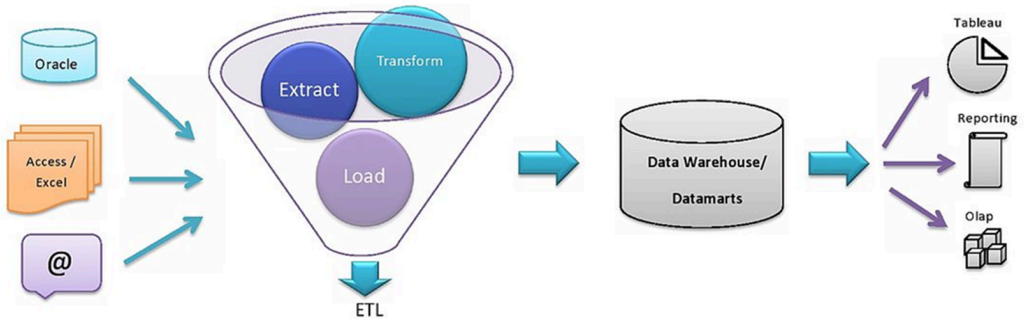
Journey of Data in an Organization



**Assignment: Data Modeling for VoxCinema **

https://uae.voxcinemas.com

****Description:****
VoxCinemas is a popular online ticketing platform used by millions of users to book tickets for movies, events, concerts, and more. In this assignment, you will design a data model for the VoxCinemas system.

****Objective:****
The objective of this assignment is to evaluate your understanding of data modeling concepts and your ability to design logical, conceptual, and physical data models for a real-world application.

Instructions:

****1. Logical Data Model:****
- Design a logical data model for the VoxCinemas system. Identify and define the main entities, attributes, and relationships needed to support the functionality of the platform.
- Consider entities such as **`Users`, `Events`, `Venues`, `Movies`, `Bookings`,** etc., along with their attributes and relationships.
- Define primary keys, foreign keys, and any other constraints necessary to maintain data integrity.

2. Conceptual Data Model:
- Create a conceptual data model that provides a high-level view of the VoxCinemas system, focusing on the relationships and interactions between different entities.
- Use conceptual modeling techniques such as entity-relationship diagrams (ERDs) to illustrate the relationships between entities and their attributes.

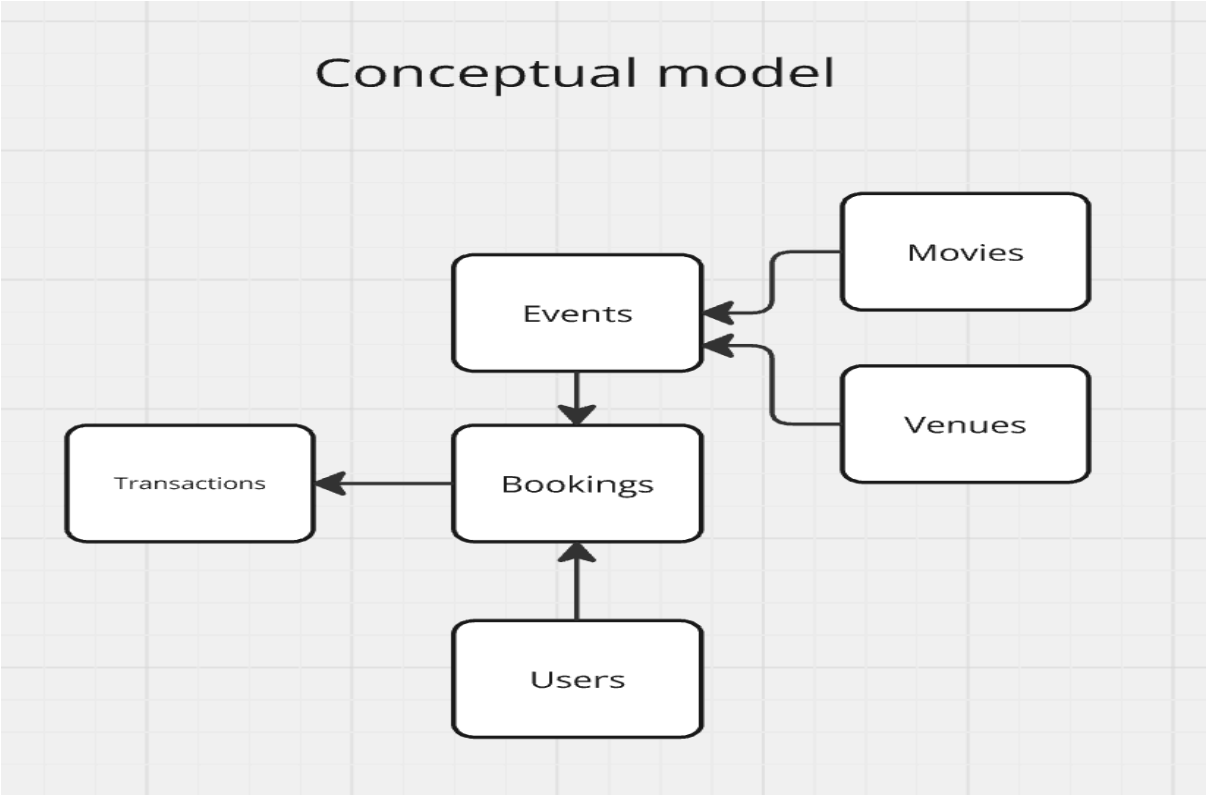
3. Physical Data Model:
- Develop a physical data model that translates the logical data model into a database schema, considering the specific database management system (DBMS) you will be using (e.g., MySQL, PostgreSQL, etc.).
- Define data types, indexes, constraints, and other database-specific elements to implement the data model efficiently.

Deliverables:
- Create a document that includes:
  - A detailed description of the logical data model, including entities, attributes, and relationships.
  - An entity-relationship diagram (ERD) representing the conceptual data model.

Submission Guidelines:
- Submit your completed assignment document, including the logical, conceptual, and physical data models, by the specified deadline.
- Ensure that your models are clear, well-organized, and accurately represent the structure and relationships of the BookMyShow data.

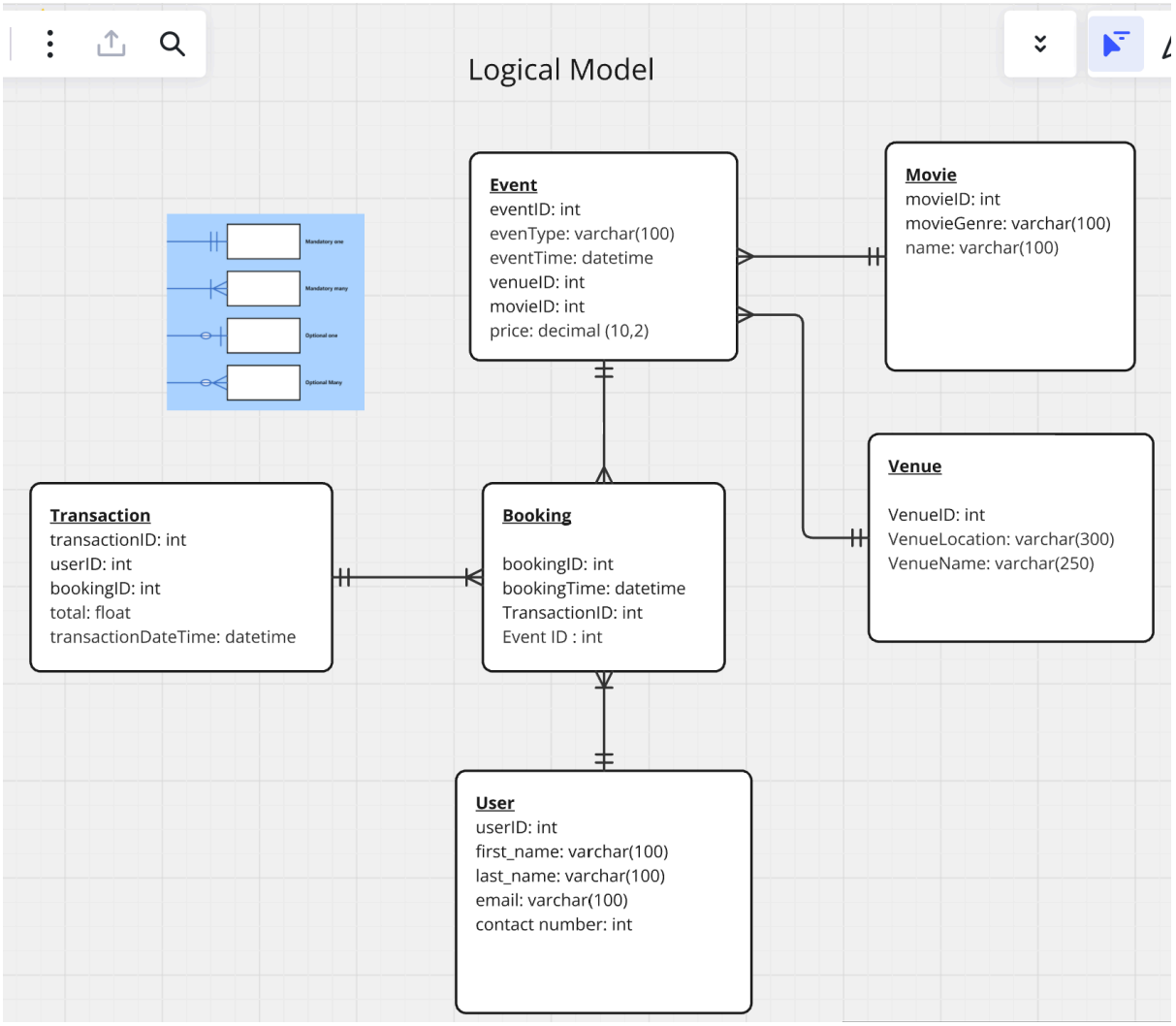
Evaluation Criteria:
- Completeness and accuracy of the logical, conceptual, and physical data models.
- Clarity and effectiveness of the entity-relationship diagram (ERD) in illustrating the conceptual model.
- Appropriateness of database design decisions, including data types, keys, constraints, etc., in the physical data model.

This assignment will test your ability to translate conceptual ideas into structured data models that can be implemented in a relational database system, reflecting real-world scenarios encountered in applications like BookMyShow.

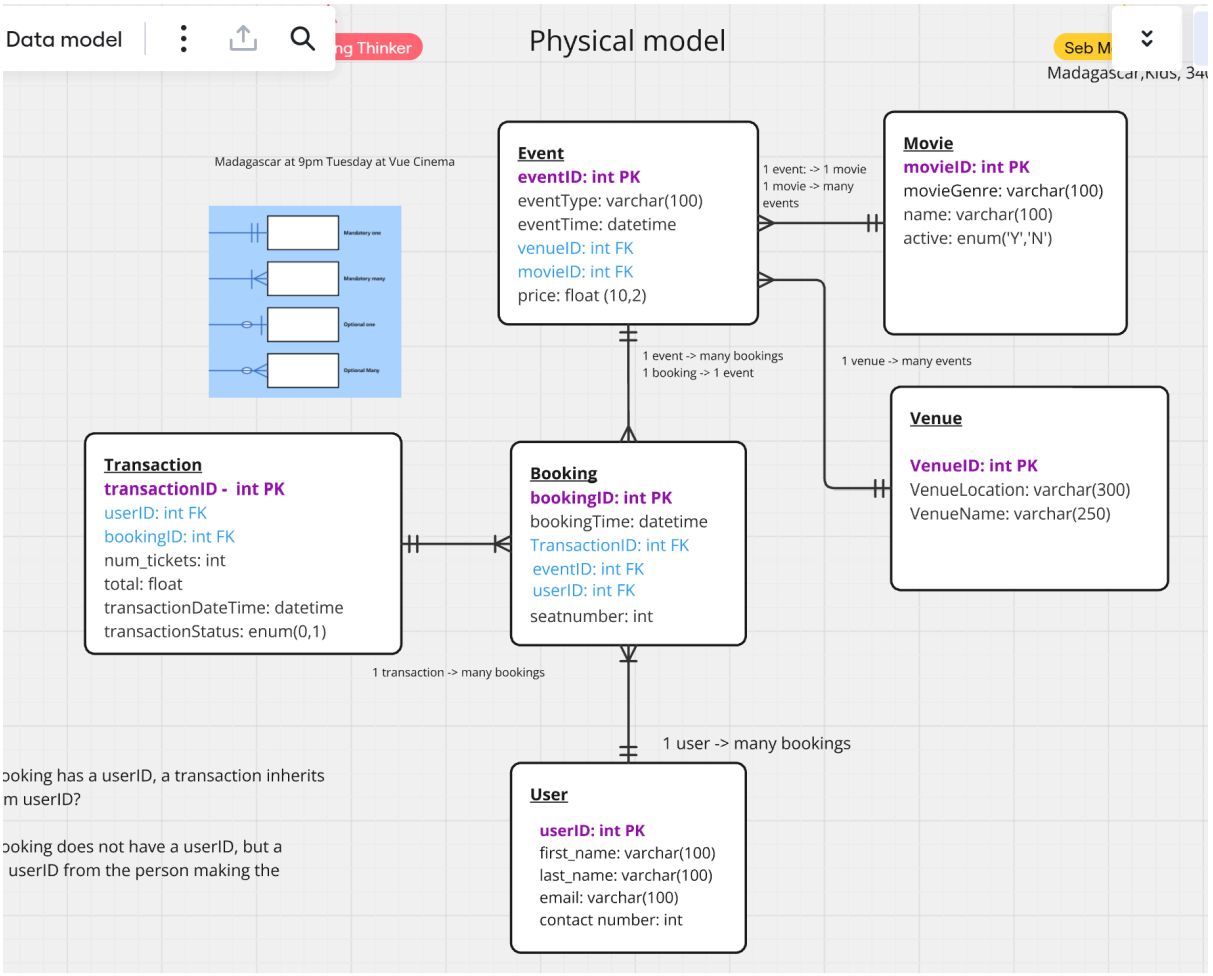


Representation of vox cinema concept (high level view)

There are 6 entities **Users, bookings, events, movies, venues, transactions**



A logical model represents **entities and attributes**



User:

1. Represents the customer making bookings.
2. UserID(PK)- Unique identifier for the users.
3. The attributes are the personal details of the user.

Booking:

1. Represents a user's bookings for events.
2. bookingID (PK) - Unique identifier for the booking.
3. transactionID (FK) - Linked to the Transaction entity.
4. eventID (FK) - Linked to the Event entity.
5. userID (FK) - Linked to the User entity.
6. The other attributes show the details of booking time and seats.

Movie:

1. movieID (PK) - Unique identifier for a movie.
2. The other attributes represent films available for viewing.

Venue:

1. venueID (PK) - Unique identifier for venue
2. The other attribute represents a venue location and name..

Event:

1. eventID (PK) - Unique identifier for event.
2. venueID (FK) - Linked to the Venue entity.
3. movieID (FK) - Linked to the Movie entity.
4. The other attributes represent the time and type of event to be booked.

Transaction:

1. Represents the transaction details for a booking.
2. transactionID (PK) - Unique identifier for the transaction.
3. userID (FK) - Linked to the User entity.
4. bookingID (FK) - Linked to the Booking entity.
5. The other attributes represent the transaction details.

Relationships:

User -> Booking: One user can make multiple bookings.
transactions -> Bookings : 1 transaction can have multiple bookings.
Ex: A user books tickets for multiple movies or showtimes in a single payment, all those bookings should be linked to the same transaction.
Movie -> events : A movie can have multiple showtimes but each event is linked to one movie.
Venue -> events: A venue can host multiple events but an event happens at only one venue.
Events -> booking : An event can have many bookings, but one booking is for one event only.