MOVIE TICKETING SYSTEM PROJECT

[HIGH LEVEL REQUIREMENT DOCUMENT]

Rev 1

TEAM MEMBERS:

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Project Estimated Period/ Duration

Project Period	:	**(start date) to (handover date)**
Duration	:	**3 months**

The Goal

> *"To create a Cinema Booking System to serve the Client's Customers with a seamless service experience. At the same time to better manage the Client's Customer data, to increase operational efficiency and provide cost savings to the Client."*

To Build (What?)

> *"To build a Cinema Booking System which gives the Client's Customers a seamless experience throughout their entire transaction journey.*
>
> *The said system is also to possess a working database which will store Client's Customers data for future marketing purposes, as well as other promotional activities to be carried out at the Client's discretion.*
>
> *Together, the system, database and separate complementary e-payment tools will help to better manage the Client's Customer bookings, experience and reduce running costs."*

If purchasing is to be done online

1. *Database*
2. *Website*
3. *E-ticket system*
4. *E-payment system*

If purchasing is to be done offline

1. *Database*
2. *User Interface for Inputs and Outputs*
3. *Ticket Printing System (Physical Ticket Issuance)*
4. *POS System*

Benefits (Why?)

1. *Increased efficiency to reduce manpower requirements*
2. *Greater reach to customers by providing an online avenue for bookings*
3. *Consolidated data for marketing purposes - use of database*
4. *Real time analysis of movies for popularity, rating, etc - use of database data*
5. *Better user experience by reducing queue times*

Proposed Tools to be used

1. *Software Development Tools*
    a. *Oracle SQL Developer IDE*
    b. *Apache Netbean IDE*
2. *Hardware Development Tools*
    a. *Laptop/PC*

Software Requirements for the Project

1. *Frontend: HTML/CSS/Javascript*
    a. *Visual Studio*
    b. *Visual Studio Code*
    c. *Atom*

2. *Backend: Java/Oracle DB*
    a. *Oracle SQL Developer IDE*
    b. *Apache Netbean IDE*
    c. *IntelliJ*
    d. *Eclipse*
    e. *Python*

Hardware Requirements for the Project

1. *Desktops*
2. *Laptops*
3. *Tablets*
4. *Mobile phones on Windows/Android/Apple*

System(s) the Project expected to Operate on

1. *Windows*
2. *macOS*
3. *Linux/Unix??*
4. *Android*
5. *iOS*

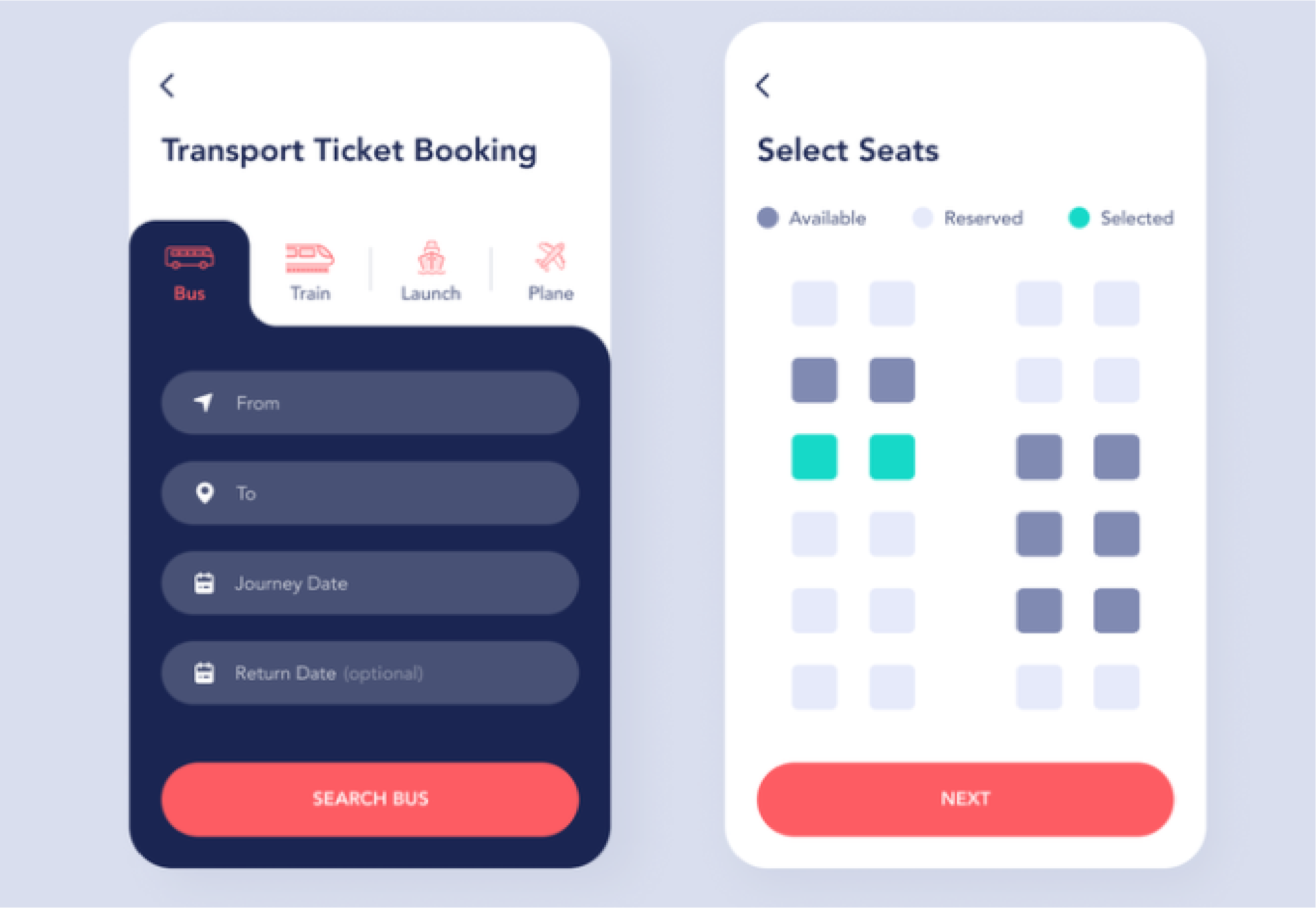
Coding and Naming Conventions

1. *PascalCase - Chosen option*
2. *camelCase*
3. *Snake_case*
4. *kebab-case*

References: https://www.oracle.com/java/technologies/javase/codeconventions-introduction.html

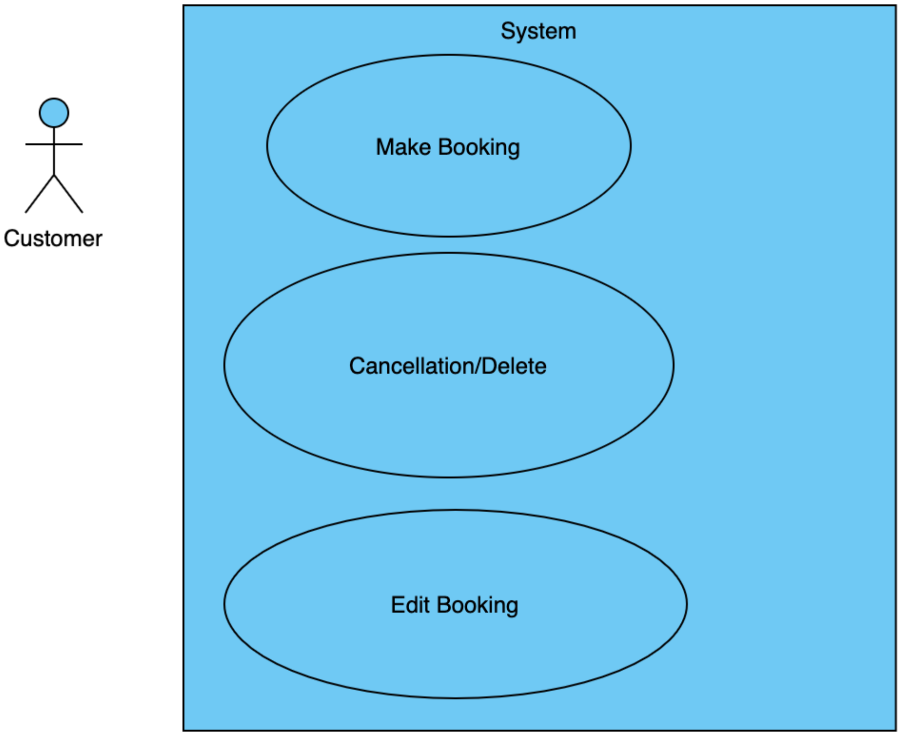
UI (mockup) [WIP]

Image below is used as an illustration. Outcome may look completely different.



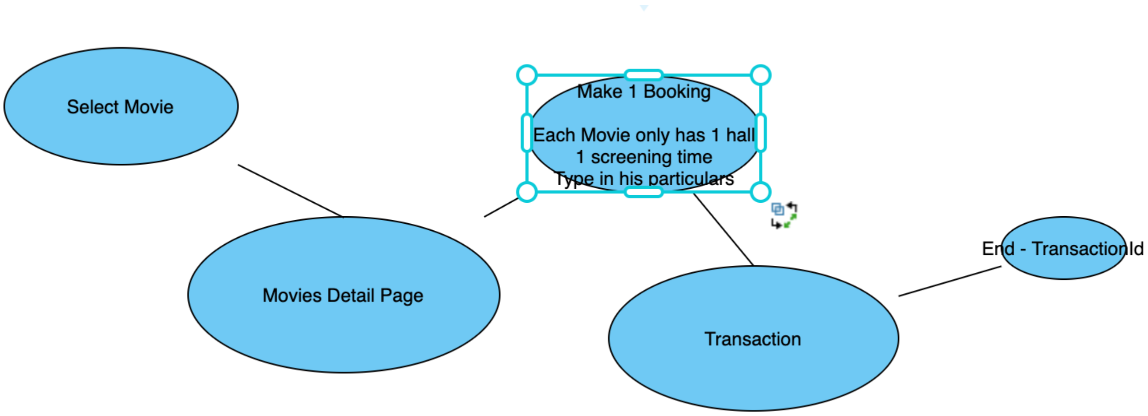
https://dribbble.com/shots/6792423-Ticket-Booking-App-UI

Use Case Design

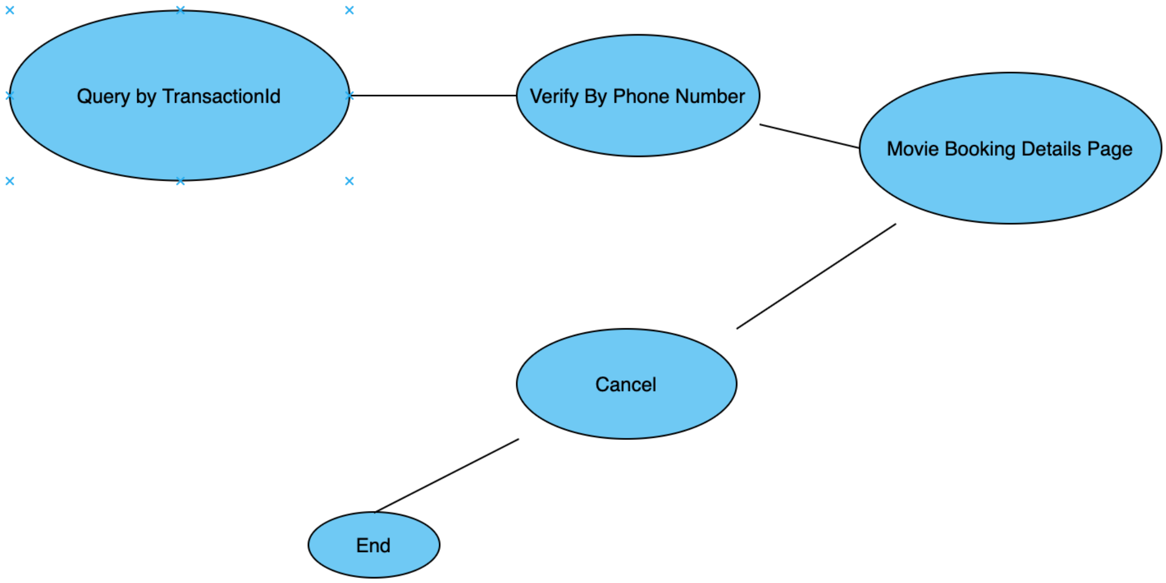


Flow Diagram

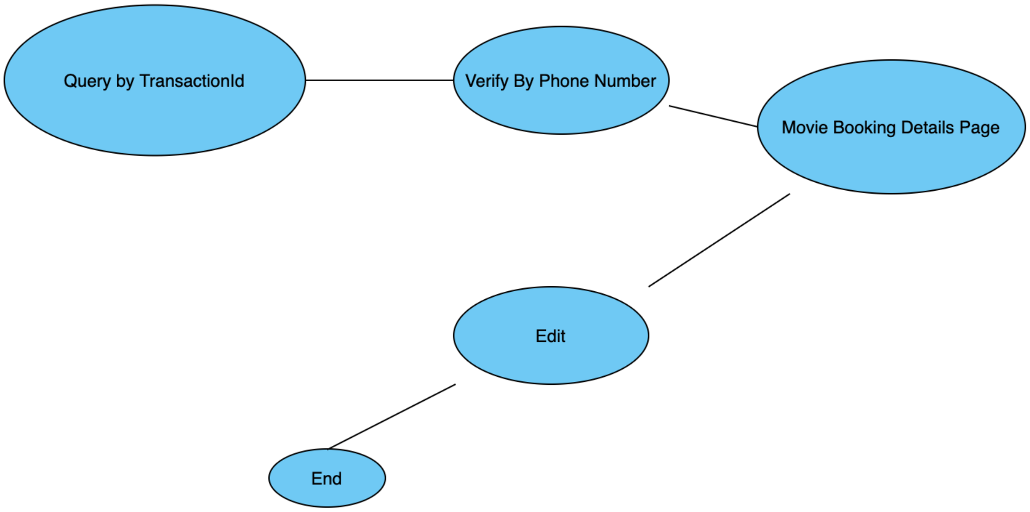
1. Make Booking



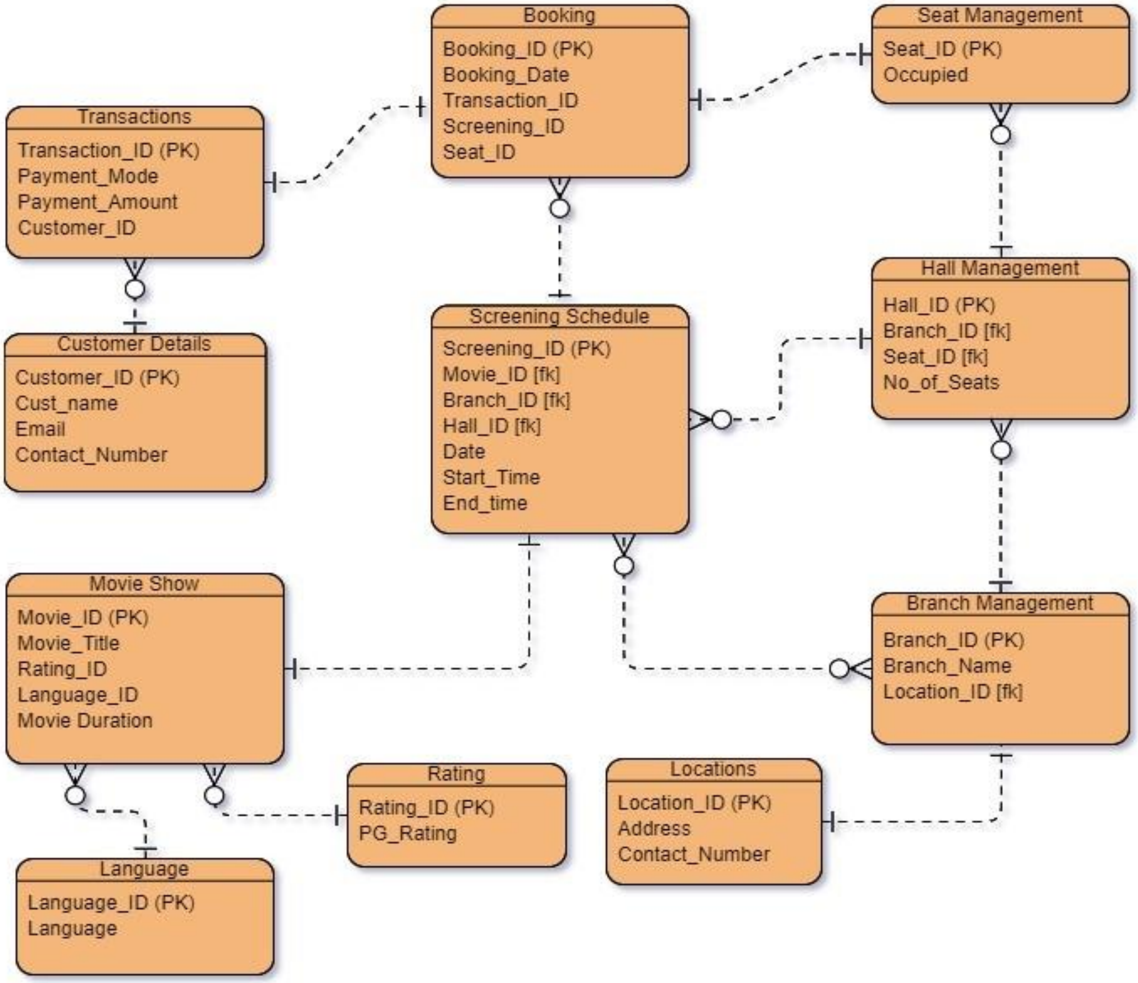
2. Cancel Booking



3. Edit Booking



ER Diagram


Booking
Booking_ID (PK)
Booking_Date
Transaction_ID
Screening_ID
Seat_ID
Seat Management
Seat_ID (PK)
Occupied
Transactions
Transaction_ID (PK)
Payment_Mode
Payment_Amount
Customer_ID
Customer Details
Customer_ID (PK)
Cust_name
Email
Contact_Number
Screening Schedule
Screening_ID (PK)
Movie_ID [fk]
Branch_ID [fk]
Hall_ID [fk]
Date
Start_Time
End_time
Hall Management
Hall_ID (PK)
Branch_ID [fk]
Seat_ID [fk]
No_of_Seats
Movie Show
Movie_ID (PK)
Movie_Title
Rating_ID
Language_ID
Movie Duration
Branch Management
Branch_ID (PK)
Branch_Name
Location_ID [fk]
Rating
Rating_ID (PK)
PG_Rating
Locations
Location_ID (PK)
Address
Contact_Number
Language
Language_ID (PK)
Language

Database Design

Booking

Data	Datatype	Constraint	Nullable
Booking ID	INT	Primary key	Not Null
Booking Date	DATETIME		Not Null
Transaction ID	INT	Foreign key	Not Null
Screening ID	INT	Foreign key	Not Null
Seat_ID	INT	Foreign key	Not Null

Movie

Data	Datatype	Constraint	Nullable
Movie ID	INT	Primary Key	Not Null
Movie Title	VARCHAR2(40)		Not Null
Rating_ID	INT	Foreign Key	Not Null
Language_ID	VARCHAR2(10)	Foreign Key	
Movie Duration	INTERVAL		

Rating

Data	Datatype	Constraint	Nullable
Rating_ID	INT	Primary Key	Not Null
PG Rating	VARCHAR2(4)		Not Null

Movie Language

Data	Datatype	Constraint	Nullable
Language_ID	INT	Primary Key	Not Null
Language	VARCHAR2(10)		

Screening Schedule

Data	Datatype	Constraint	Nullable
Screening ID	INT	Primary Key	Not Null
Movie ID	INT	Foreign key	Not Null
Branch ID	INT	Foreign key	Not Null
Hall_ID	INT	Foreign key	Not Null
Date	DATE		Not Null
Start time	TIME		Not Null
End time	TIME		Not Null

Transactions

Data	Datatype	Constraint	Nullable
Transaction ID	INT	Primary Key	Not Null
Payment Mode	VARCHAR2(40)		Not Null
Payment Amount	FLOAT		Not Null
Customer ID	INT		

Branch Management

Data	Datatype	Constraint	Nullable
Branch ID (1)	INT	Primary Key	Not Null
Branch Name (GV Vivo)	VARCHAR2(40)		Not Null
Location ID	VARCHAR(20)	Foreign Key	Not Null

Location

Data	Datatype	Constraint	Nullable
Location ID	INT	Primary Key	Not Null
Address	VARCHAR2(40)		Not Null
Contact Number	INT		

Hall Management

Data	Datatype	Constraint	Nullable
Hall_ID	INT	Primary Key	Not Null
Branch_ID	INT	Foreign Key	Not Null
Seat_ID	VARCHAR2(4)	Foreign Key	Not Null
No of Seats	VARCHAR2(40)	Should Join	Not Null

Seat Management

Data	Datatype	Constraint	Nullable
Seat_ID (B1H1R1S1)	VARCHAR2(50)	Primary Key	Not Null
Occupied	Boolean		Not Null

Customer

Data	Datatype	Constraint	Nullable
Customer_ID	INT	Primary Key	Not Null
Cust_Name	VARCHAR2(40)		Not Null
Email	VARCHAR2(40)		
Contact	VARCHAR2(12)		

Discussion Section

Booking

Ticket Number **(INT, PK)**
Qty of ticket/s: (INT)
Movie ID ***(INT, FK)***
Movie Title (String, Not Null)
Seat number ***(String, FK)***
Dates (DATE, Not Null)
Time (TIME, Not Null)
Concession Rate: Senior (>60-y old) -> too much scope???
Payment Mode (String, not null)
Total Price: (INT)
Customer ID ***(INT, FK)***
Customer Name (String, not null)
Food Beverages (String)   *i.e. Popcorn, Hot Dog, Chips, Hot Drinks, Cold Drinks*

Cancellation

Ticket Number INT
Cancellation Number
Cancellation Date Date

Screening Schedule

Movie ID **(INT, PK)**
Movie Title (String, Not Null)
Screening DateTime (Date/TimeStamp, Not Null)
Theater Number (INT, Not Null)

Transactions

Transaction ID **(INT, PK)**
Payment Amount (DOUBLE, not null)
Customer ID ***(INT, FK)***
Transaction DateTime (LOCALDATETIME, not null)
Payment Mode (String, not null)   *i.e. Cash/Credit/Paylah/Voucher*

Customer

Customer ID **(INT, PK)**
Customer Name(String, not null)
Customer Email (String)
Customer Contact Number (String)

Seats Management

Seat number **(String, PK)**
Ticket Number ***(INT, FK)***
Seat Type (Boolean, 0 for Couple, 1 for Single)

Admin/Staff Module

Create User/Staff
Mgr ID
Report generation

Chat History

Branch ID/Hall

In this case, shld the table include seat number and a table on seat to refer to cinema id and hall number?

I think we miss out the seat number… I agreed with you.

Yes seat and row number seem to be missing

One cinema id shld have a few threatre numbers? anybody knows what cinema ID is for? branches?

Cinema ID is Branch of the Cinema ok, makes sense then

I presume it is for one cine complex, and threatre refering to individual hall…

Wondering how to put in the seat number? Seat number considered unique across different cine and halls? -> we are working on just on 1 cinema company, so the numbering would be the same.

Hmm for seat no. can we put varchar? Like 13A etc...then it can vary across cinemas and halls..=> Yes okay agree second this

Is Booking date the movie date and time? Or when the ticket is booked? Should transaction id be inside ticket ID? I think this for refund or cancellation