**CHAPTER 1 - INTRODUCTION**

**Project Introduction**

Nowadays, people are very modern and technology based. They want easy and stress less life. They do not want to stand on long queue. They used technology like mobile phone, Laptop and internet for buying products, ordering food and booking seat for travel or watch movie sin theaters on online. The proposed project “Online Movies Booking System” whereby customers can book ticket for movies in online from a multiplex web app in real time.

**1.1 Justification of Project**

**Background of Project**

Online Movie booking system is web portal where you can book movies for specific date or choose timing for movies show, watch movies trailer and read reviews. You can also view Upcoming movies.

You can also know the rate for Movies and timing just browsing for anywhere and anytime on online. You just need to register in the app and login to browse to all movies which are currently running in theaters and many more facilities. Customers can book 24 hours a day from anywhere for the around globe.

Online movies booking system is very user-friendly application where you can interact with system easily. You do not need to go for theater for booking for movies. You can track everything about movies, timing of movies just clicking it of web app on online. I have used PHP for programming and My SQL for manage database of movies.

**Problem Statement**

Customer or staff of cinema hall encounter many problems by booking movie ticket on paper-based system. There is chances of duplication of ticket or seats, customer cannot get seat which they want to sit. Nowadays, customer want to do any task work quickly and shortly, so they don’t want to stand on queues for booking movies ticket in font of theaters booking counter. So that admin or manager of movies hall get difficult to manage these problems. The main problem of current running system is time consuming and complex system for both customer and staff or manager of cinema hall.

The main motive of this project is to reduce complexity of the running system in cinema hall. The proposed project will overcome all the problem related to booking process of movie ticket. This new proposed system shows all show time scheduled for movies so that any customer can see details of movies with respective show time from using web browser from anywhere anytime.

**Features**

* User can Login and Register to the system.
* User can Book movies.
* Admin can do crud operation.
* User can watch details of movies with trailer and showtime.
* User can Cancel Booking.
* User can change their profile details.
* Lists of Upcoming Movie with details.

**Aims and Objectives**

**Aims**

* Main aims of the proposed system are to book the movie ticket for cinemas.
* Replace to Manual Booking i.e. paper based booking.
* Promote Movie through internet.
* User can know showtime with details of movies through web application by surfing internet.

**Objectives**

* Booking Movies ticket from online.
* User can know details of movies with scheduled showtime by surfing internet with visiting cinema hall.
* User friendly.
* Helpful for management for decision making.
* Provide 24 hors service to customer through online.
* For make secured and reliable booking system for cinema.

**Scope and Limitation**

**Scope**

Online movie Booking system is a web portal which helps for organization for storing and retrieving information about movies, upcoming movies, seats reservation, ticket sales etc. UI is user friendly so that user can easily use system.

**Limitation**

* Online Payment System is not available.

**Development Methodology**

Waterfall model is the first introduced in the software development. It is simple and easy to understand. Each phrase needs to finished before next phrase start. In this methodology, whole process is divided into separate tasks. Outputs of one phrase is input for other phrase int this methoolody.it is also called sequential process which is look like a downward waterfall, (SHARMA, 2018)

Different Phrase of Waterfalls Methodology are:

1. Requirement Analysis:

First phrase of waterfall model where analyst understand the user requirement so that they clear on what need to be design, its function and its purpose. Inputs and output are studied.

1. System Design:

Gather requirement in phrase first studied here and according to that system is design. It also helps for overall architecture of the system.

1. Implementation:

From inputs of system design, system is developed in small program called as units. After all units developed system is integrated. Each developed small unit is test in next phrase.

1. Testing

Small program developed in implementation phrase is tested in this phrase. In this phrase each unit test it functionality which is called as unit testing. Testing is so important because after deployment user should not face any error when running a system. Both functional and non-functional testing is done here.

1. Deployment:

After Testing both functional and non-functional testing in testing phrase, now system is release in user environments.

1. Maintenance:

This phrase is done after installation system to the customer environment. In this phrase modification can be make from request by customers or when some defect is available in the system. User get can full support and regular maintenance for developed system.

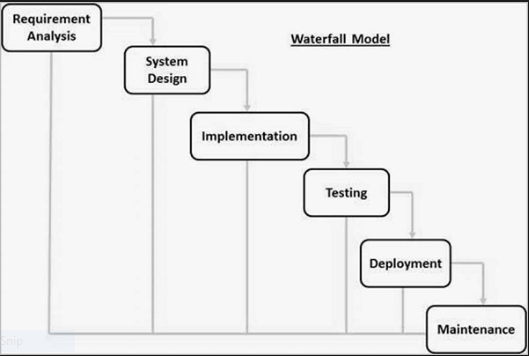


Figure :Waterfall model

**Design Pattern**

Design pattern is a reusable solution for commonly occurring problem is software development. It is not a finished product. It is only template for how to solve any problem during development of software. (Sourcemaking, 2019)

I have used MVC design pattern for my project movies booking. MVC stands for Model view Controller. It is a structural design pattern. It broken down application into three parts i.e. model, view and controller. It is frequently used design pattern in software development industry to develop project scalable and extensible.

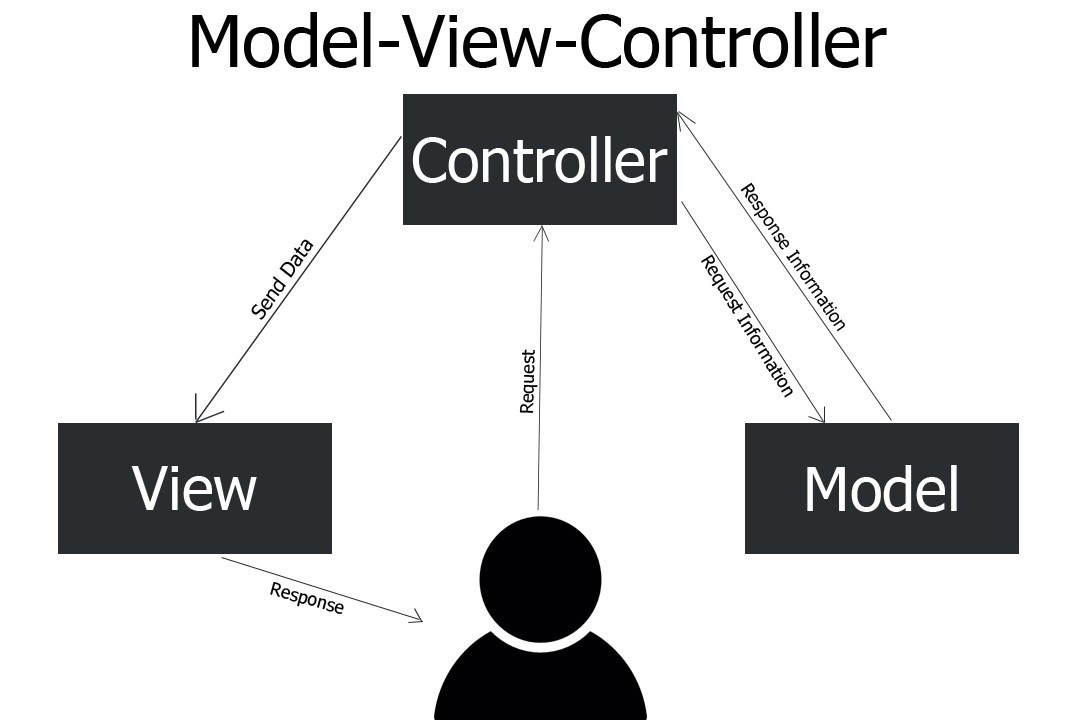
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Figure : MVC Design Pattern

**Model:**

Model represents all business logic of the system

**View:**

View represents all UI parts of the system.

**Controller:**

Controller acts as mediator for view and model for communication.

**Risk Management**

Software Development uses different technological advancements and also required high levels of knowledge for developing any software. Due to these factors, every software development has some uncertainly which is called as Risk. (CAST, 2019)

For success of any software project, the first and foremost things is that to identify risk that will create obstacles during software development. Project Risk is also known as Potential problem for any project. Risk is also the activity which can compromise the success of any software project. It can lose cost, time of software project.

In software development, Risk Management is the process of identifying, controlling and managing risks which are evolved before or during development process. Generally, there are three process for risk management i.e. are as follows: (Proffesionalqa, 2019)

1. Risk identification

This is the first steps of risk management where Potential risks are identified which may affect software during software development.

1. Risk Analysis

This is the second step of risk management where identified risks in first steps is analysis. Each risk is analysis to know their possible outcomes and prioritization.

1. Risk Control

This is third steps of risks management where risks are managed, control and remove for get success result.

**Impact = Likelihood \* Consequence**

Risk Likelihood values are shown as follows

|  |  |
| --- | --- |
| Likelihood | Value |
| Low | 1 |
| Medium | 2 |
| High | 3 |

Risk Consequence values are shown below

|  |  |
| --- | --- |
| Consequence | Value |
| Very low | 1 |
| Low | 2 |
| Medium | 3 |
| High | 4 |
| Very High | 5 |

Risk Consequence values are shown below

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S. No | Risks | Likelihood | Consequences | Impact | Solution |
| 1 | Insufficient resources | 2 | 3 | 6 | All required resources for the project should be collected. |
| 2 | Hard Disk Failure | 1 | 5 | 5 | Data must back up. |
| 3 | Requirement does not meet | 2 | 5 | 10 | Proper planning should be done. |
| 4 | Server Failure | 1 | 4 | 4 | Online Backup should be done. |
| 5 | Lack of skill | 1 | 3 | 3 | Training should provide for skills employees. |
| 6 | Scheduling problem | 2 | 4 | 8 | Divide tasks in different schedule |
| 7 | Lack of cost | 2 | 4 | 8 | Cost estimation should be done properly. |

**Configuration Management**

The term refers to the system which track hardware, software and related information of the system. Configuration management is involving practices of processing system changes systematically with updating system while maintain the system integrity. To achieve of goal of the system, configuration management should be implemented with details policies, procedures to manage to version. (Guru, 2019)

**Version Control**

Version Control is a software tools that helps to manage different version of source code of developer’s teams. It can allow us to re-back whole project into previous state. It can easily find problem when someone modifies source code lastly. There are three types of version control i.e. Local version control, centralized version control and distributed version control. (Git, 2019)

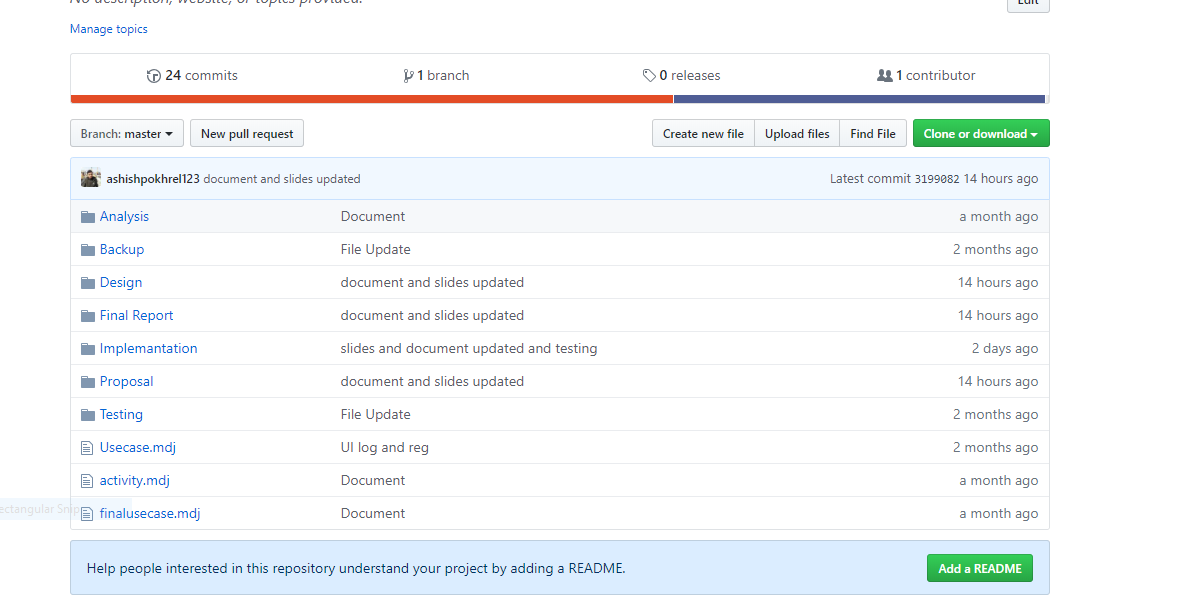


Figure : GitHub for Movie Booking

**CHAPTER 2 – Analysis**

Analysis is the process of identification and documentation of requirement of the proposed system. In the analysis phrase, first step is to feasibility study after that we model system in use case diagram and class diagram which is also called system modelling. (SDC, 2011)

Analysis is done to examine the requirement which is given by the user so that it is easy to find out features and importance of the system. Analysis is important parts before starting developing any software. There are many methods for analysis project like a problem identification, gathering a requirement from a user, and also develop prototype of the system. There are many techniques for analysis for project like by interview with user, questionnaire with user, observation in the workplace, etc.

For this project I prefer to used soft approach methodology for analysis. Soft approach is mainly user center focused. By using soft approach, system id design according to user requirement so that system will be user friendly.

**2.1 Requirement Analysis**

Requirement analysis is the process of identification of user requirement for system developed. It is one important parts of system development. For success of any product, requirement analysis is important for analyze any project requirement. (ReQst, 2019)

There are two types of requirement:

1. Functional Requirement

Functional Requirement is describing of how system can do.

1. Non-Functional Requirement

Non-function Requirement is describing of how system behave.

**2.1.1 Prioritization**

Prioritization is the process of determine candidate requirement for the system which should be included for certain release. It can ensure easily that which requirement should be first and which should be last. (requirement.com, 2004).

I have used MOSCOW prioritization for requirement analysis for this project.

MOSCOW stand for

M=**Must Have**

S=**Should Have**

C=**Could Have**

W=**Would have**

|  |  |  |  |
| --- | --- | --- | --- |
| Functional and non-functional requirement | Requirement | Justification | Moscow |
| F(R1) | User Registration to system | User must registration to system. | Must have |
| F(R2) | User Login to system | User must Login to System for booking movies. | Must have |
| F(R3) | Add Movies | Admin can add movies | Must have |
| F(R4) | View Movies | User can view details of movies | Must have |
| F(R5) | View show time | User can view details of show time of movie | Must have |
| F(R6) | View show date | User can view details show date of movie | Must have |
| F(R7) | Update User profile | User can update their profile | should have |
| F(R8) | Update Movies | Admin can update movies | Must have |
| F(R9) | Ticket generate after booking Movies | Ticket must generate after user book particular movie | Must have |
| F(R10) | Seat selection | User can select seat | Must have |
| F(R11) | Show name | System must view show name | Must have |
| F(R12) | Show type | System must view show type and show time | Must have |
| F(R13) | Delete Movie | Admin can delete movie | Must have |
| F(R14) | Admin Login | Admin can login to system | Must have |
| F(R15) | Update Admin Profile | Admin can update his/her profile | Should have |
| NF(R16) | Security of system | Make sure that System must secure and protected from unauthorized access. | Must have |
| NF(R17) | Portability | System should be run in every platform. | Should have |
| NF(R18) | usability | System should navigation easily and easy to use. | Should have |
| NF(R19) | Scalability | System should store more and more information easily | Could have |
| NF(R20) | Maintainability | Maintenance should be done in regular basic | Must have |
| F(R21) | Check seat availability | Admin and user can check available seat | Must have |
| NF(R22) | Privacy | System should keep user information private | Must have |
| NF(R23) | Reliable | Precise and accurate information should given to system | Should have |

**2.2 Feasibility study**

Feasibility study is used to describe of idea which is ensuing a project which is legally and technically feasible and economically just able. It can also identify project is potentially success. For this project feasibility study is undertaken which are as below:

Advantages of feasibility study:

* It can provide valuable information for the project.
* By evaluating multiple factor, it has enhanced success rates.

Disadvantages of feasibility study:

* Costly
* Wrong information

**2.3 Use-Case Diagram**

A Use-case is a software and system engineering term that describe how user can interact with system to perform a particular operation. A use case acts as a software modelling technique that implies function to be implemented. (Techopedia, 2018)

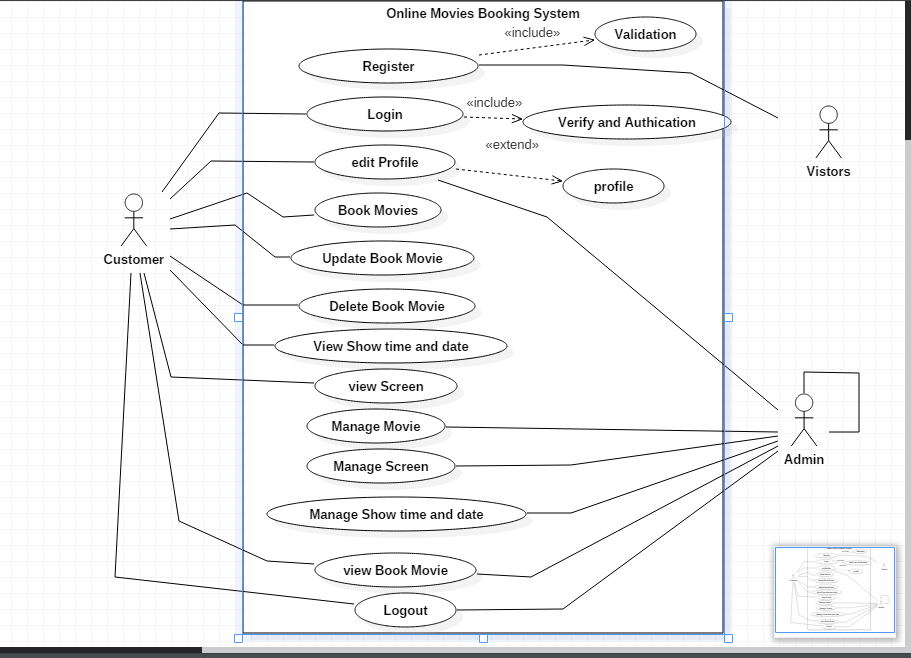


Figure :Use-case Diagram for Online Movies Booking

**Justification**

In above diagram, there are three types of actors i.e. first one is visitor’s who is unregister customer for the system, second one is registered customer and last one is admin who manages whole system.

First actor i.e. visitor who can register to the system via registration script and he/she can become the registered customer. Now, he/she can do all things that registered customer can do to the system.

Second actor i.e. registered customer who is mainly focus by system. He/she can book movies, edit their profile, view different show time and date of movies running in the theaters and also update and delete book movie.

Lat actor i.e. admin who is system administration. He/she can manage movies, different shows times and dates, manages screen view book movies manages etc.

**2.4 Initial Class Diagram**

A class diagram is a description of relationship between different classes. It is a static diagram which represent static view of system. It describes the attributes and operations of class. It also shows a collection of classes, interface, association. (Guru, 2019)

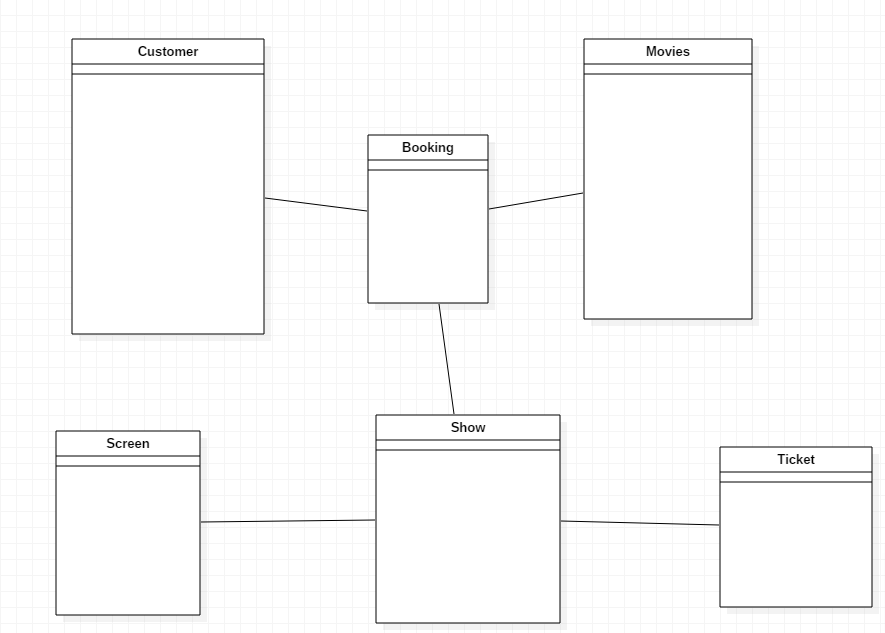


Figure : Initial Class Diagram

**Chapter 3: Design**

A design phrase is detailed document providing information about a going to developed product of process. Its main aims to ensure that development product should meet users’ requirements. There are three types of design phrase i.e. structural design, behavioral design and database design.

**3.1 Structural Design**

Structural diagram illustrates static structure of the system. It shows how the different component or module is connected and interact with each other. It cannot change unit the system development completed. It also shows the relationship of class in the system. Class diagram, ER-diagram, object diagram, Package diagram, model diagram, collaboration diagram are examples of structural diagram. For this project, I have used Class Diagram, ER-diagram which are illustrated briefly with diagram below.

**3.1.1 Class Diagram**

Class Diagram is UML, a type of static view of the system that describes the whole structure of the system by show classes, attributes, operation or method and relationship between classes. (Visual-Paradigm, 2019)

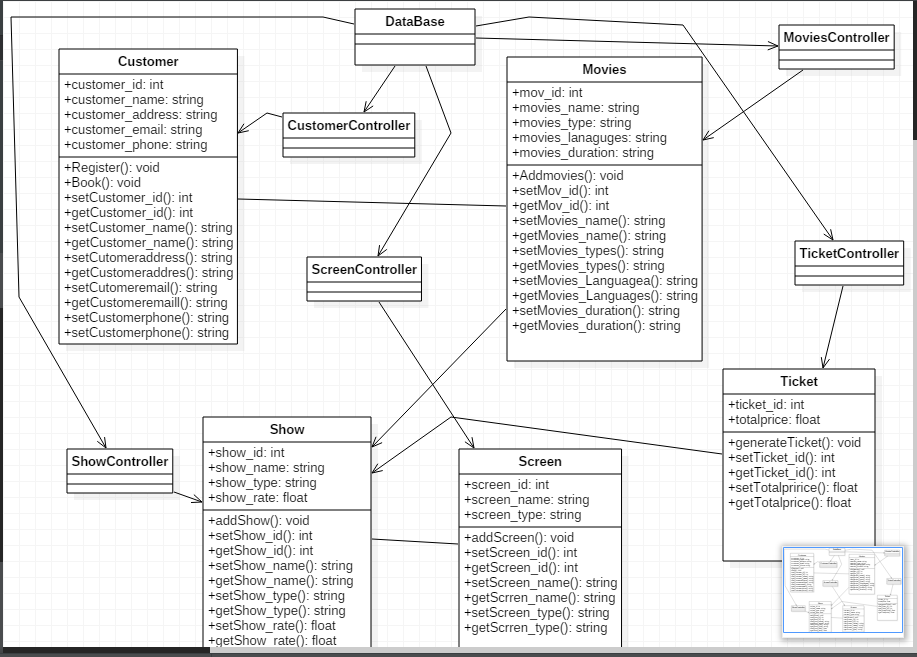


Figure : Final Class Diagram

**Justification**

The above class diagram illustrated that each class has each controller and controller are direct associated with Database. Ticket class is dependent with show class and ticket controller. Booking is dependent on Movies and Customer class.

**3.2 Behavioral Diagram**

Behavioral diagram depicts the dynamic behavior of object with a system which can describes the changes of system over run time. Changing of requirement might change to the structure of the system. System diagram is design according to the requirement of the user. Activity diagram, sequence diagram, use-case diagram, state machine diagram, communication diagram, timing diagram, etc. are examples of behavioral diagram. (UML, 2019). For this project, I have used three behavioral diagrams i.e. Use-Case Diagram, Activity diagram, and Sequence Diagram which are illustrate as below:

**3.2.1 Activity Diagram**

Activity diagram is UML diagram which describes the dynamic aspect of the system. It is advanced version of flow chart which show logic of flow of one activity to another activity.

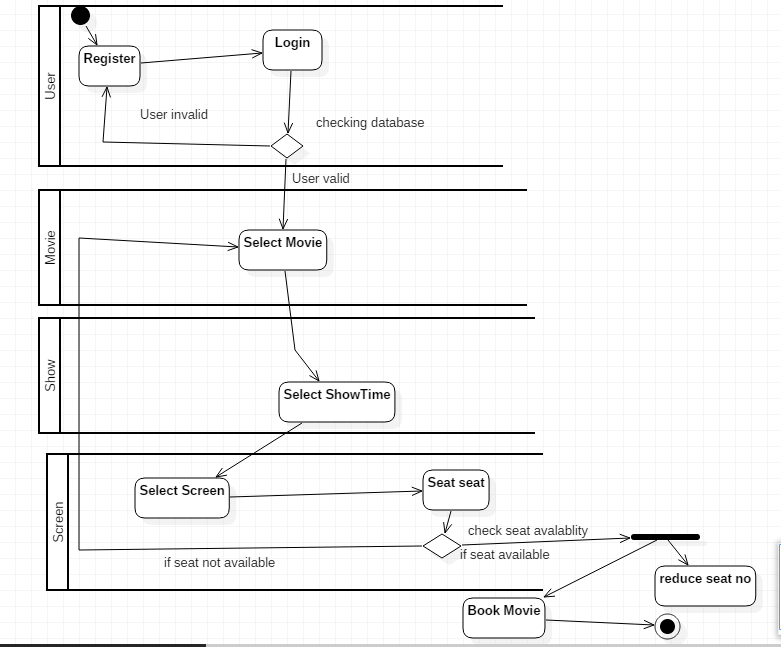


Figure : Activity Diagram for movies Booking

**Justification**

The above activity diagram is for booking movies for user. At first user can register and after that login in user class. If user is valid system will redirect to movies class display with movies name where user can select movies or if user is invalid system will redirect to register form. After selecting movies, now user will select show time in show class after that again select screen and seat in screen class. If seat is unavailable then system will redirect to movies list again or if seat is available two operation is performed simultaneously one is book movies and another one is reducing no of seats from particular screen.

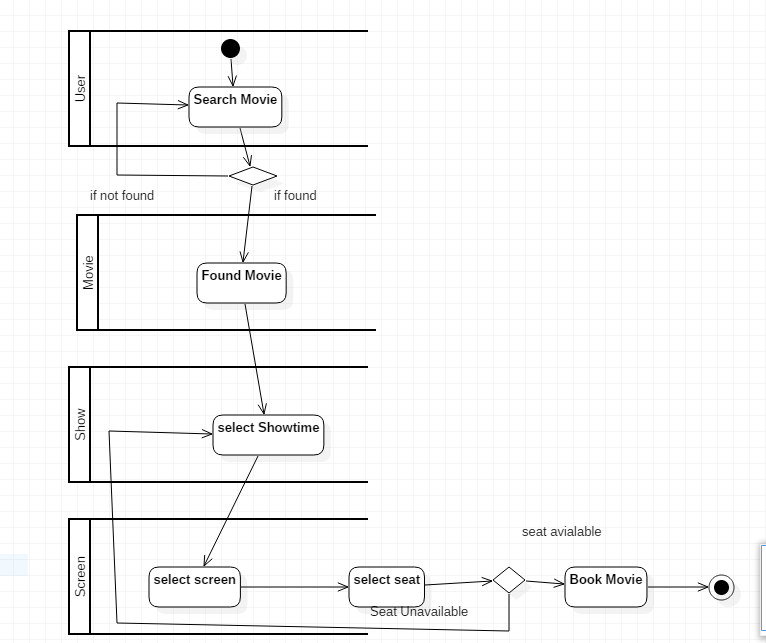


Figure : Activity diagram for search movies

**Justification**

Above activity diagram is for searching movie by the users. At first user can search movies in search after that decision is used where if movies do not find than it redirects search again or if movie found than it redirects to movies details and after that user can select show time. If showtime is available than user select screen and seat. If seat available user can book movie if not user choose next show time.

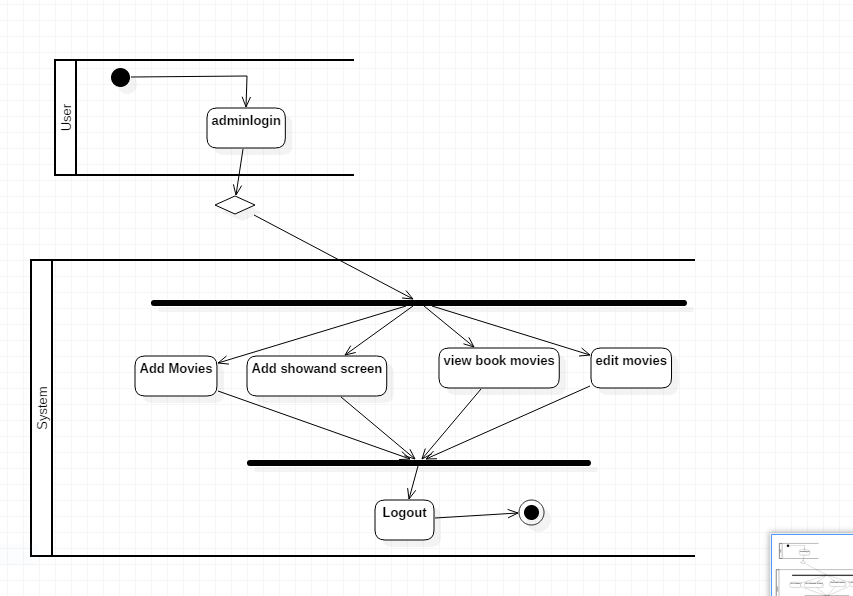


Figure : activity diagram for admin

**Justification**

Above activity diagram illustrated the activity done by the admin. Admin can add edit delete movies, showtime and screen. In the diagram at first admin login to system after that admin will add movies add showtime and screen view booked movie by user and edit movies.

**3.3.2 Sequence Diagram**

Sequence diagram can illustrate how object can interacts with message system in sequential order. It describes the runtime system. It also describes how object can pass within system. It is used by developer team to understand requirement a new and existing system. Sequence diagram for my project are as follows:

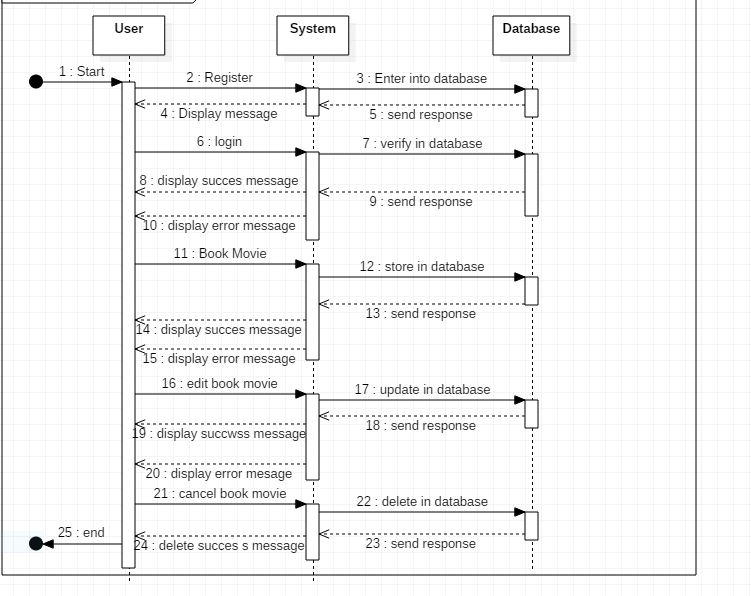


Figure : Sequence Diagram for User activity

**Justification**

As above diagram, it is sequence diagram for User activity in the system. It shows in diagram that User sends a registration message to the system and system will send message to the database, while database send response to the system of and again system send success message to User interface. Now, User send login message to the system while system validate username and password message into the database, if exist it will display success message it not it will display error message in User interface.

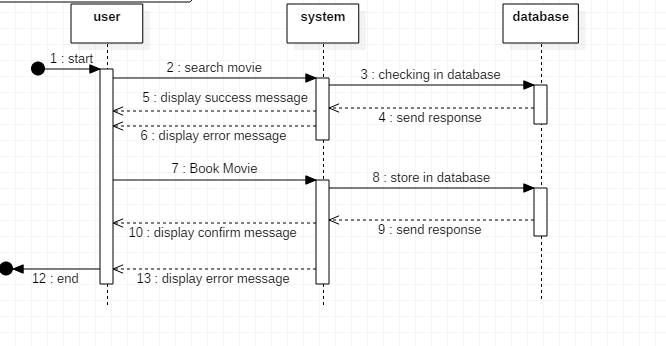


Figure :Sequence Diagram for Searching Movies

**3.3 Database Design**

Database design is the process of designing, development and implementation of data for proposed system. The main aims of database design are to produce logical and physical model for any system. (Guru, 2019)

**3.1 Entity Relationship Diagram**

An Entity Relationship Diagram also called as ERD is a type of flowchart that illustrates how entities relate with each other within system.

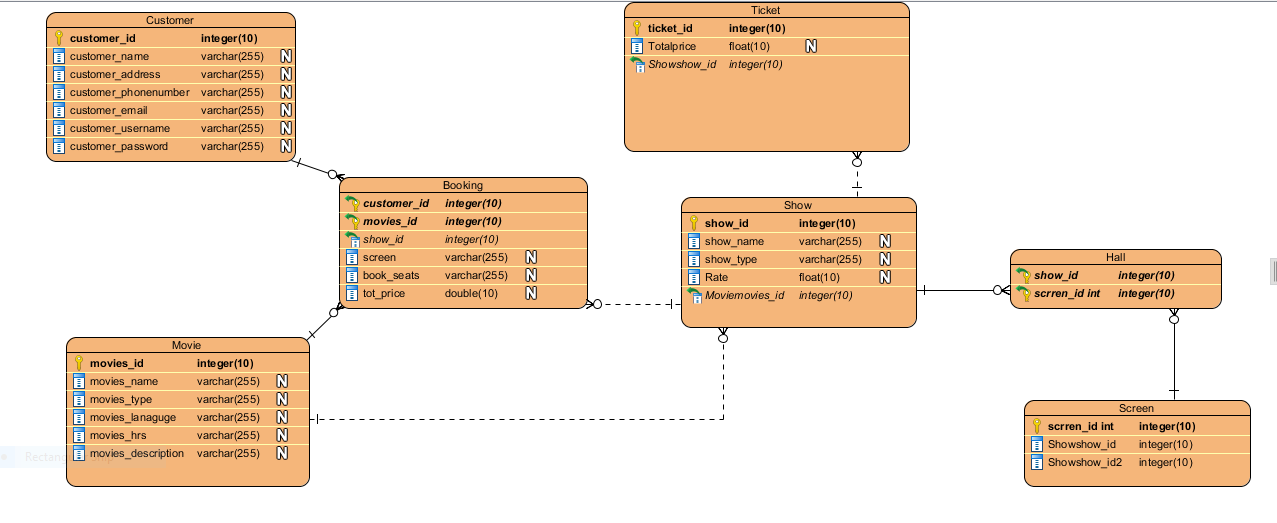


Figure : ER-Diagram for Online movies Booking System

In above diagram, it is ER-diagram for online movie booking system. It shows the relationship between entities of database. Above ER-diagram is developed for real working database for movies booking. In above ER-Diagram, customer and movies has many to many relationships has linking table called as Booking table between customer and movies because one Customer can book multiple movies whereas one movie can book by multiple customers. Shows and booking has one to many relationships where showed is foreign key in booking table because one show has multiple booking but one booking has for only one show only. Movies and Show table have one to many relationships because one movie has multiple show but one show has only one movie at time. Show and Screen table has many to many relationships which both have linking table called as Hall table because one show has multiple screens also one screen has multiple show. And, show and ticket has one to many relationships.

**3.2 Meta-Data**

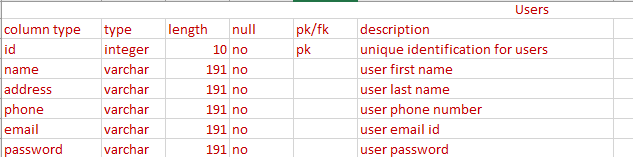


Figure : metadata of user

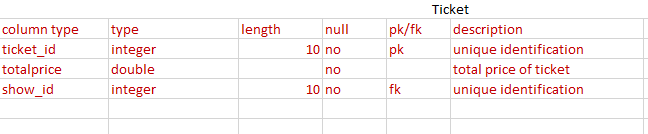


Figure : metadata for ticket

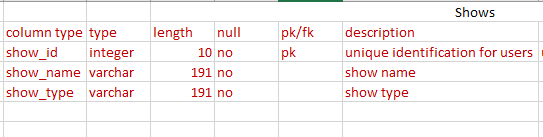


Figure : metadata for shows

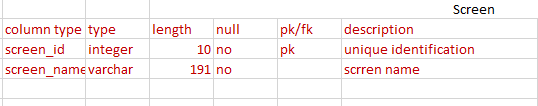


Figure : metadata for screen



Figure : metadata for movies

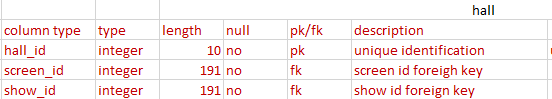
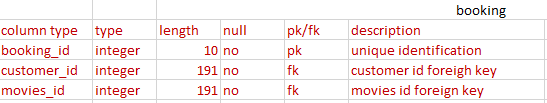


Figure : metadata for hall



**Chapter 4: Testing**

Software Testing is the process of check whether actual result matches expected result to ensure that software is defect fee. It also helps to finds out error, missing requirement. (Guru, 2019)

Black Box testing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Testcase No. | Testcase | Expected result | Actual result | Pass or fail | Action | Conclusion |
| k1 | Login | User can access system by entering username and password. | System accessed. | Pass | No action | Pass |
| 2 | Register | User can redirect to login after filling details on register page | Login form view | Pass | No action | Pass |
| 3 | Book Ticket | User can book tickets. | User book ticket Successfully | Pass | No action | Pass |
| 4 | Add Movies | Movies should add in database | Movies added to database successfully | Pass | No action | Pass |
| 5 | Update Movies | Movies should be update in database | Movies Updated successfully | Pass | No action | Pass |
| 6 | Delete Movies | Movies should be deleted from database | Movies deleted from database | Pass | No action | Pass |
| 7 | Add show | Show should be added to database | Show added successfully | Pass | No action | Pass |
| 8 | Add screen | Screen should add to database | Screen added successfully | Pass | No action | Pass |
| 9 | Add hall | Hall should be add in database | display error message | fail | fix error message | fail |
| 10 | Add Upcoming Movies | Add upcoming movies in database | Display error message with no route found | fail | Fix route error | fail |
| 11 | Update Upcoming Movies | Update upcoming movies in database | Updated successfully | pass | No action | Pass |
| 12 | Cancel Booking | Book ticket should delete from database | Book ticket deleted successfully | pass | No action | Pass |

Unit Testing

1. Login and Register

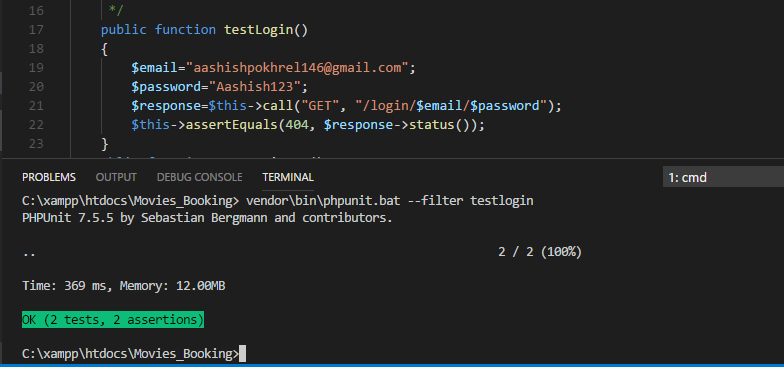


Figure : Login

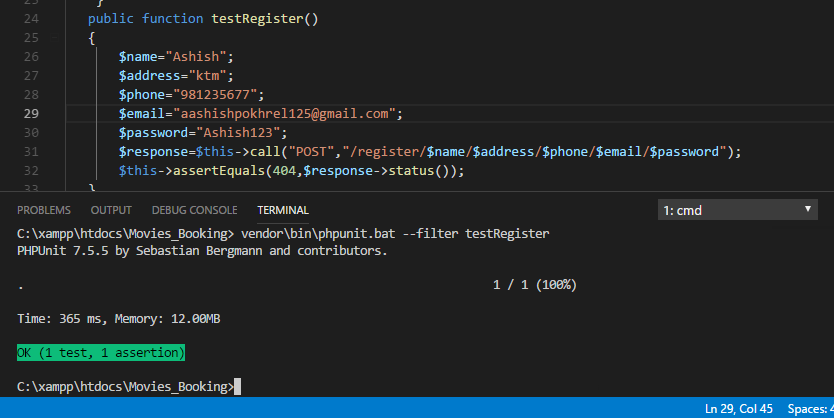


Figure :Register

1. Add Movie

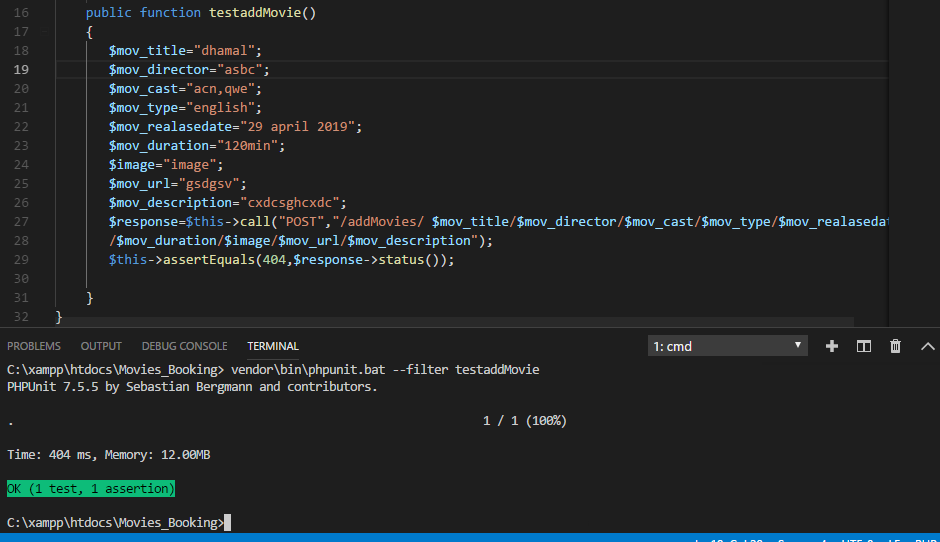


Figure : Add Movies

3.Book seat

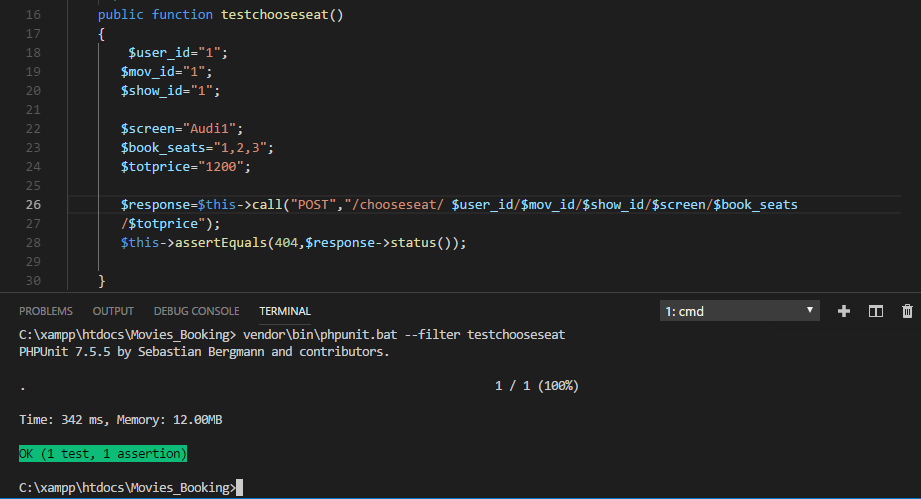


Figure : Book seat

# Conclusion of the project

Online Movies Booking system is a customized and user friendly a web application where you can book seat for movies in theaters from anywhere anytime. It has facilities of booking movies, read reviews of movies, watch trailer, see lists of upcoming movies. Admin can add lists of movies. Suitable breakdown and scheduling are done properly. Design pattern MVC and waterfall methodology is used for the project. The only one limitation of the system is online payment system is not available.