



North South University

CSE327: Software Engineering

Section- 3 Group 8

Final Project Report

Movie Theater Management System

Submitted to

Faculty : MRH1

CSE 327 Section-3 Group-8

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Abstract

Our project is a movie theatre management system of the theatre name being "Dhaka Cinemax" Users of the movie ticket booking system can inquire about the movies that are currently playing, the ability to reserve and cancel movie tickets, and inquire about the status of the reserved tickets, the theater type and class type, etc. This project's goal is to create a website that provides a simple platform for people to learn about popular movies and purchase cinema tickets in the Making it as simple as possible for everyone to purchase tickets at any time anywhere, too. This project includes an introduction to the mechanism for purchasing cinema tickets. It is an automated system for making reservations for movie seats in advance. This virtual ticket for a movie the use of a booking system can make purchasing movie tickets much simpler than ever before. Additionally, this project includes an introduction to the relational model and an example of basic SQL queries that can be used to obtain data from the system's database based on an entity relationship model diagram based on a system for booking movie tickets.

SRS

Software Requirements Specification for Cinema Hall Management System:

Problem Definition:

In this day and age of the modern era, it's very impractical for people to have to go to the theater only to find out that all the tickets are sold out or even worse, the employees at the ticket counter are holding tickets to sell in black market.

But having the whole system be user focused online experience, people can book tickets online, the availability of tickets and most importantly the show time, where now-a-days people have to waste a lot of time as they get to know about their show time while they are booking their tickets. On the other hand, people will also get the opportunity to know about the price of each

show tickets while reserving tickets for their desired show. Moreover as all the information will be available online the employees will not be able to hold any tickets as particular section will be administered by different users, such as the user will only have the access to buy tickets, seat reservation, selecting timing slot etc. The admin will have the access to add New movies, modify movie detail, delete movie listings, sort Movie By Genre and the theater panel will have management side of things such as the user can manage movie details, shows, list bookings, screen, timings, and theater details. Here the user can choose a movie, screen, showtimes, and an opening date in order to organize shows.

Motivation:

Watching movies has never been this hard nowadays. New movie releases and a surge in popularity amongst the youth for watching movies have never been much higher than before. Post covid a lot of new blockbuster movies are being released and as I don't have any theaters in my neighborhood standing in long lines of queue only to get rejected at the counter to know its sold out is largely disappointing. Moreover there are people who buy a large amount of tickets and sell it as scalp to the black market. At that moment if only there was a platform that is centralized and web-based that might help people to have an easy access to book tickets without even standing on a queue in front of the ticket counters. Moreover, this online system would have the clear idea about the seat availability, the time slot of each show, even the price of each show's ticket so that no one would be able to sell the tickets in black

Challenges:

Fluid UI: The challenges for this project include making a fluid UI design with modern design in which customers can easily purchase the movie tickets without looking outdated. The other three challenges include the building blocks of the project. The client side of the panel, the admin side of the panel and the theater panel.

User Panel : Customers can check the total number of movies that are now available, future movies, and the top movie trailers for each on the client-side overview of this website. The customers can also proceed to pay for their tickets and see their booking number

Admin Panel: The admin has the ability to view and edit every movie playing in theaters and delete it. By including information about the title, actors, release date, narrative summary, specific trailer, and movie poster, he or she can provide information on upcoming films.

Theater Management Panel: The user has access to a wide range of system features after logging into the theater panel. The user can manage movie information, shows, list reservations, screen, timings, and theater information here. The user must choose a movie, screen, showtimes, and an opening date in order to organize shows. After that, the user can simply switch the movie's show's state to "running" and stop it if desired. The number of currently playing movies is also listed in a table format on the main dashboard page, along with each movie's showtime, title, and screen. He or she can list all the bookings for a specific show and screen under the bookings area.

Functional Requirements

- Admin Panel with Admin Log-In
- Add new movies (Admin Access)
 - Add new movies
 - Edit Details
 - Delete from listing
- Admin can see and update Bookings
- Customer Registration Without Log-in
- Display Current Movies on the Home page
- Ticket booking system
 - Name
 - Contact number
 - Theatre Selection
 - Seat Group selection
 - Quantity
 - Date picker
 - Dynamic time slot

Non-functional Requirements

- Bug-Free experience
- Ease of use focused design
- Dynamic Web page

Tools/Technologies which will be used for the development

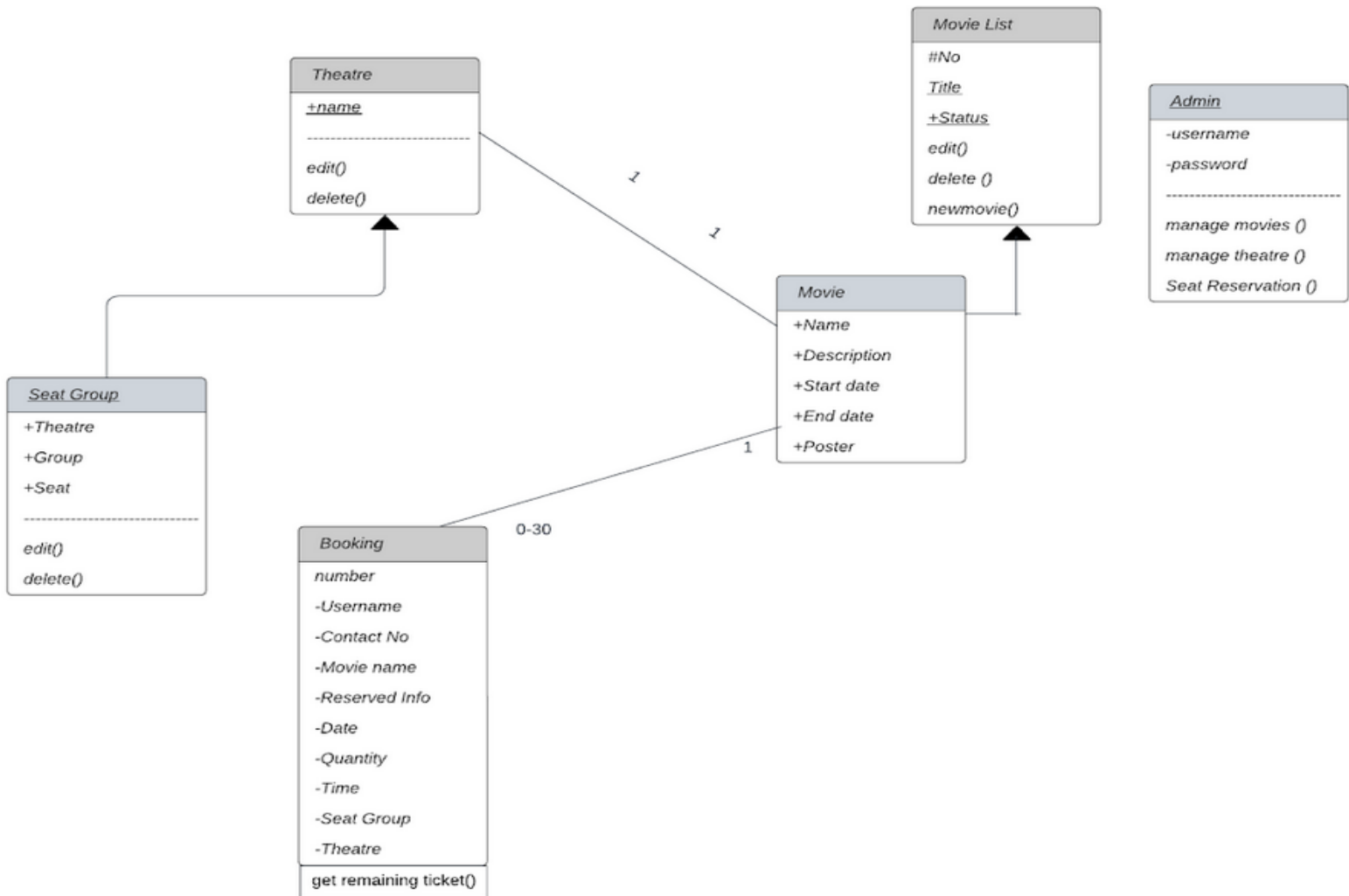
Front End UI - HTML, CSS, Bootstrap

Form Validation - JS

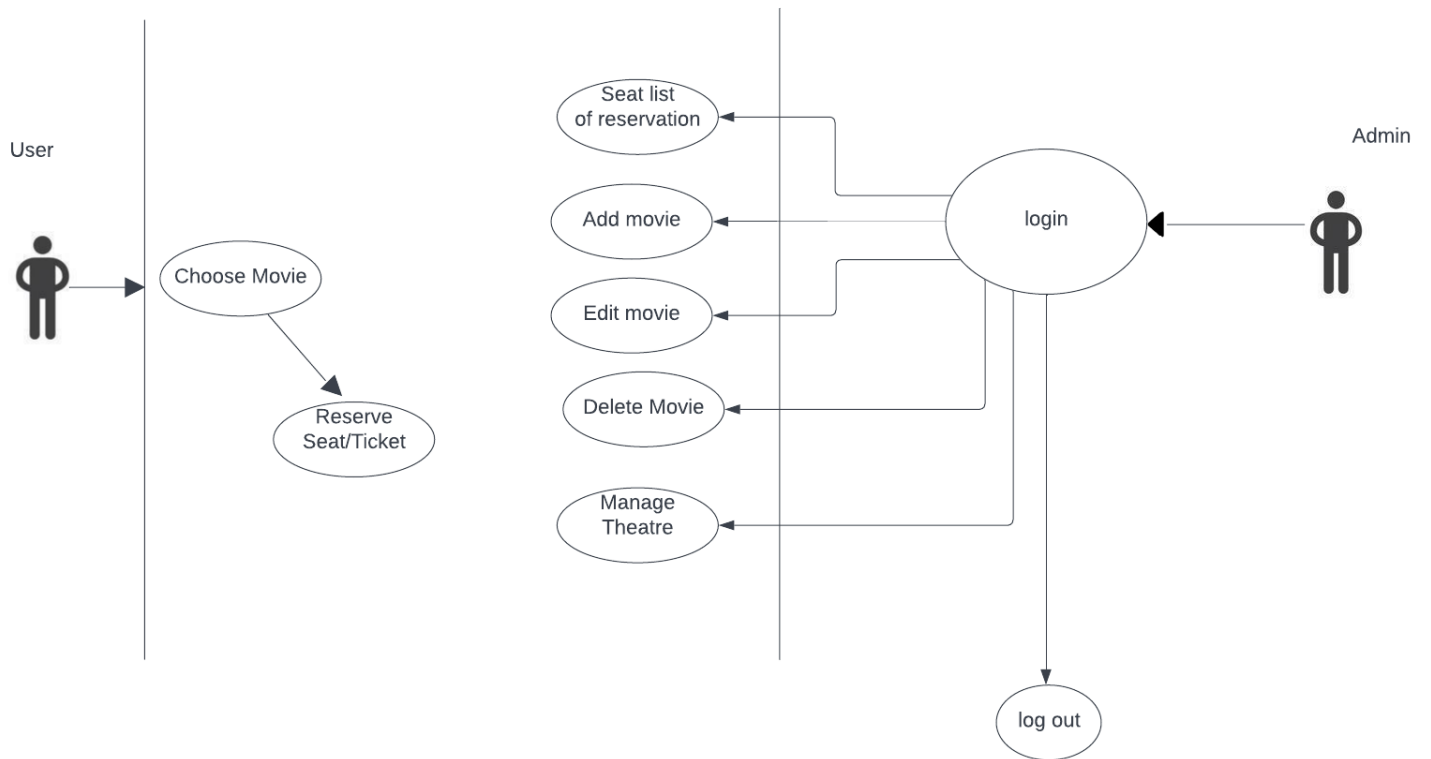
Backend code - PHP , SQL

Database Management - Mysql

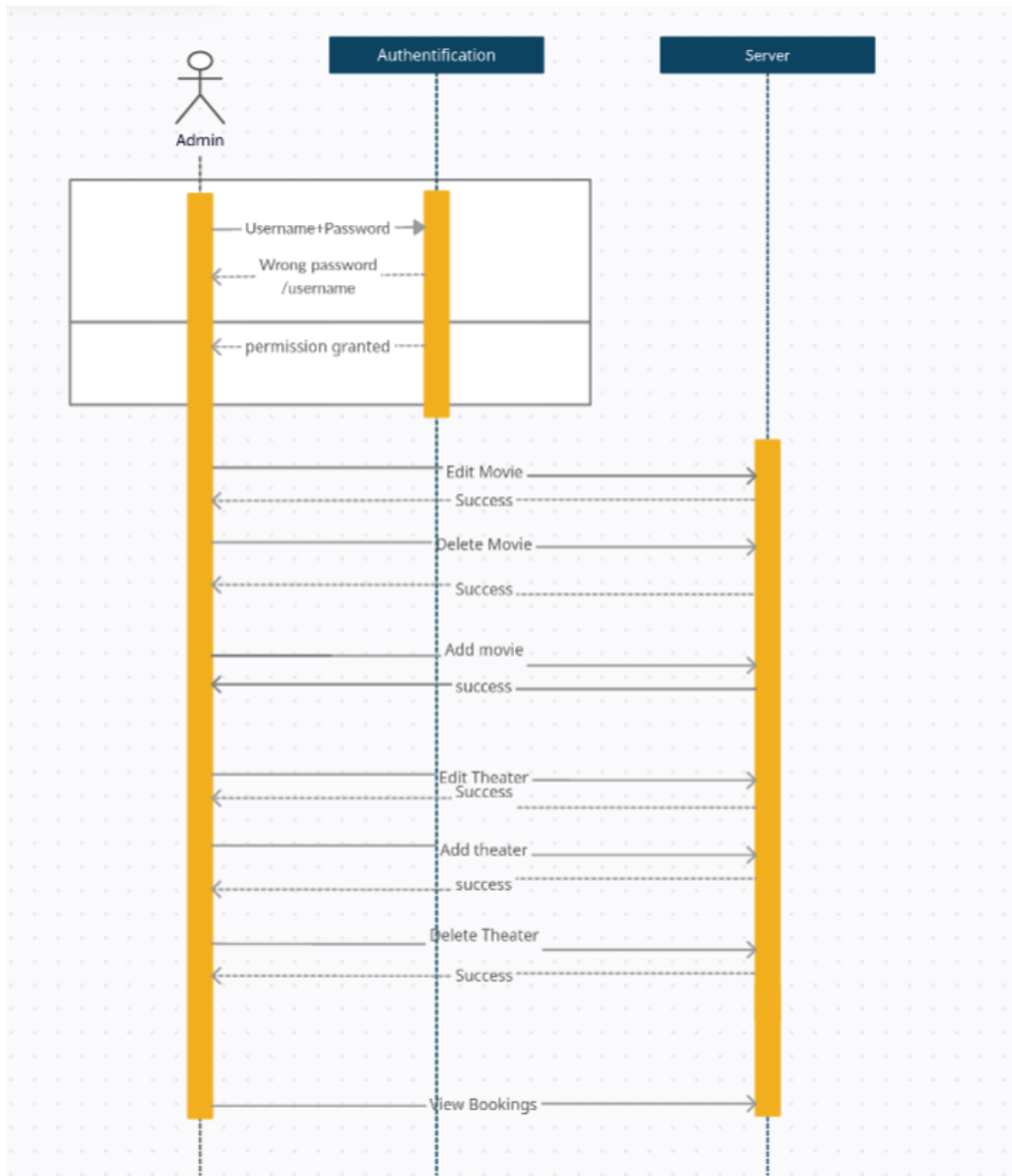
Class/UML Diagram

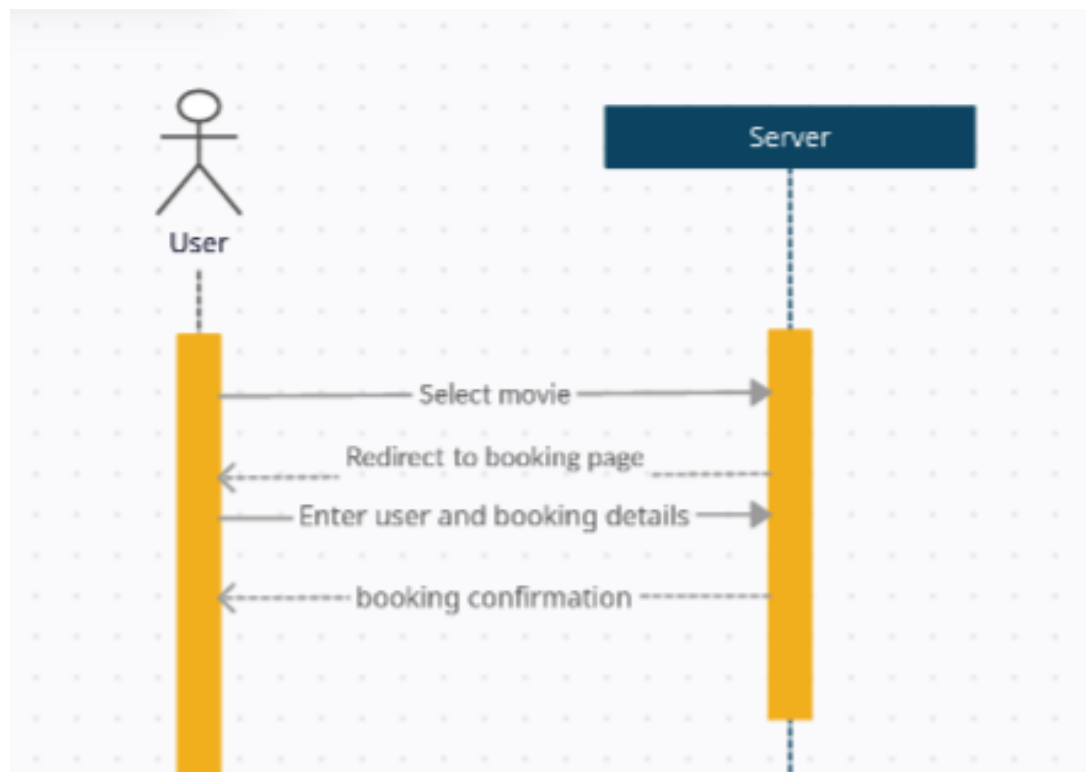


Use Case Diagram

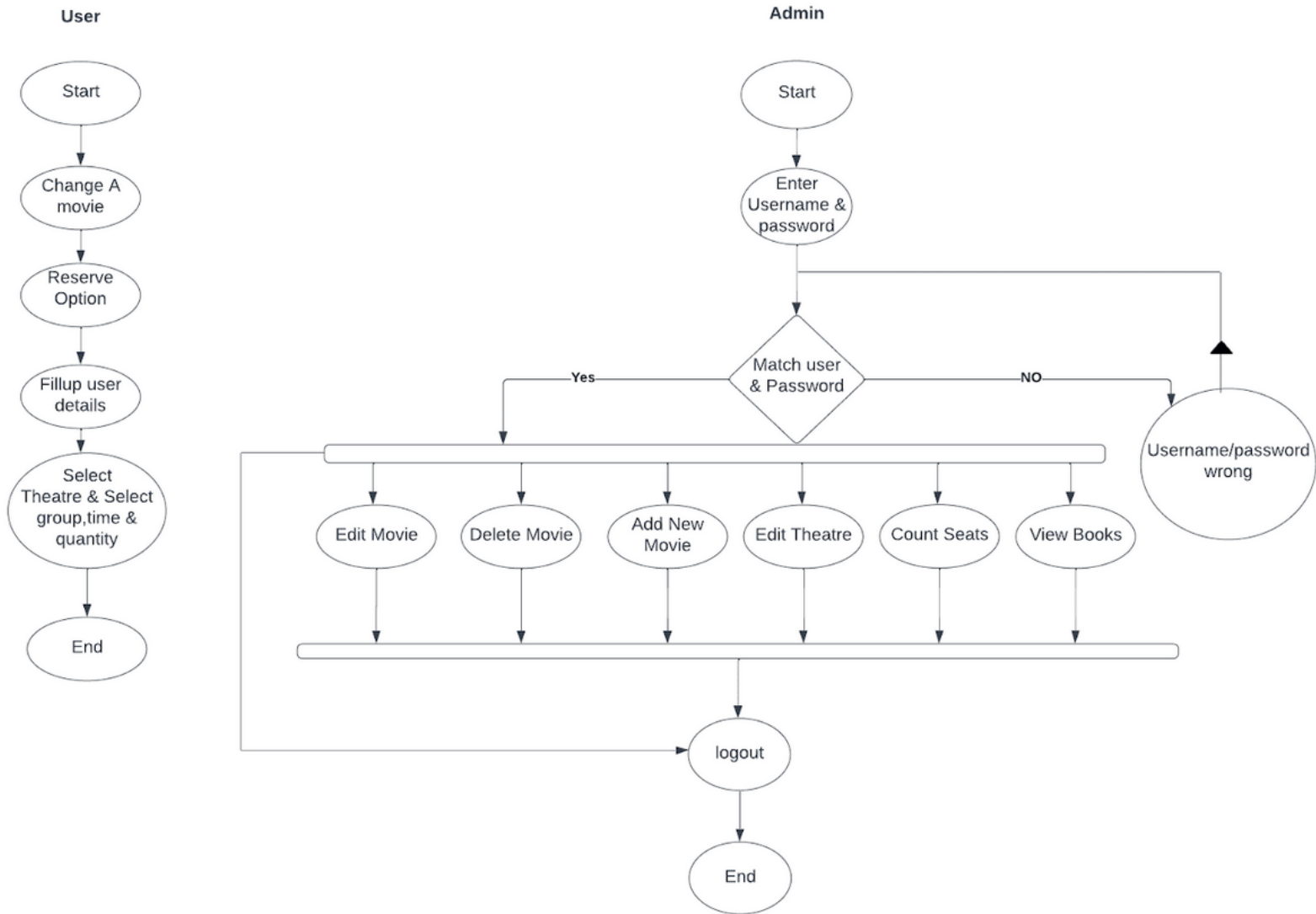


Sequence Diagrams

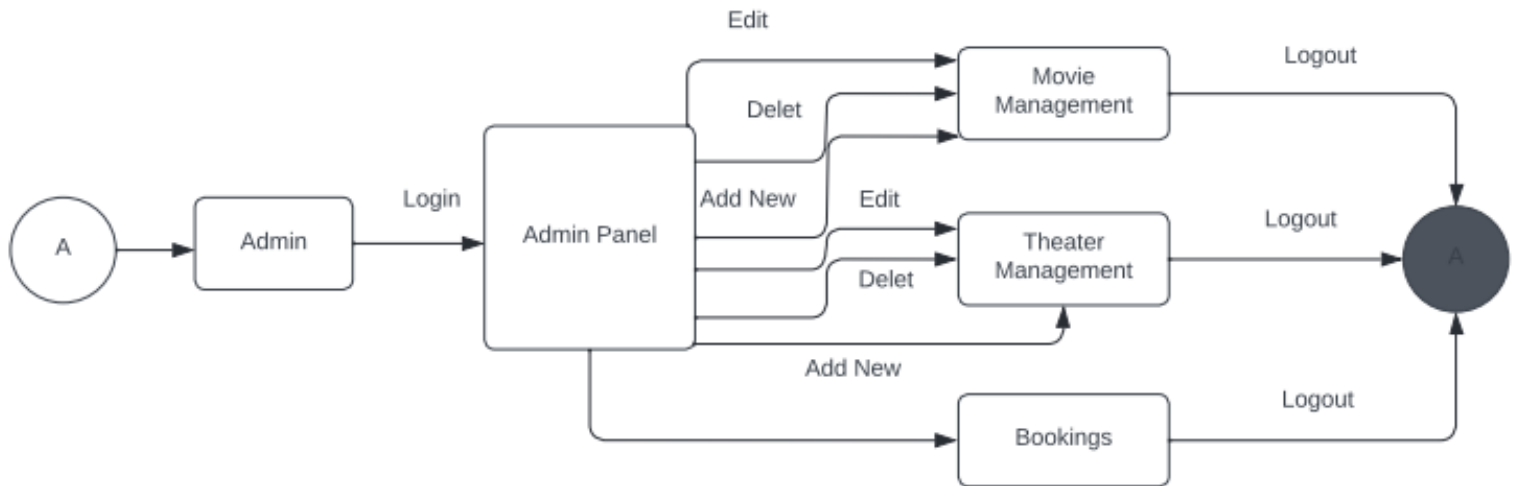
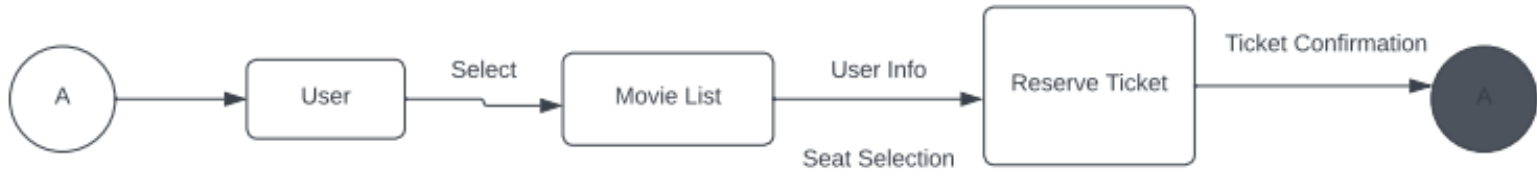




Activity Diagrams



State Diagrams



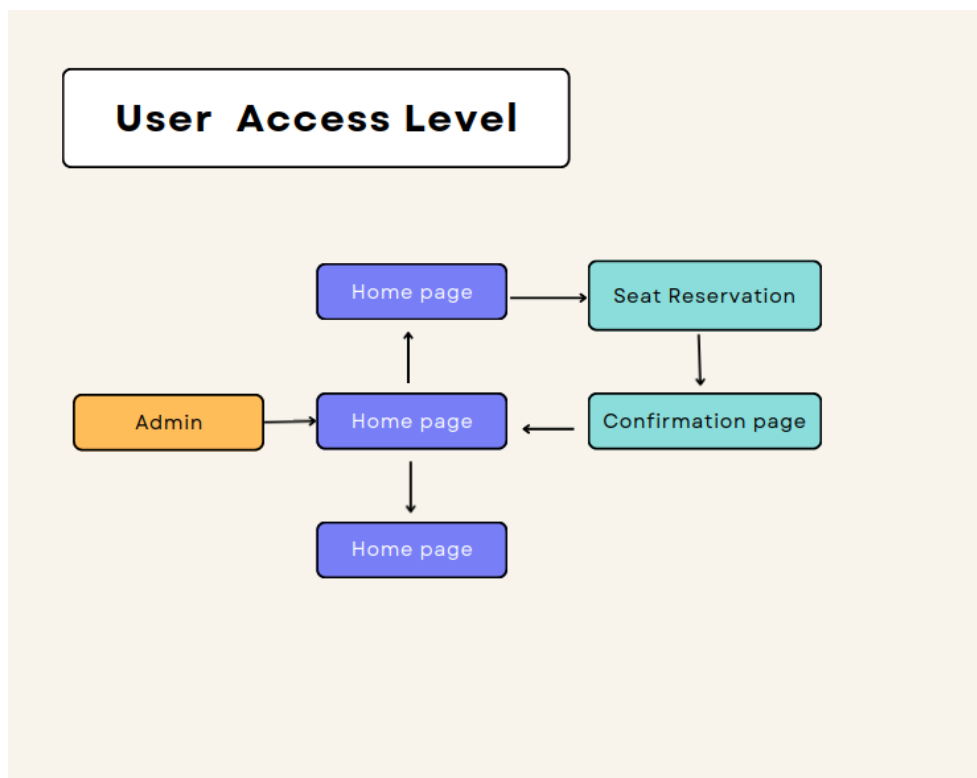
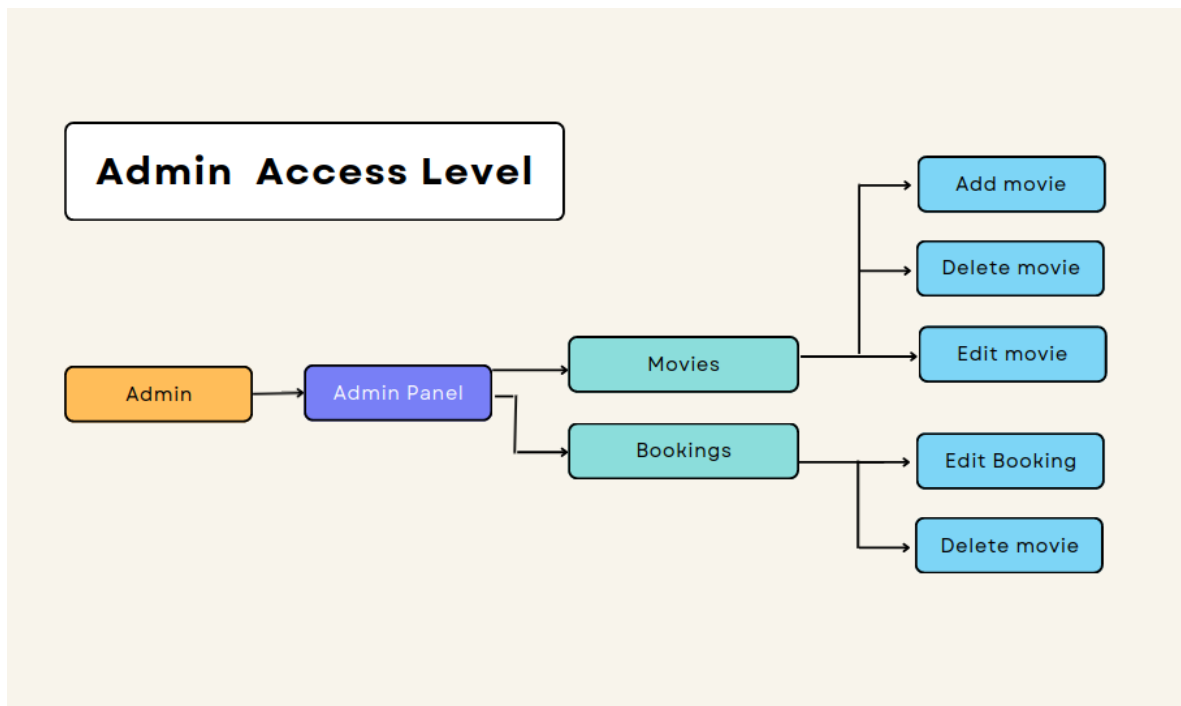
Database ER Diagram:

cinema_db bookingtable
🔑 bookingID : int(11)
movieID : int(11)
📄 bookingTheatre : varchar(100)
📄 bookingType : varchar(100)
📄 bookingDate : varchar(50)
📄 bookingTime : varchar(50)
📄 bookingFName : varchar(100)
📄 bookingLName : varchar(100)
📄 bookingPNumber : varchar(12)
📄 bookingEmail : varchar(255)
📄 amount : varchar(255)
📄 ORDERID : varchar(255)
📅 DATE-TIME : datetime

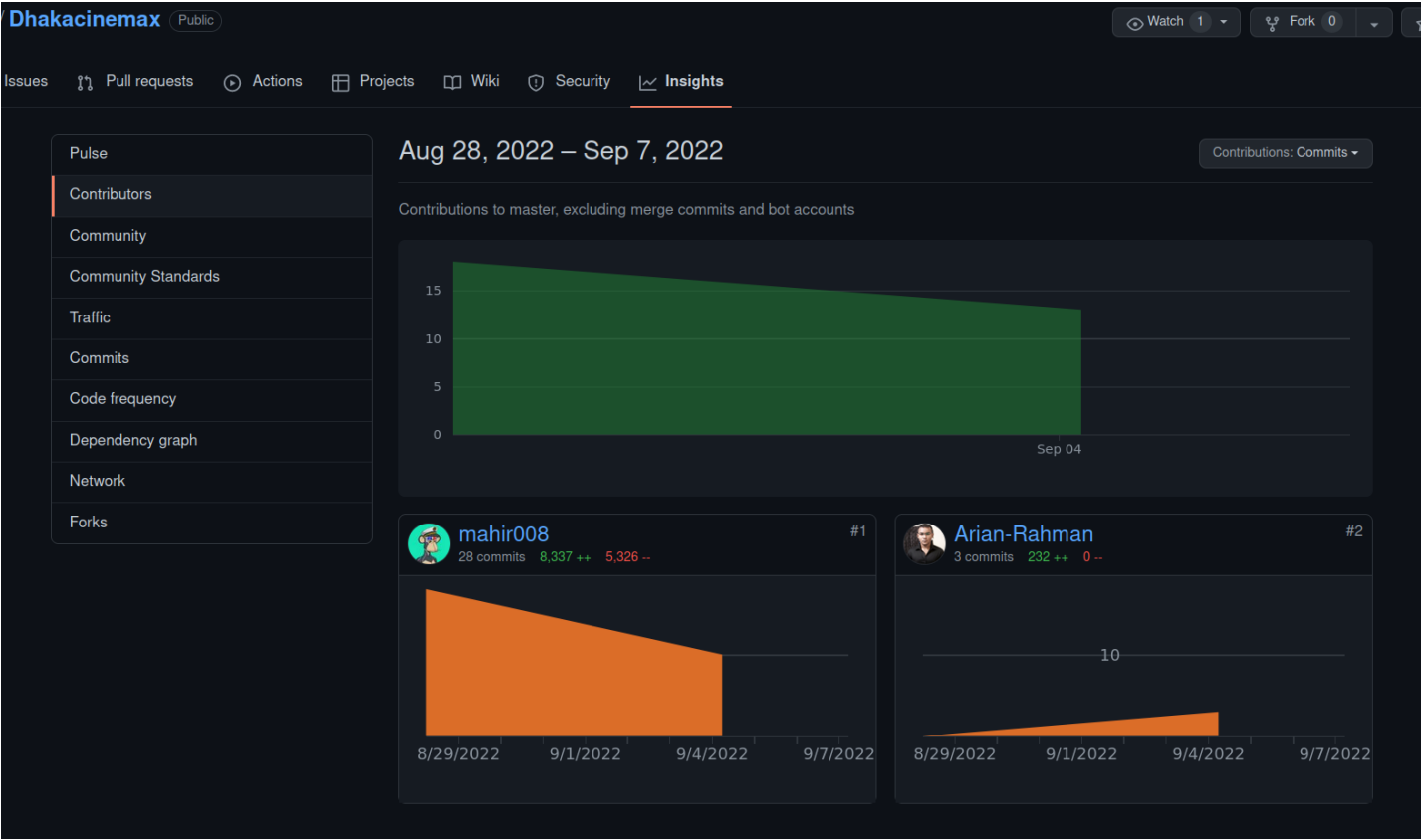
cinema_db movietable
🔑 movieID : int(11)
📄 movieImg : varchar(150)
📄 movieTitle : varchar(100)
📄 movieGenre : varchar(50)
movieDuration : int(11)
📅 movieRelDate : date
📄 movieDirector : varchar(50)
📄 movieActors : varchar(150)
mainhall : int(11)
vipHall : int(11)
privatehall : int(11)

cinema_db users
🔑 id : int(11)
📄 username : varchar(80)
📄 name : varchar(80)
📄 password : varchar(80)

Access control Levels :

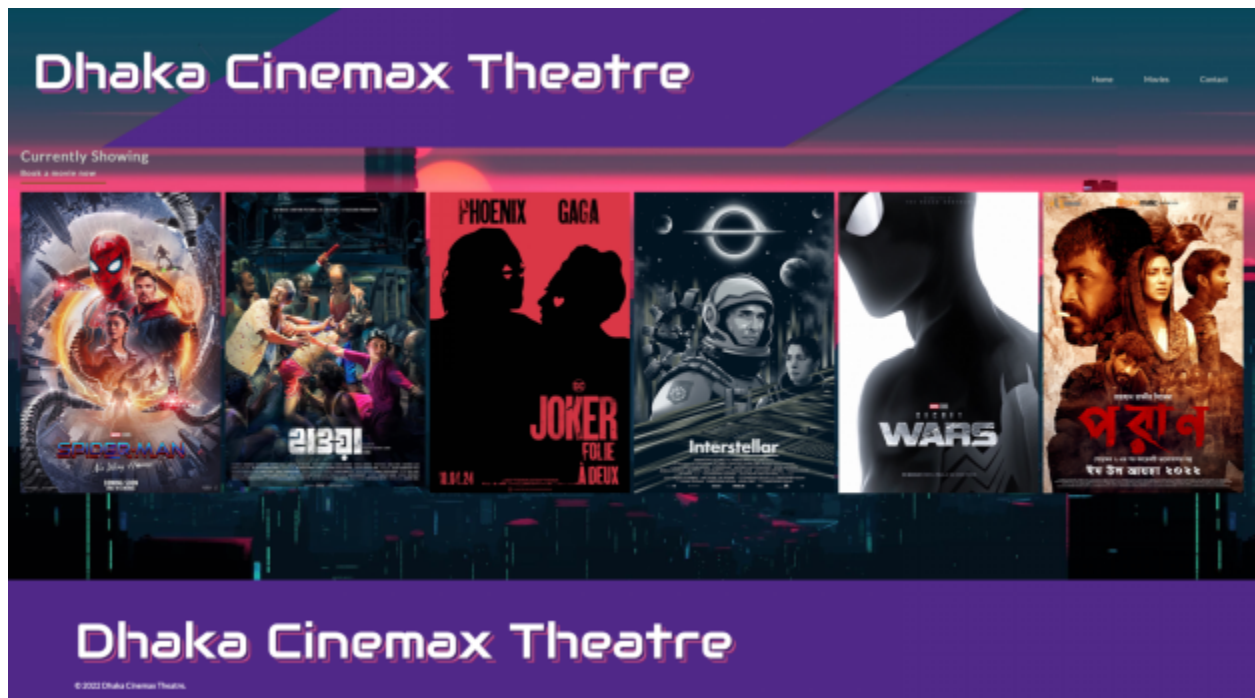


Contribution graph




Function-wise system description

Home page



Booking Page

RESERVE YOUR TICKET



Spiderman No way home

GENRE	Action, Adventure, Sci-Fi
DURATION	220
RELEASE DATE	2022-09-01
DIRECTOR	Jon Watts
ACTORS	Tom Holland, Andrew Garfield, Tobey Maguire

THEATRE

TYPE

DATE

TIME

First Name

Last Name

Phone Number

email

Book a seat

Admin Dashboard

Dhaka Cineplex Theatre Admin

Admin PanelLogout

Dashboard>

Bookings>

Movies>

Movies

Title

Genre

Duration

mm/dd/yyyy

Director

Actors

Price

Main Hall

Vip-Hall

Private Hall

Add Poster

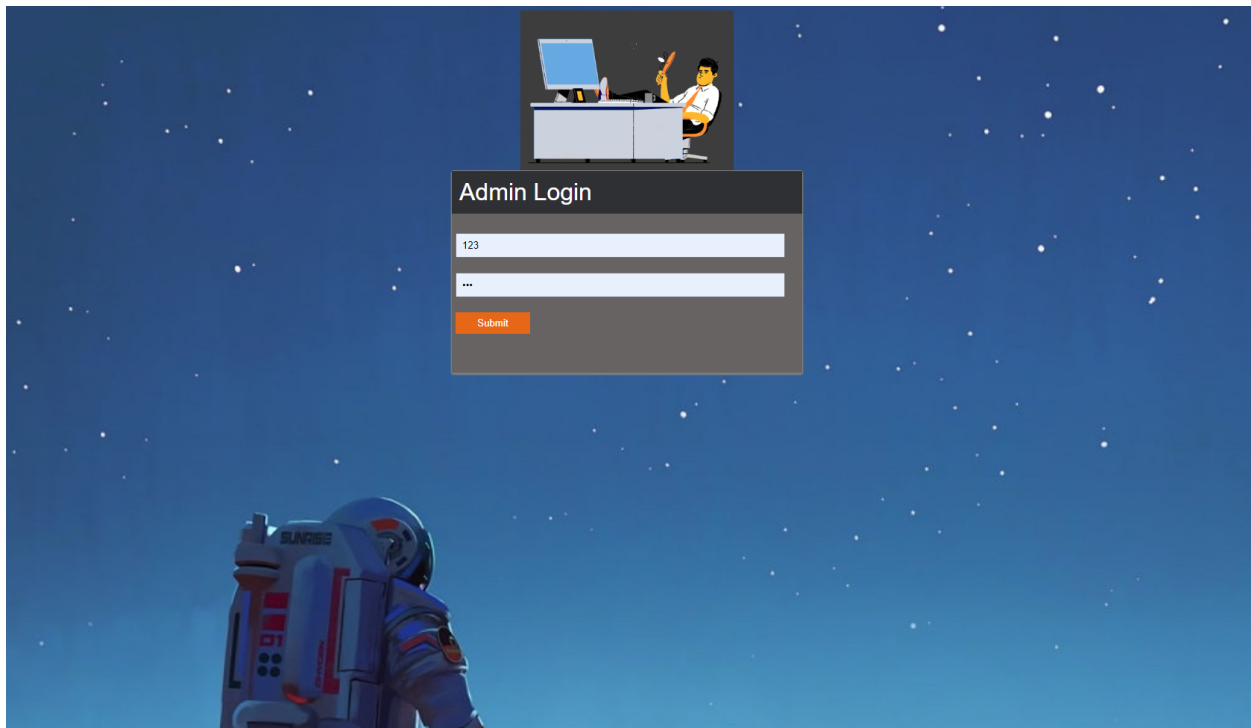
Choose FileNo file chosen

Add Movie

Recent Movies

MovieID	MovieTitle	Movie_Genre	Release_date	Director	More
1	Spiderman No way home	Action, Adventure, Sci-Fi	2022-09-01	Jon Watts	delete
2	Hawa	Mystery/Thriller	2018-10-18	Assad Fouladkar	delete
3	Joker: Folie à Deux	Thriller	2022-10-26	Todd Phillips	delete
4	Interstellar	Sci-fi	2022-07-13	Christopher Nolan	delete

Admin Login



Contact Page with Map location

Address & Info

Phone Numbers

+88 0255668200
+88 0255668200

Address

North South University, Bashundhara, Dhaka-1229, Bangladesh

E-mail

dhakacnplex@gmail.com

A Google Maps screenshot showing the location of North South University (NSU) in Bashundhara, Dhaka. The map is centered on the university campus, with various landmarks and roads visible. A red pin marks the location of NSU. The map includes labels for nearby areas like 'Bashundhara', 'Dhaka', and 'NSU NAC'. The map also shows surrounding roads, buildings, and green spaces.

Database

phpMyAdmin

Server: 127.0.0.1 * Database: cinema_db

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> bookingtable		16	InnoDB	latin1_swedish_ci	64.0 K	B
<input type="checkbox"/> feedbacktable		0	InnoDB	latin1_swedish_ci	32.0 K	B
<input type="checkbox"/> movietable		6	InnoDB	latin1_swedish_ci	32.0 K	B
<input type="checkbox"/> users		1	InnoDB	latin1_swedish_ci	16.0 K	B
4 tables	Sum	23	InnoDB	utf8mb4_general_ci	144.0 K	0 B

☐ Check all With selected:

Print Data dictionary

Create new table

Table name Number of columns

phpMyAdmin

Server: 127.0.0.1 * Database: cinema_db * Table: bookingtable

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 15 (16 total, Query took 0.0003 seconds.)

SELECT * FROM 'bookingtable'

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	bookingID	movieID	bookingTheatre	bookingType	bookingDate	bookingTime	bookingFName	bookingLName	bookingPNumber	bookingEmail	amount	ORDERID	DATE-TIME
<input type="checkbox"/> Edit	71	6	private-hall	imax	14-3	15-00	xyz	abc	000000000	000@gmail.com	5000.00	cash	2020-12-14 12:20:31
<input type="checkbox"/> Edit	72	4	vip-hall	3d	12-3	09-00	ddd	rahman	83483883	ff@gg.com	Not Paid	ARVR60181765	2022-09-01 23:06:51
<input type="checkbox"/> Edit	73	1	main-hall	3d	13-3	09-00	ariyan	rahman	83483883	barsimpson@dk.com	Not Paid	ARVR91420892	2022-09-01 23:12:35
<input type="checkbox"/> Edit	74	1	main-hall	2d	12-3	09-00	ahmed	ff	83483883	complexityonybusiness@gmail.com	Not Paid	ARVR35086362	2022-09-01 23:14:41
<input type="checkbox"/> Edit	75	4	main-hall	2d	13-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	ARVR41798690	2022-09-02 15:00:59
<input type="checkbox"/> Edit	76	3	vip-hall	3d	13-3	12-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	ARVR42839134	2022-09-02 15:03:40
<input type="checkbox"/> Edit	77	4	main-hall	3d	13-3	09-00	ddd	ddd	33434	edhie@gmail.com	Not Paid	ARVR24226367	2022-09-02 15:06:26
<input type="checkbox"/> Edit	78	4	main-hall	3d	12-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	ARVR37728986	2022-09-02 15:08:08
<input type="checkbox"/> Edit	79	4	main-hall	2d	12-3	12-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	ARVR66609135	2022-09-02 15:08:27
<input type="checkbox"/> Edit	80	2	main-hall	2d	12-3	09-00	mahir	lasker	1634774868	edhie@gmail.com	Not Paid	BKASH15307730	2022-09-02 15:09:18
<input type="checkbox"/> Edit	81	2	main-hall	3d	12-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	BKASH51212421	2022-09-02 15:12:29
<input type="checkbox"/> Edit	82	3	main-hall	3d	13-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	BKASH55494784	2022-09-02 15:17:09
<input type="checkbox"/> Edit	83	4	main-hall	3d	12-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	BKASH78457907	2022-09-02 15:18:18
<input type="checkbox"/> Edit	84	4	main-hall	3d	12-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	BKASH30452238	2022-09-02 15:21:15
<input type="checkbox"/> Edit	85	4	main-hall	3d	12-3	09-00	mahir	lasker	1634774868	mahirul.lasker@northsouth.edu	Not Paid	BKASH26810782	2022-09-02 15:23:33
<input type="checkbox"/> Edit	86	4	private-hall	3d	12-3	09-00	Arian	Rahman	01739234204	arianrahman431@gmail.com	Not Paid	BKASH18671504	2022-09-08 12:56:10

☐ Check all With selected:

phpMyAdmin

Server: 127.0.0.1 - Database: cinema_db - Table: movietable

Showing rows 0 - 5 (6 total, Query took 0.0002 seconds.)

`SELECT * FROM `movietable``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	movieID	movieting	movieTitle	movieGenre	movieDuration	movieRelDate	movieDirector	movieActors	mainhall	viphall	privatehall			
<input type="checkbox"/>	Edit	Copy	Delete	1	img/movie-poster-1.jpg	Spiderman No way home	Action, Adventure, Sci-Fi	220	2022-09-01	Jon Watts	Tom Holland, Andrew Garfield, Tobey Mguire	0	0	0
<input type="checkbox"/>	Edit	Copy	Delete	2	img/movie-poster-2.jpg	Hawa	Mystery/Thriller	110	2016-10-18	Assad Fouladkar	Ahmed Adam, Bayyamy Fouad, Salah Abdullah , Entar...	0	0	0
<input type="checkbox"/>	Edit	Copy	Delete	3	img/movie-poster-3.jpg	Joker Foie à Deux	Thriller	110	2022-10-26	Todd Phillips	Joaquin Phoenix, Lady Gaga	0	0	0
<input type="checkbox"/>	Edit	Copy	Delete	4	img/movie-poster-4.jpg	Interstellar	Sci-fi	105	2022-07-13	Christopher Nolan	McConaughey, Anne Hathaway	0	0	0
<input type="checkbox"/>	Edit	Copy	Delete	5	img/movie-poster-5.jpg	Avengers Secret Wars	Action	132	2022-12-15	Daniel Cretin	Jonathan Majors , Samuel L. Jackson , Ben Mendelso...	0	0	0
<input type="checkbox"/>	Edit	Copy	Delete	6	img/movie-poster-6.jpg	Poran	Crme, Mystery, Thriller	107	2022-07-10	Raihan Rafi	Bidyia Sinha Saha Mim, Sariful Razz, Yash Rohan	0	0	0

Check all | With selected: Edit | Copy | Delete | Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print | Copy to clipboard | Export | Display chart | Create view

Bookmark this SQL query

Let every user access this bookmark

phpMyAdmin

Server: 127.0.0.1 - Database: cinema_db - Table: users

Showing rows 0 - 0 (1 total, Query took 0.0002 seconds.)

`SELECT * FROM `users``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	id	username	name	password			
<input type="checkbox"/>	Edit	Copy	Delete	1	123	john	123

Check all | With selected: Edit | Copy | Delete | Export

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Print | Copy to clipboard | Export | Display chart | Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Booking Details

Dhaka Cineplex Theatre Admin

Admin PanelLogout

Dashboard

Bookings

Movies

Booking Details

Booking ID	Movie ID	Name	Phone Number	Email	Date	Theatre & Type	Time	Order ID	Amount	Mo
71	6	xyz abc	000000000	000@gmail.com	14-3	private-hall imax	15-00	cash	5000.00	<div>d</div> <div>u</div>
72	4	ddd rahman	83483883	fff@gg.com	12-3	vip-hall 3d	09-00	ARVR60181765	Not Paid	<div>d</div> <div>u</div>
73	1	ariyan rahman	83483883	barsimpson@idk.com	13-3	main-hall 3d	09-00	ARVR91420892	Not Paid	<div>d</div> <div>u</div>
74	1	ahmed ff	83483883	complexityonytbusiness@gmail.com	12-3	main-hall 2d	09-00	ARVR35086362	Not Paid	<div>d</div> <div>u</div>
75	4	mahir lasker	1634774868	mahirul.lasker@northsouth.edu	13-3	main-hall 2d	09-00	ARVR41798690	Not Paid	<div>d</div> <div>u</div>
76	3	mahir lasker	1634774868	mahirul.lasker@northsouth.edu	13-3	vip-hall 3d	12-00	ARVR42839134	Not Paid	<div>d</div> <div>u</div>

Bkash Receipt Page



Proceed for Payment

S.No	Label	Value
1	ORDER_ID:*	BKASH67099663
2	Name	bart simpson
3	Website :*	Dhaka Cineplex
4	THEATRE :*	main-hall
5	TYPE :*	3d
6	totAmount*	200

* - Please pay the amount on Bkash and bring the order id to ticket counter upon entry Bkash No- 911

Movie Schedule Page

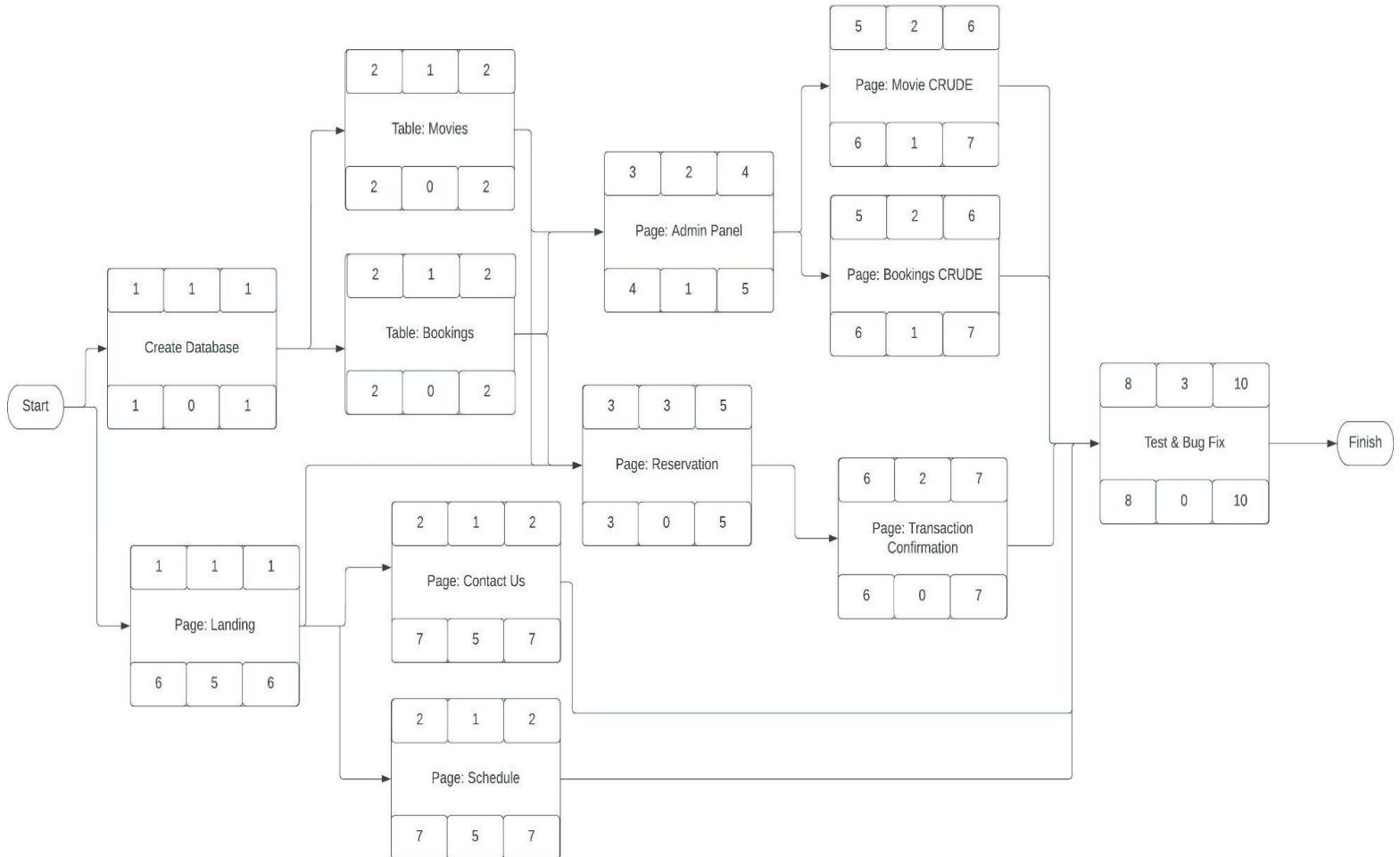
Dhaka Cinemax Theatre

Schedule

Sept 10, 2022	Sept 11, 2022	Sept 12, 2022	Sept 13, 2022
---------------	---------------	---------------	---------------

SHOW	SCHEDULE IN CINEMA
<p>Nawa</p> <p>🕒 175m 🗣️ BAKK</p> <p>SYNOPSIS</p> <p>Nawa is a Bengalese mystery drama film written and directed by Indrajit Saha. The film is produced by Panna and Production and Sam Music & Motion Pictures Limited. The film stars Chandra Choudhury, Naitika Sarkar, Sumon Arora, Shrestha Mondal, Nayan Upadhyay, and Kripa Sinha among others.</p> <p>DETAILS</p>	<p>Private Hall</p> <p>🕒 09:00 AM 1:00 PM 04:00 PM</p> <p>VIP Hall</p> <p>🕒 09:00 AM 1:00 PM 4:00 PM</p> <p>Main Hall</p> <p>🕒 09:00 AM 1:00 AM 04:00 PM</p>
<p>Spiderman No Way Home</p> <p>🕒 140m 🗣️ BAKK</p> <p>SYNOPSIS</p> <p>Spider-Man seeks the help of Doctor Strange to forget his deceased secret identity as Peter Parker. However, Strange's spell goes horribly wrong, leading to unwanted guests entering their universe.</p> <p>DETAILS</p>	<p>Private Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p> <p>VIP Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p> <p>Main Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p>
<p>Poran</p> <p>🕒 130m 🗣️ BAKK</p> <p>SYNOPSIS</p> <p>Poran is a 2012 Bengalese romantic thriller film directed by Sukanta Ray and produced by Mili Toppo. It stars Anindita Banerjee, Sumon Roy, and Tashu. Based on true events, the film features Ritika Sinha, Saha, Sarkar, Ray, and Tashu in lead roles.</p> <p>DETAILS</p>	<p>Private Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p> <p>VIP Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p> <p>Main Hall</p> <p>🕒 09:00 AM 11:30 AM 04:00 PM</p>

Project Scheduling with CPM



From The critical path analysis process, we can see the critical path should take roughly **10 days** to complete .

And the path is :

Database -> Table Movies & bookings -> Reservation ->
Transaction confirmation -> Bugfix

Any delay in this pipeline will delay the whole project.

Project Budgeting :

$$EI = 1 \times 6 + 1 \times 6 = 12$$

$$EO = 1 \times 7 = 7$$

$$EQ = 1 \times 6 = 6$$

$$ILF = 2 \times 15 = 30$$

$$UFP = 12 + 7 + 6 + 30 = 55$$

$$\sum Fi = 70$$

$$AFP = 55 + (0.65 + 0.01 \times 70) = 75$$

$$\text{Developer 1} = 45 \text{ FP/Month} = 30\text{k Month}$$

$$\text{Developer 2} = 40 \text{ FP/Month} = 30\text{k Month}$$

$$\text{Time needed} = 75/85 = 0.88 \text{ Months} \approx 1 \text{ Month}$$

$$\begin{aligned} \text{Total estimated cost} &= 1 \text{ Month} \times (30\text{k} + 30\text{k}) \text{ Taka} \\ &= 60\text{K taka} \end{aligned}$$

Limitations:

With the short amount of time, we received we could only implement the front-end UI index of the homepage of the website having 6 movies showing. In further down the line, we would like to implement a modern parallax UI design with arrow keys showing new upcoming movies. We would further would like to add an option to show user reviews out of 10 of the selected cinemas and also add trailer links of the website. We would also like to add snack options for people to purchase foods in advance. Also, user feedback which the admin can receive directly or a live chat feature to help the customers. Finally, we would like to implement a proper Bkash transaction API which would help customers pay fully and send them an email of their purchased ticket containing details of their booking id, phone, movie name and hall

Conclusion:

In our project we have kept track of all the information regarding movie times, users who are purchasing tickets, and the current situation regarding the availability of seats for a specific theater, film, class type, etc. This system will be useful for customers who wish to reserve cinema tickets in the simplest manner possible, as well as learn about the most current movie releases and learn a little bit about movies. Only the most crucial needs have been taken into account thus far; many additional features and information can be added to our project in order to produce even more user-friendly applications. These applications are currently being developed, and in the future, they may be improved and integrated with cutting-edge technology.