Grape Dr	Vancouver	Canada	delivery	1006

Restaurant

NAME	RESTAURANTID	RATING	LOCATION	TYPE
McDonalds	5001	3	15 Fries St	fast food
Kung Fu Noodle	5002	4	25 Panda St	restaurant
Yunshang Rice Noodle	5003	5	35 Noodle St	restaurant
Nori	5004	5	45 Seaweed St	restaurant
Chatime	5005	5	55 Tea St	bubble tea

FoodItem

NAME	RESTAURANTID
chicken rice noodle	5003
chicken wings	5001
fried rice	5002
fries	5001
hamburger	5001

DeliveryPerson

NAME	ID	CURRENTLOCATION
John Doe	4001	14 Hello St
Jane Deer	4002	24 High St
Jeremy Don	4003	34 Hay Rd
Jack Donald	4004	44 Greetings Ln
Jill Dew	4005	54 Salutations St

Vehicle2

MODEL	MAKE
Elantra	Hyundai
Everest	Ford
Civic	Honda
Camry	Toyota
X5	BMW

Vehicle1

NUMBER_PLA	MODEL
123 ABC	Elantra
124 ABC	Everest
125 ABC	Civic
126 ABC	Camry
127 ABC	X5

Promotion

PROMOTIONID	DISCOUNTPERCENTAGE	PLATFORM
2001	.15	DoorDash
2002	.26	UberEats
2003	.37	SkipTheDishes
2004	.48	Fantuan
2005	.59	Grubhub
2006	.25	DoorDash
2007	.36	UberEats
2008	.47	SkipTheDishes
2009	.58	Fantuan
2010	.69	Grubhub

PlatformWidePromotion

REDEEMCODE	PROMOTIONID
-----	-----
111000	2001
222000	2002
333000	2003
444000	2004
555000	2005

RestaurantSpecificDiscount

RESTAURANTID	PROMOTIONID
-----	-----
5001	2006
5002	2007
5003	2008
5004	2009
5005	2010

UsesVehicle

DELIVERYPERSONID	NUMBER_PLA
-----	-----
4001	123 ABC
4002	124 ABC
4003	125 ABC
4004	126 ABC
4005	127 ABC

WorksFor

DELIVERYPERSONID	PLATFORM
-----	-----
4001	DoorDash
4002	UberEats
4003	DoorDash
4004	UberEats
4005	SkipTheDishes

Hosts

PLATFORM	RESTAURANTID
-----	-----
DoorDash	5001
Fantuan	5001
Fantuan	5003
Fantuan	5004
Grubhub	5001
Grubhub	5005
SkipTheDishes	5001
UberEats	5001
UberEats	5002

Offers

RESTAURANTID	PROMOTIONID
-----	-----
5001	2006
5002	2007
5003	2008
5004	2009
5005	2010

Queries

INSERT operation

- **File:** data_retrieve_helper.php, **function:** insertAddress()

INSERT into UserAddress

VALUES(\$newStreet, \$newCity, \$newCountry, \$addressType, \$ID)

DELETE operation

- **File:** data_retrieve_helper.php, **function:** deleteAddress()

DELETE FROM UserAddress

WHERE userID = \$ID AND

streetAddress = \$oldStreet AND

city = \$oldCity AND

country = \$oldCountry

UPDATE operation

- **File:** data_retrieve_helper.php, **function:** changeAddressType()

UPDATE UserAddress

SET addressType = \$addressType

WHERE userID = \$ID AND

streetAddress = \$oldStreet AND

city = \$oldCity AND

country = \$oldCountry

Projection operations

- **File:** data_retrieve_helper.php, **function:** retrieveAllDiscountCode()

SELECT promotionID

FROM RestaurantSpecificDiscount

- **File:** data_retrieve_helper.php, **function:** retrieveAllDeliveryPersonName()

SELECT name

FROM DeliveryPerson

Selection operations

- **File:** data_retrieve_helper.php, **function:** restaurantsFilter()

SELECT restaurantID, name, rating

FROM Restaurant

WHERE rating > \$rate

- **File:** data_retrieve_helper.php, **function:** retrieveDiscountCodeFromRestaurants()

SELECT promotionID

FROM RestaurantSpecificDiscount

WHERE restaurantID = \$restaurantID

- **File: data_retrieve_helper.php, function: retrieveCarNumberPlate()**

```
SELECT number_plate
FROM UsesVehicle
WHERE deliveryPersonID = $personID
```

- **File: data_retrieve_helper.php, function: retrieveCarModel()**

```
SELECT model
FROM Vehicle
WHERE number_plate = $num_plate
```

- **File: data_retrieve_helper.php, function: retrieveUserAddress()**

```
SELECT streetAddress, city, country, addressType
FROM UserAddress
WHERE userID = $ID
```

Join

- **File: restaurant.php, function: handleRestPlatRequest()**

```
SELECT name, restaurantID
FROM Hosts NATURAL JOIN Restaurant
WHERE platform='$platformName'
```

Aggregation – GROUP BY

- **File: promotion.php, function: handlePromoMinMaxRequest()**

```
SELECT p.platform, $aggregateOp (p.discountPercentage)
FROM Promotion p
GROUP BY p.platform
```

Aggregation – HAVING

- **File: restaurant.php, function: handleMaxRatingGroupedRequest()**

```
SELECT R.type, CAST(AVG(R.rating) AS DECIMAL(10,2)) AS avg_rating, MAX(R.rating)
FROM Restaurant R
GROUP BY R.type
HAVING AVG(R.rating) > $ratingThreshold
```

Nested aggregation – GROUP BY

- **File: promotion.php, function: handleMaxBalanceRequest()**

```
SELECT u1.platformName, MAX(u1.account_balance) as maxAccountBalance
FROM User_1 u1
GROUP BY u1.platformName
HAVING 1 < (
    SELECT COUNT(*)
    FROM User_1 u2
```

```
        WHERE u1.platformName = u2.platformName
    )
```

Division

- **File: restaurant.php, function: handleOnAllPlatRequest()**

```
SELECT r.name
FROM Restaurant r
WHERE NOT EXISTS
(
    SELECT p.platformName FROM Platform p
    MINUS
    SELECT h.platform FROM Hosts h WHERE h.restaurantID=r.restaurantID
)
```


Screen shots for the GUI after running each query

INSERT operation

Before insertion, the user with id = 1001 has two addresses as below.

STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE
New St.	Toronto	Ontario	company
1 Apple Dr	Vancouver	Canada	delivery

After insertion, the insert success message is printed, and now the user 1001's address becomes the picture below.

INSERT into UserAddress VALUES('American St.', 'Seattle', 'U.S.', 'home', 1001)			
No results found.			
INSERT SUCCESSFULLY.			
STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE
New St.	Toronto	Ontario	company
1 Apple Dr	Vancouver	Canada	delivery
American St.	Seattle	U.S.	home

DELETE operation

Before insertion, the user with id = 1001 has two addresses as below.

STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE
New St.	Toronto	Ontario	company
1 Apple Dr	Vancouver	Canada	delivery
American St.	Seattle	U.S.	home

After deletion, the delete success message is printed, and now the user 1001's address becomes the picture below.

DELETE FROM UserAddress WHERE userID = 1001 AND streetAddress = 'New St.' AND city = 'Toronto' AND country = 'Ontario'

No results found.

DELETE SUCCESSFULLY.

STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE
1 Apple Dr	Vancouver	Canada	delivery
American St.	Seattle	U.S.	home

UPDATE operation

Before updating, the user with id = 1001's U.S. address has a type "home."

After updating the address type, the success message is printed and now the U.S. address type is updated to "company."

change user address type button clicked

UPDATE UserAddress SET addressType = 'company' WHERE userID = 1001 AND streetAddress = 'Seattle' AND city = 'Seattle' AND country = 'U.S.'

No results found.

CHANGE SUCCESSFULLY.

STREETADDRESS	CITY	COUNTRY	ADDRESSTYPE
1 Apple Dr	Vancouver	Canada	delivery
American St.	Seattle	U.S.	company

Selection

The value chosen is 4 and OFF. The table on the left is the table before the buttonclick and the table in the right is the one produces after the button is clicked.

here are the restaurants:

NAME	RESTAURANTID	RATING	LOCATION	TYPE
McDonalds	5001	3	15 Fries St	fast food
Kung Fu Noodle	5002	4	25 Panda St	restaurant
Yunshang Rice Noodle	5003	5	35 Noodle St	restaurant
Nori	5004	5	45 Seaweed St	restaurant
Chatime	5005	5	55 Tea St	bubble tea

Apply filter:

I want restaurant that has a rating no lower than:
● 1 ● 2 ● 3 ● 4 ● 5

Show discount:
● ON ● OFF

apply

RESTAURANTID	NAME	RATING
5002	Kung Fu Noodle	4
5003	Yunshang Rice Noodle	5
5004	Nori	5
5005	Chatime	5

Projection

delivery informations:			<input type="button" value="show names of delivery person"/>	
NAME	ID	CURRENTLOCATION	NAME	
John Doe	4001	14 Hello St	John Doe	
Jane Deer	4002	24 High St	Jane Deer	
Jeremy Don	4003	34 Hay Rd	Jeremy Don	
Jack Donald	4004	44 Greetings Ln	Jack Donald	
Jill Dew	4005	54 Salutations St	Jill Dew	

Join

The text entered is: Fantuan

here are the restaurants:					Apply filter:	
					I want restaurant that has a rating no lower than:	
					<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	
					Show discount:	
					<input type="radio"/> ON <input type="radio"/> OFF	
					<input type="button" value="apply"/>	
					find all restaurant on a certain platform:	
					enter platform name: <input type="text"/>	
					<input type="button" value="submit"/>	
NAME	RESTAURANTID	RATING	LOCATION	TYPE	NAME	RESTAURANTID
McDonalds	5001	3	15 Fries St	fast food	McDonalds	5001
Kung Fu Noodle	5002	4	25 Panda St	restaurant	Yunshang Rice Noodle	5003
Yunshang Rice Noodle	5003	5	35 Noodle St	restaurant	Nori	5004
Nori	5004	5	45 Seaweed St	restaurant		
Chatime	5005	5	55 Tea St	bubble tea		

Aggregation – GROUP BY

After clicking the min:

promotions:				show <input type="radio"/> min <input type="radio"/> max discount per platform	
				<input type="button" value="submit"/>	
PROMOTIONID	DISCOUNTPERCENTAGE	PLATFORM		PLATFORM	MIN(P.DISCOUNTPERCENTAGE)
2001	.15	DoorDash		UberEats	.26
2002	.26	UberEats		DoorDash	.15
2003	.37	SkipTheDishes		SkipTheDishes	.37
2004	.48	Fantuan		Fantuan	.48
2005	.59	Grubhub		Grubhub	.59
2006	.25	DoorDash			
2007	.36	UberEats			
2008	.47	SkipTheDishes			
2009	.58	Fantuan			
2010	.69	Grubhub			
				find maximum user balance, for each platform with more than	

After clicking the max:

promotions:			show min max discount per platform	
PROMOTIONID	DISCOUNTPERCENTAGE	PLATFORM		
2001	.15	DoorDash		
2002	.26	UberEats		
2003	.37	SkipTheDishes		
2004	.48	Fantuan		
2005	.59	Grubhub		
2006	.25	DoorDash		
2007	.36	UberEats		
2008	.47	SkipTheDishes		
2009	.58	Fantuan		
2010	.69	Grubhub		

PLATFORM	MAX(P.DISCOUNTPERCENTAGE)
UberEats	.36
DoorDash	.25
SkipTheDishes	.47
Fantuan	.58
Grubhub	.69

find maximum user balance, for each platform with more than 0

Aggregation – HAVING

here are the restaurants:

NAME	RESTAURANTID	RATING	LOCATION	TYPE
McDonalds	5001	3	15 Fries St	fast food
Kung Fu Noodle	5002	4	25 Panda St	restaurant
Yunshang Rice Noodle	5003	5	35 Noodle St	restaurant
Nori	5004	5	45 Seaweed St	restaurant
Chatime	5005	5	55 Tea St	bubble tea

After clicking (the value entered here is 3):

find maximum restaurant rating, for each restaurant type having an average rating greater than:		
submit		
TYPE	AVG _ RATING	MAX(R.RATING)
bubble tea	5	5
restaurant	4.67	5

Nested aggregation – GROUP BY

PROMOTIONID	DISCOUNTPERCENTAGE	PLATFORM		
2001	.15	DoorDash		
2002	.26	UberEats		
2003	.37	SkipTheDishes		
2004	.48	Fantuan		
2005	.59	Grubhub		
2006	.25	DoorDash		
2007	.36	UberEats		
2008	.47	SkipTheDishes		
2009	.58	Fantuan		
2010	.69	Grubhub		

submit

find maximum user balance, for each platform with more than one user:

find

PLATFORMNAME	MAXACCOUNTBALANCE
UberEats	13.99
DoorDash	78.88

Division

Before clicking:

here are the restaurants:

NAME	RESTAURANTID	RATING	LOCATION	TYPE
McDonalds	5001	3	15 Fries St	fast food
Kung Fu Noodle	5002	4	25 Panda St	restaurant
Yunshang Rice Noodle	5003	5	35 Noodle St	restaurant
Nori	5004	5	45 Seaweed St	restaurant
Chatime	5005	5	55 Tea St	bubble tea

Result given after clicking

find restaurant registered on all platform:

find

NAME
McDonalds

back to home