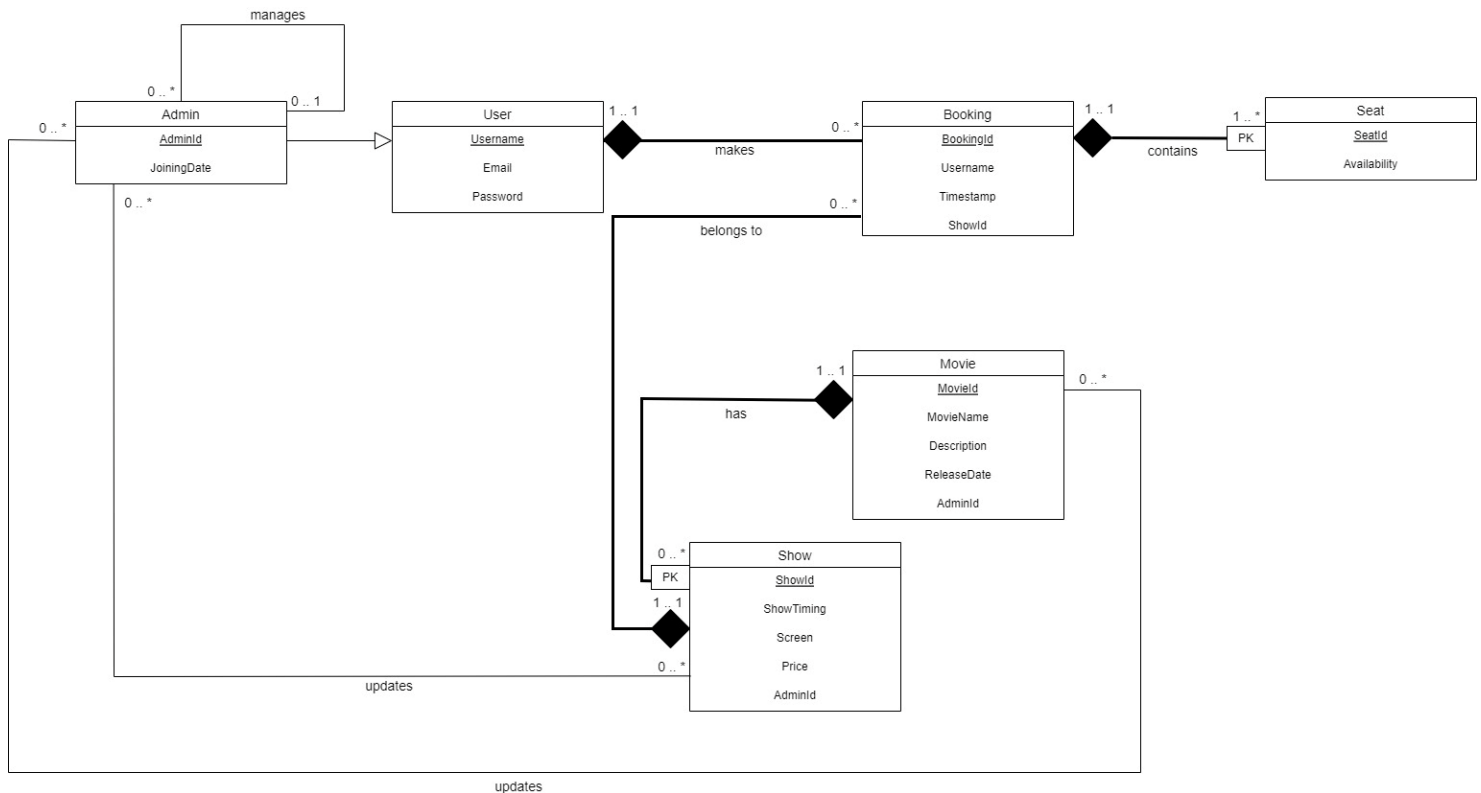


Conceptual and Logical Database Design

Conceptual Design - UML Diagram



Description and Assumptions

- User is uniquely identified by Username and its other attributes are Email and Password
- Admin is a subclass of User with additional attributes of AdminId and JoiningDate
- Booking is uniquely identified by BookingId and has other attributes like Username, Timestamp, and ShowId.
- Seat is identified by SeatId and BookingId and has attributes like Availability.
- Movie is uniquely identified by MovieId and has other attributes like MovieName, Description, ReleaseDate and AdminId
- Show is identified by ShowId and MovieId and has other attributes like ShowTiming, Screen, Price, and AdminId.
- An Admin can manage multiple Admins and one Admin can be managed by atmost one Admin.
- An Admin can update multiple Shows and Movies.
- A Show can be updated by multiple Admins, can have multiple Bookings, but can only play one Movie.

- A Movie can be updated by multiple Admins and can have multiple Shows.
- A User can make multiple Bookings.
- A Booking can be made by only one User, belongs to exactly one Show, and can have multiple Seats selected.
- A single Seat for a particular Show can only be booked under a single Booking.

Logical Design

User (Username: VARCHAR (32) [PK], Email: VARCHAR (64), Password: VARCHAR (128))
 // Password will be stored with MD5 hashing (128 bits for security)

Admin (Username: VARCHAR (32) [PK], AdminId: INT, JoiningDate: DATE)
 // Admin is a generalization (subclass) of User (superclass)

Movie (MovieId: INT [PK], MovieName: VARCHAR (150), Description VARCHAR (1024),
 ReleaseDate: DATE, AdminId: INT [FK to Admin.AdminId])

Show (ShowId: INT [PK], MovieId: INT [FK to Movie.MovieId], ShowTiming: DATETIME,
 Screen: INT, Price: REAL, AdminId: INT [FK to Admin.AdminId])
 // ShowId and MovieId will uniquely identify a particular record

Booking (BookingId: INT [PK], Username: VARCHAR (32) [FK to User.Username], Timestamp:
 DATETIME, ShowId: INT [FK to Show.ShowId])

Seat (SeatId: INT [PK], BookingId: INT [FK to Booking.BookingId], Availability: BOOLEAN)
 // SeatId and BookingId will uniquely identify a particular record