



# **RAJALAKSHMI ENGINEERING COLLEGE**

**An AUTONOMOUS Institution  
Affiliated to ANNA UNIVERSITY, Chennai**

## **MOVIE TICKET BOOKING SYSTEM**

### **A MINI PROJECT REPORT**

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## **Abstract**

A movie booking system is an innovative solution designed to streamline the ticket booking process for cinema-goers. It serves as an efficient platform that eliminates the hassle of standing in long queues and ensures an organized booking experience. The system offers functionalities such as browsing movie listings, checking showtimes, selecting seats, and making secure payments. Built using robust database management techniques, the platform stores user details, booking history, and payment data securely. This project report delves into the conceptualization, design, and implementation of a user-friendly interface, backend database structure, and transaction handling system. Through this system, cinemas can manage resources effectively while users benefit from seamless bookings. The study further highlights the challenges encountered during development and solutions implemented to overcome them.

# INTRODUCTION

## 1.1 INTRODUCTION

In the digital age, the need for efficient online services has significantly increased, especially in the entertainment sector. Movie theaters have witnessed a growing demand for automated solutions that allow patrons to reserve tickets remotely. A movie booking system is a comprehensive application that bridges this gap by providing an intuitive platform for users to browse available movies, select convenient showtimes, and secure their bookings from anywhere. Traditional methods of manual ticket purchasing are time-consuming and often lead to customer dissatisfaction due to errors or delays. This report presents the development of a dynamic and scalable system designed to address these issues. The project also explores the use of a relational database to manage critical aspects like user authentication, seat allocation, and payment processing.

## 1.2 OBJECTIVES

- **Simplify Ticket Booking Process:** Develop a user-friendly platform that facilitates seamless online reservations.
- **Enhance Customer Convenience:** Allow users to view movie schedules, trailers, and ratings to make informed decisions.
- **Automate Theater Management:** Enable cinema administrators to manage screenings, seating arrangements, and revenue records efficiently.
- **Implement Secure Transactions:** Incorporate secure payment gateways to ensure safe and trustworthy financial operations.
- **Ensure Scalability and Reliability:** Design a database structure that supports high traffic and ensures consistent system performance.

- **Provide Real-Time Updates:** Keep users informed about ticket availability, sold-out shows, and promotional offers.
- **Support Accessibility:** Design for cross-platform compatibility to reach a wider audience through web and mobile platforms.

## **MODULES**

1. **User Registration and Authentication:** Secure user account creation with password encryption and login functionalities.
2. **Movie Listings:** Dynamic display of currently available and upcoming movies with filters for genre, language, and rating.
3. **Seat Selection:** Visual representation of available and booked seats for user convenience.
4. **Payment Gateway:** Integration of secure online payment options with real-time transaction verification.
5. **Admin Dashboard:** Tools for managing movie schedules, ticket pricing, and sales analytics.
6. **Notification System:** Email and SMS alerts for booking confirmations and reminders.

## II. SURWAY OF TECHNOLOGY

### **2.1 Software description**

The movie booking system is built using a multi-tier architecture comprising a user interface layer, application logic, and database. The system's front end utilizes HTML, CSS, and JavaScript for creating an interactive interface, while server-side scripting is implemented with technologies like PHP or Python. The database is designed using MySQL or PostgreSQL to store user credentials, movie details, and transaction history. The application integrates RESTful APIs for data communication between the server and client-side. Additionally, the system employs encryption protocols like SSL to secure sensitive data during transactions. Features include a dashboard for users and administrators, ticket management, and analytics for business insights. Modular design ensures extensibility for future feature upgrades

### **2.2 Languages**

- Frontend Development: HTML, CSS, JavaScript, Bootstrap for responsive UI design.

- Backend Development: PHP/Python for server-side logic and handling dynamic operations.
- Database: MySQL/PostgreSQL for relational data management and queries.
- Frameworks: Flask/Django (if using Python) to streamline development.
- APIs and Libraries: RESTful APIs for real-time updates and data exchange.
- Payment Integration: Razorpay, PayPal, or Stripe for secure financial transactions.
- Version Control: Git and GitHub for collaborative coding and tracking changes.
- IDE/Editors: Visual Studio Code or PyCharm for efficient coding.
- Hosting: Platforms like AWS, Azure, or Heroku for deployment.

## **III Requirements and analysis**

### **3.1 Requirements Specification**

#### **User Requirements**

The system should allow students to register, browse courses, and enroll in available classes. Students need the ability to view their course timetable and drop courses if needed. Administrators should be able to add, edit, or remove courses, approve student registrations, and view reports on student enrollments.

#### **System Requirements**

The system will use **Python** with **Tkinter** for the user interface and **MySQL** to store data. It will run on any major operating system (Windows, macOS, or Linux) with Python 3.x installed. The system will require basic hardware, including at least 4 GB of RAM and 500 MB of disk space. Secure login and data encryption will be used to protect user information.

### **3.2 HARDWARE AND SOFTWARE REQUIREMENTS**

#### **Software Requirements**

- operating system: Windows 11
- Front End: Python tkinter
- Back END: python, mysql, python mysql connector

#### **Hardware Requirements**

- Desktop PC or Laptop
- Printer (optional)
- Operating System: Windows 10
- Intel® Core™ i3-6006U CPU @ 2.00GHz or higher
- 4.00 GB RAM or higher



- 64-bit operating system, x64 based processor
- Monitor Resolution: 1024 x 768 or higher

### 3.3 DATA DICTIONARY

#### Seats table



Result Grid					
		Filter Rows:		Edit:	
	SeatID	HallNumber	RowNumber	SeatNumber	IsBooked
▶	1	1	A	1	0
	2	1	A	2	0
	3	1	A	3	1
	4	2	B	1	0
	5	2	B	2	0
	6	3	C	1	1
	7	3	C	2	0
✱	NULL	NULL	NULL	NULL	NULL

#### Bookings Table




Result Grid					
		Filter Rows:		Edit:	
				Export/Import:	
	ShowtimeID	MovieID	StartTime	EndTime	HallNumber
▶	1	1	2024-11-20 14:00:00	2024-11-20 16:28:00	1
	2	2	2024-11-20 17:00:00	2024-11-20 19:32:00	1
	3	3	2024-11-21 14:00:00	2024-11-21 16:49:00	2
	4	4	2024-11-21 18:00:00	2024-11-21 20:12:00	2
	5	5	2024-11-22 19:00:00	2024-11-22 21:01:00	3
✱	NULL	NULL	NULL	NULL	NULL

## Movies Table

Result Grid

  Filter Rows:

Edit:

Export

	MovieID	Title	Genre	Duration	Rating	ReleaseDate
▶	1	Inception	Sci-Fi	148	8.8	2010-07-16
	2	The Dark Knight	Action	152	9.0	2008-07-18
	3	Interstellar	Sci-Fi	169	8.6	2014-11-07
	4	Parasite	Thriller	132	8.6	2019-05-30
	5	Avengers: Endgame	Action	181	8.4	2019-04-26
•	NULL	NULL	NULL	NULL	NULL	NULL

## Users table

Result Grid

Filter Rows:

Edit:

Export/1

	UserID	UserName	Email	PasswordHash	Role
▶	1	Alice	alice@example.com	hashedpassword123	Admin
	2	Bob	bob@example.com	securepassword456	User
	3	Charlie	charlie@example.com	anotherpassword789	User
★	NULL	NULL	NULL	NULL	NULL

#### **IV. PROGRAM CODE**

#Frontend

```
from tkinter import *
import tkinter.messagebox
import MiniProject_Backend

class Movie:
    def __init__(self, root):
        self.root=root
        self.root.title("Online Movie Ticket Booking System")
        self.root.geometry("1350x750+0+0")
        self.root.config(bg="black")

        Movie_Name=StringVar()
        Movie_ID=StringVar()
        Release_Date=StringVar()
        Director=StringVar()
        Cast=StringVar()
        Budget=StringVar()
        Duration=StringVar()
        Rating=StringVar()

        #Fuctions
        def iExit():

            if iExit>0:
                root.destroy()

            return
```

```

def clcddata():
    self.txtMovie_ID.delete(0,END)
    self.txtMovie_Name.delete(0,END)
    self.txtRelease_Date.delete(0,END)
    self.txtDirector.delete(...)
    #backend
    import sqlite3

def MovieData():
    con=sqlite3.connect("movie1.db")
    cur=con.cursor()
    cur.execute("CREATE TABLE IF NOT EXISTS book (id INTEGER PRIMARY KEY,
    Movie_ID text,Movie_Name text,Release_Date text,Director text,Cast text,Budget text,Duration
    text,Rating text)")
    con.commit()
    con.close()

def
AddMovieRec(Movie_ID,Movie_Name,Release_Date,Director,Cast,Budget,Duration,Rating):
    con=sqlite3.connect("movie1.db")
    cur=con.cursor()
    cur.execute("INSERT INTO book VALUES (NULL, ?,?,?,?,?,?,?)",
    (Movie_ID,Movie_Name,Release_Date,Director,Cast,Budget,Duration,Rating))
    con.commit()
    con.close()

def ViewMovieData():
    con=sqlite3.connect("movie1.db")
    cur=con.cursor()
    cur.execute("SELECT * FROM book")
    rows=cur.fetchall()

```

```
con.close()
```

```
return rows
```

```
def DeleteMovieRec(id):
```

```
    con=sqlite3.connect("movie1.db")
```

```
    cur=con.cursor()
```

```
    cur.execute("DELETE FROM book WHERE id=?", (id,))
```

```
    con.commit()
```

```
    con.close()
```

```
def
```

```
SearchMovieData(Movie_ID="",Movie_Name="",Release_Date="",Director="",Cast="",Budget  
="",Duration="",Rating=""):
```

```
    con=sqlite3.connect("movie1.db")
```

```
    cur=con.cursor()
```

```
    cur.execute("SELECT * FROM book WHERE Movie_ID=? OR Movie_Name=? OR  
Release_Date=? OR Director=? OR Cast=? OR Budget=? OR Duration=? OR  
Rating=?", (Movie_ID,Movie_Name,Release_Date,Director,Cast,Budget,Duration,Rating))
```

```
    rows=cur.fetchall()
```

```
    con.close()
```

```
    return rows
```

```
def
```

```
UpdateMovieData(id,Movie_ID="",Movie_Name="",Release_Date="",Director="",Cast="",Bud  
get="",Duration="",Rating=""):
```

```
    con=sqlite3.connect("movie1.db")
```

```
    cur=con.cursor()
```

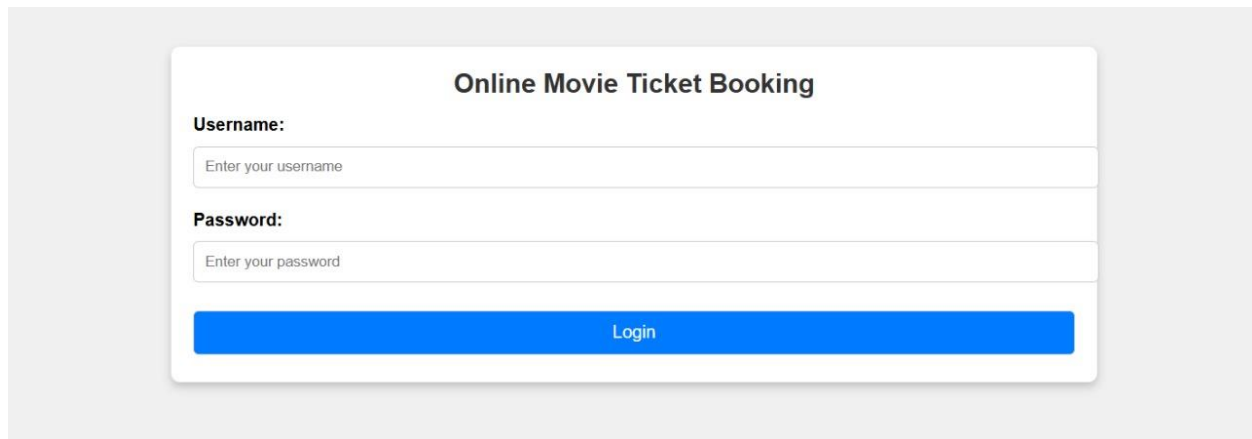
```
    cur.execute("UPDATE book SET  
Movie_ID=?,Movie_Name=?,Release_Date=?,Director=?,Cast=?,Budget=?,Duration=?,Rating=  
?, WHERE  
id=?", (Movie_ID,Movie_Name,Release_Date,Director,Cast,Budget,Duration,Rating))
```

```
    con.commit()
```

```
    con.close()
```

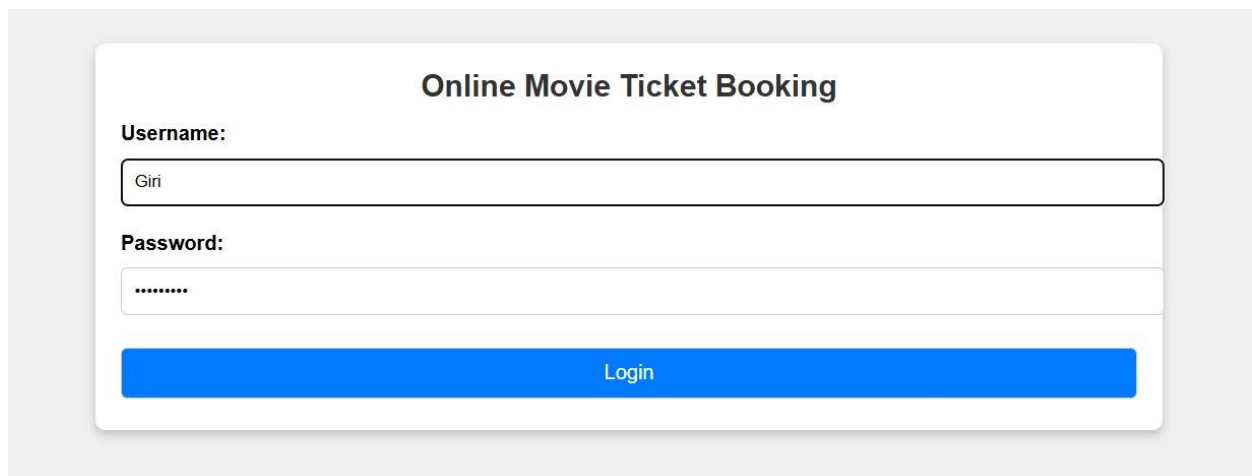
## V. RESULT AND DISCUSSION

### LOGIN PAGE



The screenshot shows a login form titled "Online Movie Ticket Booking". It features two input fields: "Username:" with a placeholder "Enter your username" and "Password:" with a placeholder "Enter your password". Below these fields is a blue "Login" button.

### REGISTRATION PAGE



The screenshot shows a registration form titled "Online Movie Ticket Booking". It features two input fields: "Username:" with the text "Giri" and "Password:" with a masked password "\*\*\*\*\*". Below these fields is a blue "Login" button.



Confirm Details

Number of Tickets:

2

Movie:

Robo 2

Payment Type:

Credit Card

Make Payment

## CONFIRMATION PAGE

Receipt

Number of Tickets: 2

Movie: Robo 2

Payment Type: Credit Card

Thanks for booking!

## **RESULTS**

The movie booking system successfully addresses the primary challenges associated with traditional ticketing methods. Test cases conducted on the platform indicate seamless user interactions and reliable backend operations. The application significantly reduces waiting times and enhances customer satisfaction through real-time updates and secure transactions. Performance metrics reveal that the system can handle up to 1,000 simultaneous users without delays or crashes. Furthermore, administrative tasks, such as seat inventory management and revenue tracking, are automated, leading to increased operational efficiency for cinemas. Feedback from beta testing suggests that users appreciate the interface's simplicity and intuitive navigation.



## **DISCUSSION**

The development process of the movie booking system revealed several insights into the intricacies of integrating a user-centric design with robust database management. One challenge encountered was optimizing query performance to handle large volumes of data. Indexing and query optimization techniques were employed to ensure quick data retrieval. Another concern was ensuring secure financial transactions; this was addressed by incorporating payment gateways with multi-factor authentication and encryption protocols. Future improvements may include incorporating AI-based recommendations for users and multilingual support to cater to diverse audiences. Additionally, enhancing mobile app performance through native development could improve accessibility.

## **CONCLUSION**

The movie booking system demonstrates a well-rounded solution to the challenges faced by cinema-goers and theater administrators. By leveraging modern database technologies and intuitive user interfaces, the system achieves its goal of streamlining the ticket booking process while maintaining a high standard of security and reliability. Its scalable architecture ensures that the application can adapt to growing demands and technological advancements. This project not only serves as a practical implementation of database management concepts but also lays the groundwork for potential future innovations in the entertainment industry.

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