CSE370 : Database Systems
Project Report
Project Title : Movie Theatre

Group No : 07, CSE370 Lab Section : 04, Fall 2025		
ID	**Name**	**Contribution**
23301402	Labiba Binte Arif	Feature 1,2,6
23301675	Mashiyat Rahman	Feature 3,4,5

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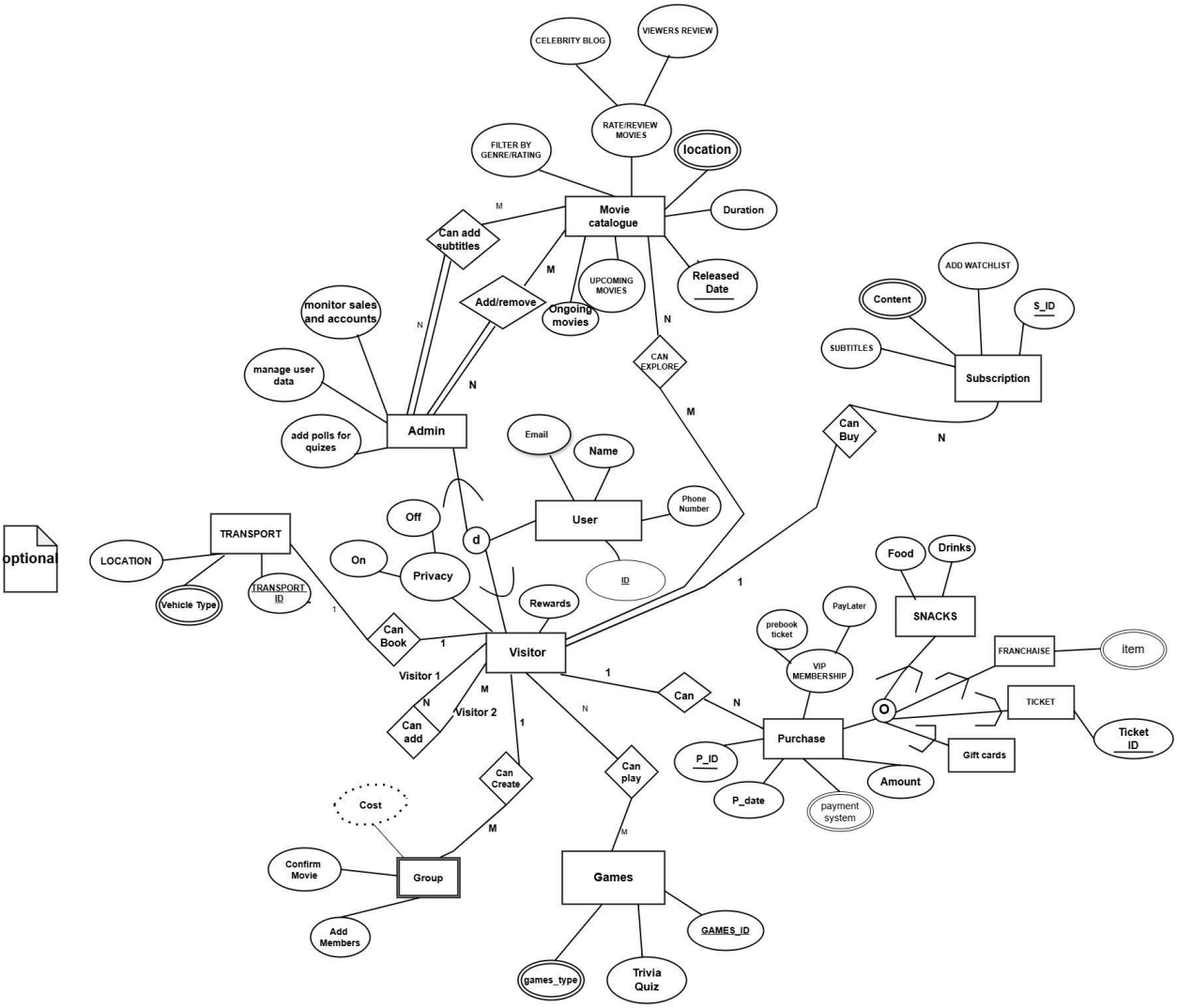
Introduction

The purpose of designing a movie theatre website is to create a robust website that integrates both the backend along the database structure using sql and helps to implement our ideas. This concept consists of five major features including User Management and Dashboard, Movie Catalogue,Watch Party, Subscription, Purchase, and Games. Each distinct feature has some subfeatures to make the user's experience enjoyable. The feature **User** is a common portal for both admin and visitor terming both of them as users. **Administrators** are responsible for managing visitor accounts and monitoring purchase activities and system performance, and maintaining platform content. This includes adding or removing movies, franchises, and promotional offers, as well as creating polls. On the other hand, **Visitors** can add friends, create groups, purchase tickets, franchises, gift cards, and snacks, play games, and maintain a personal watchlist of movies. Moreover, they can also choose to watch their favourite movie by voting in Fan Choice Movie week. The **Movie Catalogue** displays all ongoing and upcoming movies, allowing users to browse movie details and watch trailers. The **Subscription** feature provides users with online access to movies along with discounts which is a premium feature. The feature **Purchase** enables users to buy tickets, snacks, gift cards, and franchises through the platform. Finally, the **Games** feature allows users to earn reward points by participating in interactive games such as Spin the Wheel, Trivia Quiz, Lucky Click, and Poke Flip. These rewards can be redeemed for discounts on purchases within the system. Moreover,we have a Watch **party** that helps users to create groups and movies together.

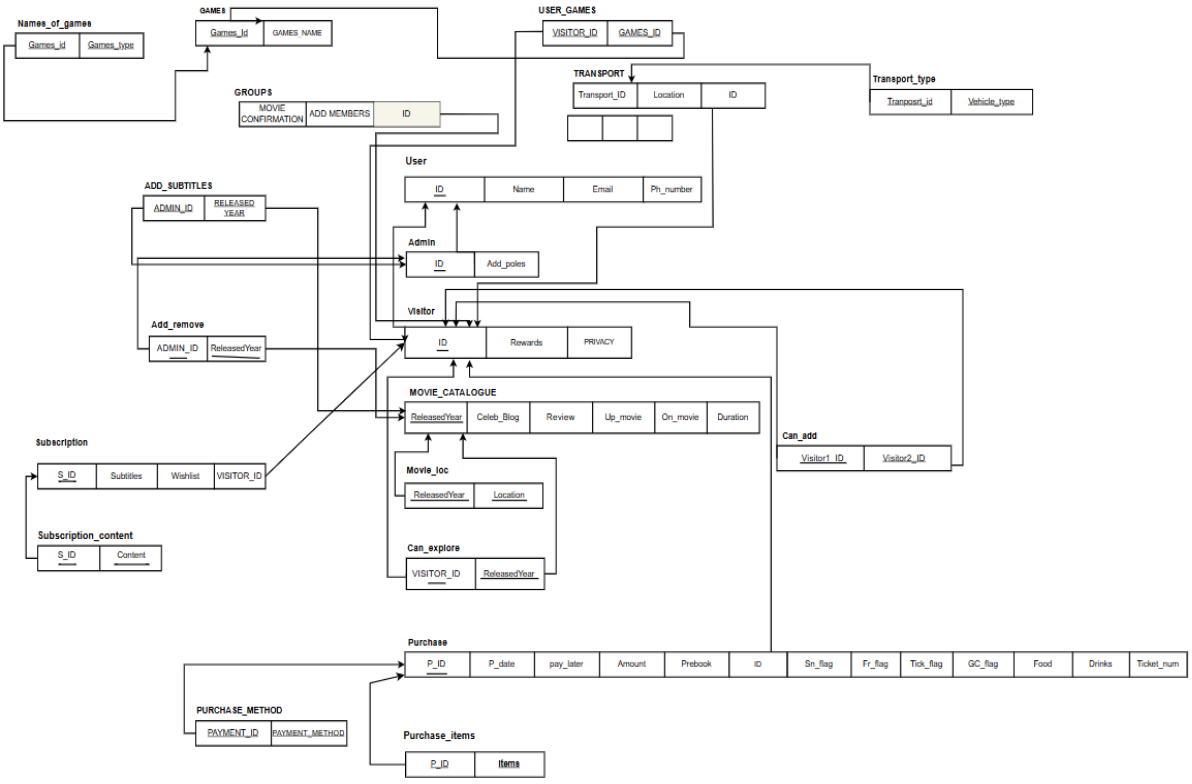
Project Features

ID, Name	Features [3 per member]	
23301402, Labiba Binte Arif	Ft 1	Dashboard(Manages User and Visitor Portal)
	Ft 2	Movie Catalogue(access the movies)
	Ft 3	Shop and Purchase
23301675, Mashiyat Rahman	Ft 1	Watch Party(creates groups among friends)
	Ft 2	Subscription(gives premium access)
	Ft 3	Games and Rewards

ER/EER Diagram



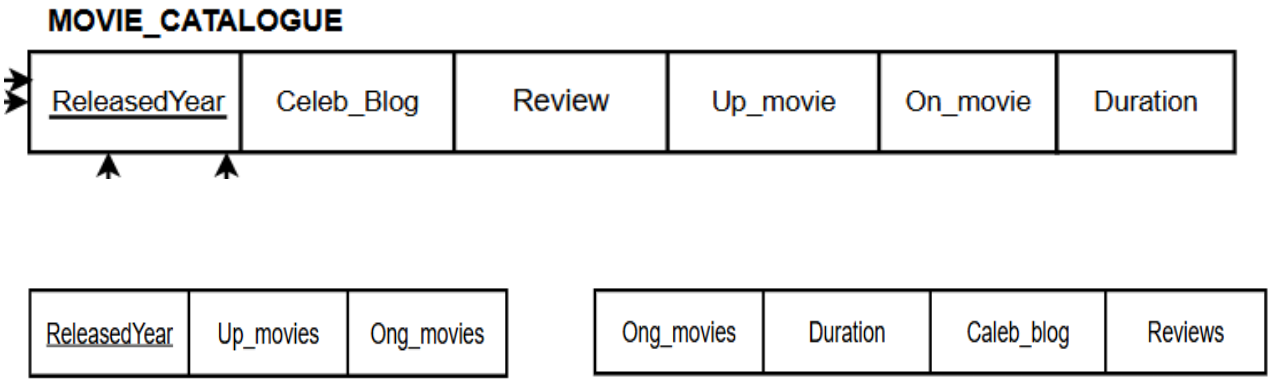
Schema Diagram



Normalization

a. Explain if your converted Schema is in 1NF or not. If not, decompose it to 1NF.
b. Explain if your converted Schema is in 2NF or not. If not, decompose it to 2NF. Can there be any partial functional dependencies in your relational schema?
c. Explain if your converted Schema is in 3NF or not. If not, decompose it to 3NF. Can there be any transitive dependencies in your relational schema?

a. 1NF disallows composite attributes, multivalued attributes and nested relations, attributes whose values for an individual tuple are non atomic. Our schema diagram does not violate any of these properties. Thus, the converted schema is in 1NF.
b. Our schema is in 2NF because it does not contain any partial dependencies. Every table in our diagram has only one primary key. As a result, even if the table is dependent on other tables the foreign keys indicate the primary key directly. Hence, there is no chance of partial dependencies.
c. Our schema violates 3NF because it has transitive functional dependencies. In the movie catalogue table, upcoming and ongoing movies depend on the primary key ReleasedYear. However, celeb blogs, reviews and duration depends on ongoing movies. In order to maintain the properties of 3NF we need to split them into two different tables.



Frontend Development

Briefly discuss about Frontend Development and add relevant Screenshots (if required) by mentioning Individual Contributions

In this project, the frontend was developed using HTML, CSS, and PHP. Multiple PHP files were used to create different pages of the system

Contribution of ID : 23301402, Name : Labiba Binte Arif

Designed the basic HTML structure of the web pages like login and signup seeing a basic youtube tutorial. Created page layouts including headers, navigation sections, and content areas like the body part. Ensured proper alignment and semantic organization of elements. Assisted in linking pages like .php files to maintain smooth navigation across the portal.

Contribution of ID : 23301675, Name : Mashiyat Rahman

Designed and maintained the central CSS stylesheet used across all PHP pages. I took reference from a foreign movie site called Fandango and tried to maintain the UI style similar to that.Implemented UI styling for authentication pages, dashboards, tables, forms, watchlists, and admin panels.Added tags like authors tag,title.height width.Applied modern design elements including gradients and hover effects.

Backend Development

Briefly discuss about Backend Development and add relevant Screenshots (if required) by mentioning Individual Contributions

Contribution of ID : 23301402, Name : Labiba Binte Arif

Worked on building the features like **User** (which has **Admin** and **Visitor**), **Movie Catalogue** and **Purchase**. The **user feature** supports both admin and visitor roles with role-based access control. Admins manage the entire system, including adding movies, polls, franchises, and monitoring user purchases. Visitors can purchase tickets, snacks, franchises, and gift cards, add friends, manage watchlists, and buy subscriptions.

The **movie catalogue feature** maintains all upcoming and ongoing movies, with the backend managing movie details, availability, and status updates.

The **purchase feature** handles transactions for snacks, franchises, and gift cards by managing pricing, availability, discounts, and secure payment processing.

Contribution of ID : 23301675, Name : Mashiyat Rahman

The **Games** feature includes interactive games such as Trivia Quiz, PokeFlip, Daily Spin, and Lucky Click. The backend manages game rules, user participation, and reward distribution by awarding points that users can later redeem to purchase various items within the system.

The **Subscription** feature allows users to purchase memberships for watching movies online. The backend updates the user's membership status, manages subscription validity, and applies discounts on eligible purchases based on the active subscription plan.

The **Create Group** feature enables users to form groups for watching movies together. Invited friends can accept or reject participation, and the backend updates group status accordingly. The system also adjusts the balance dynamically based on the number of confirmed members.

Source Code Repository

https://github.com/labiba-23/BRACU-CSE370-PROJECT-FALL-2025/tree/main

Conclusion

This project has provided us the opportunity to design a website infusing our own ideas. By working on this project we gained a deeper understanding of how backend and frontend operates. Moreover, from this we have learned how the separation of subclass and superclass has made our website more dynamic and smooth. In labs we learnt giving queries here we could practically see how these are connected in the backend using php files.

References

1. https://youtu.be/d5Hf6d6QtIo?si=N4dF8XzqPRBZkmN2
2. https://youtu.be/J8QPm8_j6lM?si=F26vWJhpoQjp6_RD
3. https://www.youtube.com/watch?v=Pez37wmUaQM