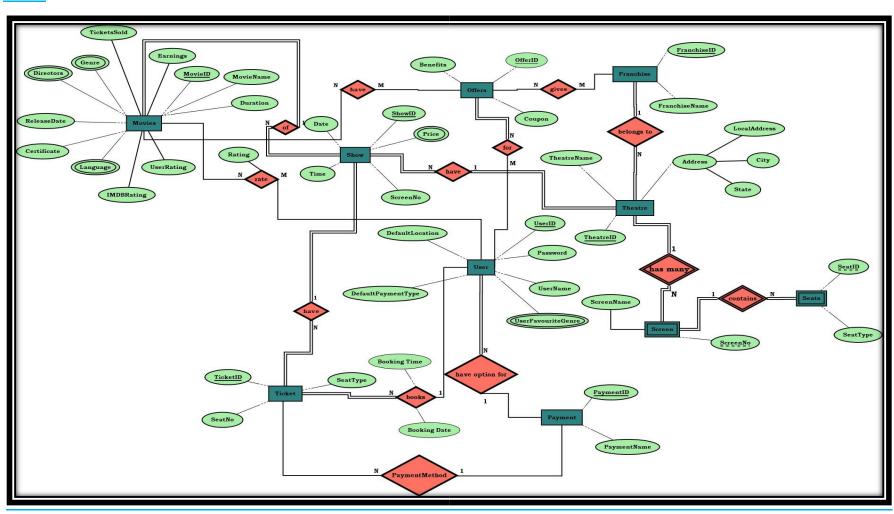
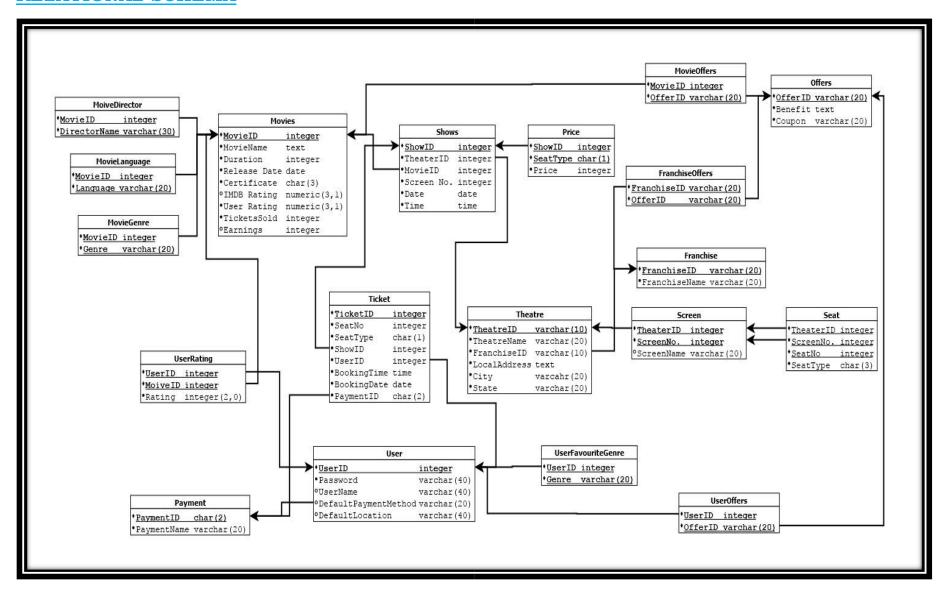
DBMS-IT214 Project

Online Movie Booking Portal

ERD



RELATIONAL SCHEMA



Normalization Proofs

4 Movies:

MovieID → { MovieName, Duration, ReleaseDate, Certificate, IMDB Rating, User Rating, TicketsSold, TotalEarnings}

Relation is in **BCNF**.

Proof:

Super Key for Movies: MovieID

For each Functional Dependency in this relation (say $X \rightarrow Y$), X is super. Hence this relation is in BCNF.

\$\rightarrow\$ Shows:

ShowID→ { ScreenNo, Date, Time }

Relation is in **BCNF**. Proof:

Super Key for Shows: ShowID

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

Price:

 $\{ ShowID, SeatType \} \rightarrow Price.$

Relation is in **BCNF**. Proof:

Super Key for *Price* : { ShowID, SeatType }

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

4 Ticket:

TicketID → { SeatNo, SeatType, ShowID, UserID, BookingTIme, BookingDate, PaymentID }

Relation is in **BCNF**. Proof:

Super Key for Ticket : TicketID

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

4 User:

UserID → { Password, UserName, DefaultPaymentMethod, DefaultLocation }

Relation is in **BCNF**. Proof:

Super Key for User: UserID

For each Functional Dependency in this relation (say $X \rightarrow Y$), X is super. Hence this relation is in BCNF.

UserRating

{ UserID, MovieID } → Rating

Relation is in **BCNF**.

Proof:

```
Super Key for UserRating: { UserID, MovieID }
```

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

4 Payment:

PaymentID→ PaymentName

Relation is in **BCNF**. Proof:

Super Key for Payment: PaymentID

For each Functional Dependency in this relation (say $X \rightarrow Y$), X is super. Hence this relation is in BCNF.

4 Offers:

```
OfferID → { Benefit, Coupon }
```

Relation is in **BCNF**. Proof:

Super Key for Offers: OfferID

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

4 Theatre:

TheatreID → { TheatreName, FranchiseID, LocalAddress, City, State }

Relation is in **BCNF**. Proof:

Super Key for Theatre: TheatreID

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

Screen:

```
{ TheatreID, ScreenNo } → ScreenName
```

Relation is in **BCNF**. Proof:

```
Super Key for Screen: { TheatreID, ScreenNo }
```

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

Seat:

```
{ TheatreID, ScreenNo, SeatNo } \rightarrow { SeatType }
```

Relation is in **BCNF**. Proof:

```
Super Key for Seat: { TheatreID, ScreenNo, SeatNo }
```

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

4 Franchise:

FranchiseID → FranchiseName

Relation is in **BCNF**. Proof:

Super Key for Franchise: FranchiseID

For each Functional Dependency in this relation (say $X\rightarrow Y$), X is super. Hence this relation is in BCNF.

MovieDirector:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

4 MovieGenre:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

4 MovieLanguage:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

4 MovieOffers:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

UserFavouriteGenre:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

FranchiseOffers:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.

4 UserOffers:

This relation only contains trivial functional dependencies. Hence Relation is in BCNF.