

Dine & Discovery: A Database for Restaurant Reviews

I. Business Scenario Overview

Business Overview. *Dine & Discover* is a restaurant review platform designed to enhance the way people discover and explore new dining options in their area. Our platform is dedicated to providing users with a seamless and immersive journey through the diverse landscape of dining options, offering a rich tapestry of culinary experiences waiting to be discovered and savoured.

Business Processes. Similarly to Yelp, users can create accounts to track restaurants they have been to, discover new restaurants, and write reviews to share their culinary experiences. Additionally, features from OpenTable are integrated as well to enhance the overall user experience in terms of booking restaurants, which is less of a focus for Yelp. This seamless process ensures that users can effortlessly immerse themselves in the vibrant world of dining discovery, fostering a community-driven platform that celebrates the joy of culinary exploration.

Features & Functionalities. The platform contains a comprehensive database of restaurants within a certain area, providing information on location, cuisine types, ratings, etc. as well as offering the possibility to book a reservation directly on the platform. As for users, they can easily create an account to track their reservations and reviews, making *Dine & Discover* the ultimate all-in-one database for foodies. Overall, the business aims to help and support local restaurants by increasing their visibility on this review platform and creating a sense of community between the restaurants including owners, managers, etc. and general users seeking new dining recommendations, the two primary users of the platforms.

Project Scope. In terms of business rules, only users who have accounts may leave reviews and all reviews must comply with community guidelines as well as only contain appropriate language. As for restaurants, they must meet certain criteria to be listed on the

platform including maintaining health and hygiene standards and practices, cultural authenticity, etc. They are allowed to remain on the platform, even if they receive no reviews.

Figure 1. Sample User Profile.

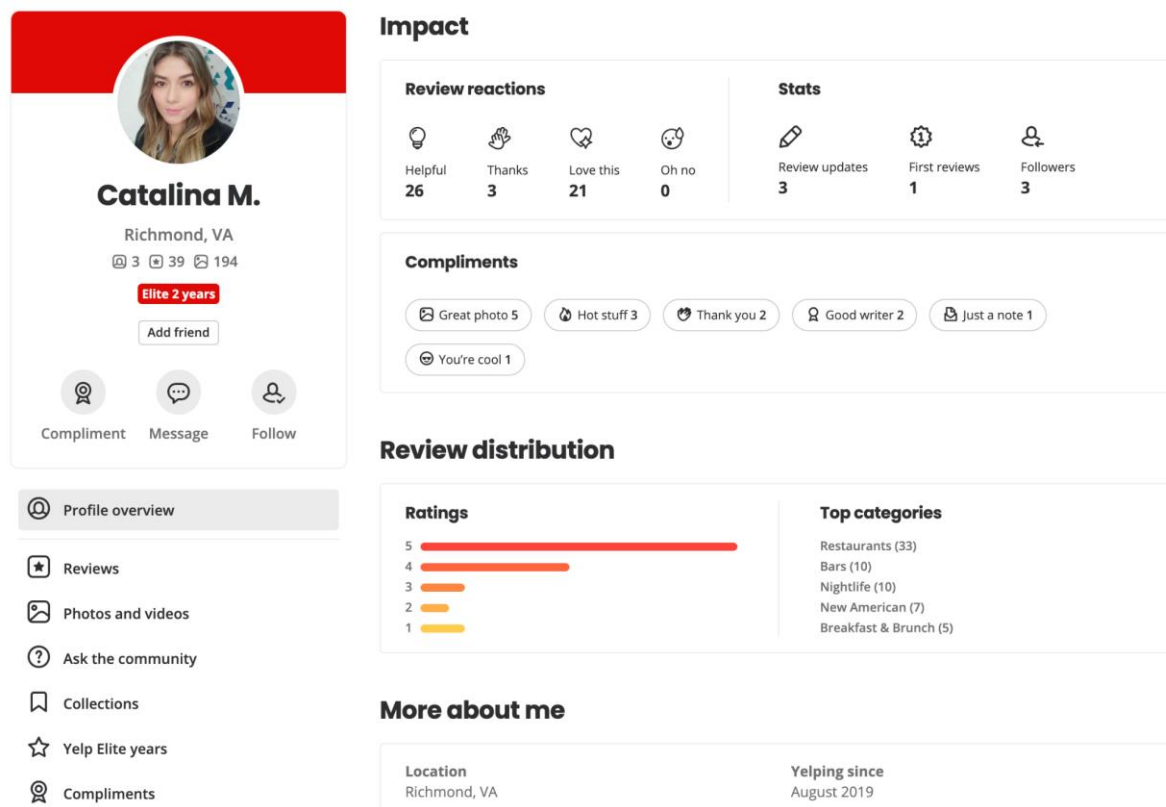


Figure 2. Sample Restaurant Profile.

Yelp Restaurants Montreal, QC

Restaurants Home Services Auto Services More

Monarque
4.6 (165 reviews)
Unclaimed • Brasseries
Open 11:30 AM - 12:00 AM (Next day) See hours

See all 610 photos

Write a review Add photo Share Save

Menu
Popular dishes

- Duck Confit**
11 Photos • 12 Reviews
- Grilled Octopus**
13 Photos • 8 Reviews
- Tuna Tartare**
8 Photos • 9 Reviews
- Beef Tartare**
6 Photos • 4 Reviews

restaurantmonarque.ca
(514) 875-3896
[Get Directions](#)
406 Rue Saint-Jacques Montreal, QC H2Y 1S1 Canada
[Suggest an edit](#)

Make a reservation
Wed, Mar 27
7:00 pm 2 people
[Find a Table](#)

Location & Hours [Suggest an edit](#)

INTERNATIONAL DISTRICT
Montreal Museum of Archaeology and History
406 Rue Saint-Jacques Montreal, QC H2Y 1S1 Canada Ville-Marie
[Get directions](#)

Mon 11:30 AM - 12:00 AM (Next day)
Tue 11:30 AM - 12:00 AM (Next day)
Wed 11:30 AM - 12:00 AM (Next day)
Thu 11:30 AM - 12:00 AM (Next day) **Open now**
Fri 11:30 AM - 12:00 AM (Next day)
Sat 5:00 PM - 12:00 AM (Next day)
Sun 5:00 PM - 12:00 AM (Next day)

About the Business

Jeremie B.
Business Owner


Monarque is a stunning chef owned restaurant located in old Montreal. You can reserve a table in the Brasserie or in the Salle à Manger! Two different rooms, two different menus with two different kitchens!

[Read more](#)

Overall rating
165 reviews

5 stars
4 stars
3 stars
2 stars
1 star

Figure 3. Sample Restaurant Review.



Melissa Y. Elite 24
 Quincy, MA
 284 235 1108

Feb 23, 2024





If there is one restaurant to dine at while visiting Montreal, this is it.

I am not sure why this restaurant hasn't received any Michelin stars yet, but it definitely deserves one. The one thing I do want to mention there are 2 rooms: 1.) Brasserie - which serves more traditional bar food in a comfy and cozy atmosphere 2.) Salle a Manger - a fine dining experience with upscale cocktails, wine and food. Great for special occasions. We made our reservations in the Salle a Manger because we wanted that extra special dining experience and it was our first time here.

Montreal is a little bit like Boston especially with their food establishments but Monarque was something that we never experienced before. It was like someone whisked me off my feet and brought me to a magical place :)

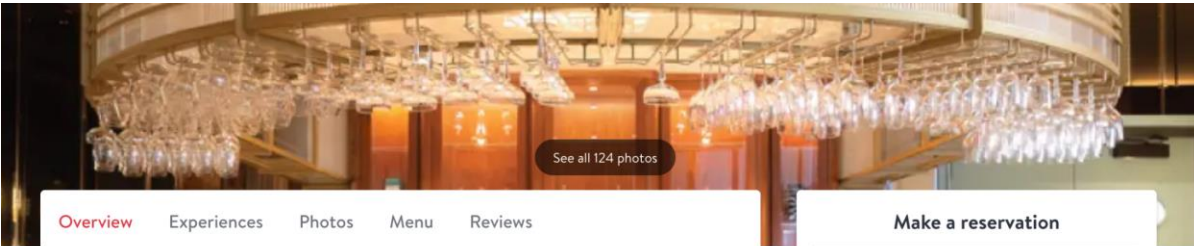
We started off with a few cocktails and then ordered from their 3 course menu. You do not need to order all 3 courses but I highly recommend it. I started off with Celeriac tatin which was light and flavorful and too pretty to eat LOL. Then my husband ordered the Raviolo al uovo (amazing) and I had the Black Cod (delish). Their menu does change quite often which I love so if you go, these dishes may or may not be on there. For entrees, I had the Striped Bass, which was good but not my favorite. My husband had the Deer which was very good. We also ordered some wine from their Certified Somm on site which was super helpful and he was so knowledgeable too. We finished with one of their Chocolate Mousse and we both were in heaven.

We are planning on another trip to Montreal this summer or fall and we definitely will be making reservations here again for sure. If you travel to this amazing city, I highly recommend dining here first, you will be impressed for sure. Cheers!

[See all photos from Melissa Y. for Monarque](#)

Figure 4. Sample Reservation Booking.



[See all 124 photos](#)

[Overview](#)
[Experiences](#)
[Photos](#)
[Menu](#)
[Reviews](#)

COMMODORE restaurant

197 Reviews
 CANS\$31 to CANS\$50
 Traditional French

Top tags:
 Fancy
Charming
Good For Special Occasions

COMMODORE RESTAURANT

French Bistro-Style Restaurant near Place-des-Arts

This vintage-inspired restaurant and terrace serves a French bistro-style menu with...

[Read more](#)

Make a reservation

Party Size

2 people

Date

Apr 9, 2024

Time

7:00 p.m.

Select a time

6:30 p.m.*

6:45 p.m.*

7:00 p.m.*

7:15 p.m.*

7:30 p.m.*

Notify me

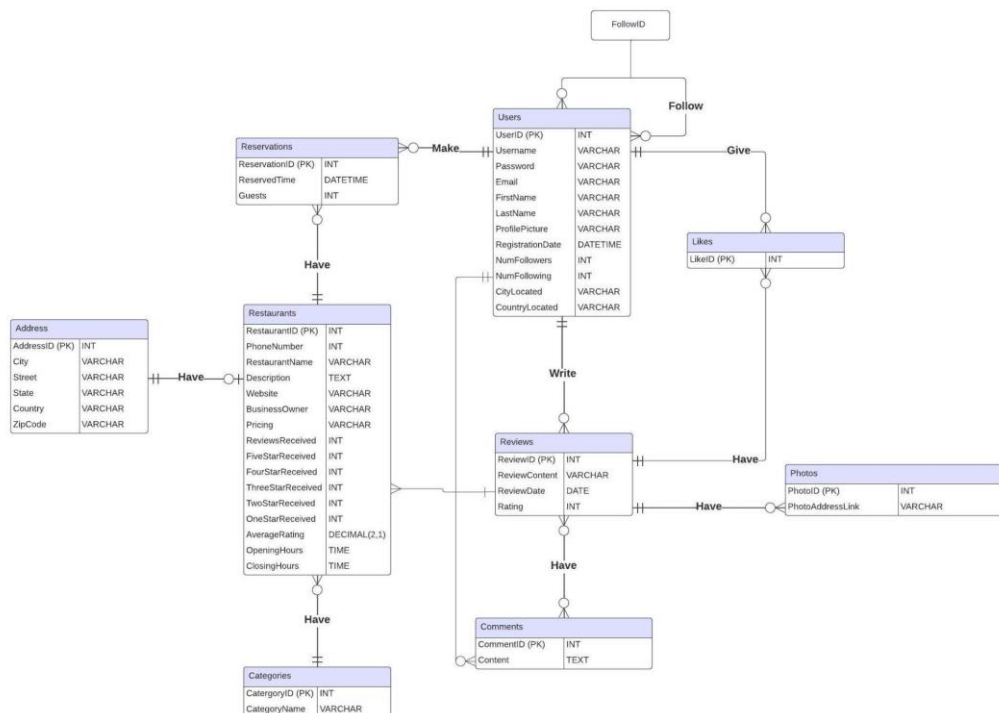
II. Mission

Mission statement. The purpose of the *Dine & Discovery* database system is to curate and manage the data that is used and generated by customers for discovering, evaluating, and sharing dining experiences. The platform aims to foster collaboration and information sharing amongst users and restaurant owners to enhance engagement within the dining community.

Mission objectives. The *Dine & Discovery* database aims to...

- Maintain (enter, update, and delete) data on restaurant addresses, reservations, restaurants, users, reviews, review likes, review photos, review comments, restaurant categories
- Perform searches on restaurant addresses, reservations, restaurants, users, reviews, review likes, review photos, review comments, restaurant categories
- Track the status of reservations, restaurants, users, reviews, comments
- To report on restaurant addresses, reservations, restaurants, users, reviews, review likes, review photos, review comments, restaurant categories

III. Entity Relation Diagram



IV. Data Dictionary

Table 1. Description of the Entities.

Entity Name	Description	Aliases	Occurrence
Users	Contains all the information needed to identify a user with an account on the platform.	U	Many users can write many reviews. One user can author many reviews.
Reviews	Contains information about a review of a restaurant, including a customer's remarks, critiques, and notes.	Rev	Many reviews can be written by many users. One user can write one review.
Comments	Contains information related to comments under users' reviews.	Com	A review can have many comments. A comment can be made by only one user
Likes	Contains information about likes given by users per restaurant review.	L	A user can give one and only one like to a post. A post can receive zero or many likes.
Photos	Contains information about the photo and related information to the user who posted it.	P	Many photos can be associated with many reviews. One review can include many photos.
Reservations	Contains all reservation information by users for restaurants.	Res	Only one reservation can be associated with only one user. A restaurant can have zero or many reservations.
Restaurants	Contains all the details about the restaurants that have reviews on the platform.	R	Many restaurants can receive many reviews. One restaurant can be reviewed by many users.
Categories	Contains an exhaustive list of the variety of restaurant categories a restaurant can be classified as.	C	Many restaurants can belong to many categories. One category can include many restaurants.
Address	Contains all the restaurant location information.	A	Only one address can be associated with only one restaurant.

Table 2. Description of the Attributes.

Entity Name	Attributes	Description	Data Type	Nulls	Multi-valued	Derived	Default
Users	UserID (PK)	Unique ID for each user	INT	No	No	No	None
	Username	Unique name for each user account	VARCHAR	No	No	No	None

	Password	Unique password for each user account	VARCHAR	No	No	No	None
	Email	Unique Email address registered for each user account	VARCHAR	No	No	No	None
	FirstName	Unique first name for each user with account	VARCHAR	Yes	No	No	None
	LastName	Unique last name for each user with account	VARCHAR	Yes	No	No	None
	ProfilePicture	Unique picture in the profile of each user	VARCHAR	Yes	No	No	Null
	RegistrationDate	The unique date for each user to register for the account	DATE	No	No	No	None
	NumFollowers	Number of followers the user has	INT	Yes	No	Yes	0
	NumFollowing	Number of users the user is following	INT	Yes	No	Yes	0
	CityLocated	The city the user is currently in	VARCHAR	Yes	No	No	Null
	CountryLocated	The country the user lives in	VARCHAR	Yes	No	No	Null
Reviews	ReviewID (PK)	The review id	INT	No	No	No	None
	ReviewContent	The content within the review section	VARCHAR	No	No	No	None
	ReviewDate	The date on which the review was posted	DATE	No	No	No	None
	Rating	Rating for the specific restaurants ranging from 1-5	INT	No	No	No	None
	PhotoID (FK)	Unique id of the photo	VARCHAR	No	No	No	None
	UserID (FK)	The username ID	INT	No	No	No	None
	RestaurantID (FK)	Unique ID that identifies a restaurant	INT	No	No	No	None

Comments	CommentID (PK)	The id of the comment	INT	No	No	No	None
	Content	The text content of the comment	TEXT	No	No	No	None
	ReviewID (FK)	The review id of the review the comment belongs to	INT	No	No	No	None
	UserID (FK)	The user id of the user which left the comment	INT	No	No	No	None
Likes	LikeID (PK)	The reaction Id to identify a reaction	INT	No	No	No	None
	ReviewID (FK)	The review id	INT	No	No	No	None
	UserID (FK)	The name of the reaction type	INT	No	No	No	None
Photos	PhotoID (PK)	Unique id of the photo	VARCHAR	No	No	No	None
	PhotoAddressLink	Link of the photo	VARCHAR	No	No	No	None
	ReviewID (FK)	ID of the review the photo belongs to.	INT	No	No	No	None
Reservations	ReservationID (PK)	The reservation id to identify a reservation	INT	No	No	No	None
	ReservedTime	The time for which the reservation is booked for	DATETIME	No	No	No	None
	Guests	The number of guests coming	INT	No	No	No	None
	RestaurantID (FK)	The restaurant id for which the reservation is for	INT	No	No	No	None
	UserID (FK)	The user id of the user who made the reservation	INT	No	No	No	None
Restaurants	RestaurantID (PK)	Unique ID that identifies a restaurant	INT	No	No	No	None
	PhoneNumber	Unique number corresponding to the restaurant	INT	No	No	No	None
	RestaurantName	Name of the restaurant (unique)	VARCHAR	No	No	No	None

	Description	Description of the restaurant	TEXT	Yes	No	No	None
	Website	Website of the restaurants	VARCHAR	No	No	No	None
	BusinessOwner	Name of the business owner	VARCHAR	No	No	No	None
	Pricing	General price point of the restaurant, i.e., \$, \$\$, \$\$\$, \$\$\$\$	VARCHAR	Yes	No	No	None
	ReviewsReceived	Total number of reviews received	INT	Yes	No	Yes	None
	FiveStarReceived	Total number of 5-star reviews received	INT	Yes	No	Yes	None
	FourStarReceived	Total number of 4-star reviews received	INT	Yes	No	Yes	None
	ThreeStarReceived	Total number of 3-star reviews received	INT	Yes	No	Yes	None
	TwoStarReceived	Total number of 2-star reviews received	INT	Yes	No	Yes	None
	OneStarReceived	Total number of 1-star reviews received	INT	Yes	No	Yes	None
	AverageRating	The computed average rating from all the reviews	DECIMAL(2, 1)	Yes	No	Yes (Derived from the ratings of the reviews that belong to the restaurant)	None
	OpeningHours	The time that the restaurant opens on everyday of the week	TIME hh:mm:ss	No	No	No	None
	ClosingHours	The time that the restaurant closes on everyday of the week	TIME hh:mm:ss	No	No	No	None
	AddressID (FK)	The unique	INT	No	No	No	None

		identifier for each address					
	CategoryID (FK)	The ID of the category the restaurant belongs to	INT	No	No	No	None
Categories	CategoryID (PK)	Unique ID number for each category	INT	No	No	No	None
	CategoryName	Unique name for each category	VARCHAR	No	No	No	None
Address	AddressID (PK)	The unique identifier for each address	INT	No	No	No	None
	City	City name	VARCHAR	No	No	No	None
	Street	Street name	VARCHAR	No	No	No	None
	State	State name	VARCHAR	No	No	No	None
	Country	Country name	VARCHAR	No	No	No	None
	ZipCode	Zip code	VARCHAR	No	No	No	None

V. Relational Schema

Users(UserID, Username, Password, Email, FirstName, LastName, ProfilePicture, RegistrationDate, NumFollowers, NumFollowing, CityLocated, CountryLocated)

PK: UserID

Follow(FollowID, UserID)

PK: FollowID

FK: UserID References Users(UserID)

Reviews(ReviewID, ReviewContent, ReviewDate, Rating, PhotoID, UserID)

PK: ReviewID

FK: PhotoID References Photos(PhotoID)

FK: UserID References Users(UserID)

Comments(CommentID, Content, ReviewID, UserID)

PK: CommentID

FK: ReviewID References Reviews(ReviewID)

FK: UserID References Users(UserID)

Likes(LikeID, ReviewID, UserID)

PK: LikeID

FK: ReviewID References Reviews(ReviewID)

FK: UserID References Users(UserID)

Photos(PhotoID, PhotoAddressLink, ReviewID)

PK: PhotoID

FK: ReviewID References Reviews(ReviewID)

Reservations(ReservationID, ReservedTime, Guests, RestaurantID, UserID)

PK: ReservationID

FK: RestaurantID References Restaurants(RestaurantID)

FK: UserID References Users(UserID)

Restaurants(RestaurantID, PhoneNumber, RestaurantName, Description, Website,
BusinessOwner, Pricing, ReviewReceived, FiveStarReceived, FourStarReceived,
ThreeStarReceived, TwoStarReceived, OneStarReceived, AverageRating, OpeningHours,
ClosingHours, AddressID, CategoryID)

PK: RestaurantID

FK: AddressID References Address(AddressID)

FK: CategoryID References Categories(CategoryID)

Categories(CategoryID, CategoryName)

PK: CategoryID

Address(AddressID, City, Street, State, Country, ZipCode)

PK: AddressID