THEATRE TICKET BOOKING SYSTEM

INNOVATIVE PROJECT

May 2024

INNOVATIVE / MULTI-DISCIPLINARY PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF **BACHELOR OF ENGINEERING** IN **COMPUTER SCIENCE AND ENGINEERING** OF THE ANNA UNIVERSITY

PROJECT WORK

Submitted by

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BATCH

2023 – 2027

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SRI ESHWAR COLLEGE OF ENGINEERING

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BONAFIDE CERTIFICATE

Certified that this project report **"THEATRE TICKET BOOKING SYSTEM"** is the bonafide work of

P SARVESH [23CS148]

who carried out the project work under my supervision

……	……
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Submitted for the Autonomous Semester End **Innovative / Multi-Disciplinary Project** Viva-Voce held on …….

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DECLARATION

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To declare that the project entitled **"THEATRE TICKET BOOKING SYSTEM**" **submitted** in partial fulfilment to the University as the project work of Bachelor of Engineering (Computer Science and Engineering) Degree, is a record of original work done by us under the supervision and guidance of **Mr. M. PRAVEEN KUMAR,** Assistant Professor, Department of Computer Science and Engineering, Sri Eshwar College of Engineering, Coimbatore.

Place: Coimbatore
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ACKNOWLEDGEMENT

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The success of a work depends on a team and cooperation. We take this opportunity to express our gratitude and thanks to everyone who helped us in our project. We would like to thank the management for the constant support provided by them to complete this project.

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We solemnly express our thanks to all the teaching and nonteaching staff of the Computer Science and Engineering Department, family and friends for their valuable support which inspired us to work on this project.

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ABSTRACT

This project aims to develop a comprehensive Theatre Booking System that streamlines the ticketing process for both customers and theatre management. The system is designed to provide an intuitive user experience, ensuring that customers can easily navigate through the booking process, select seats, and complete their purchases seamlessly. Key features include an interactive seat map with real-time availability, a streamlined booking workflow, and user account management capabilities. The ultimate goal is to enhance the efficiency of seat management, improve the customer experience, and optimize the utilization of the theatre's seating capacity.

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LIST OF ABBREVIATIONS

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ACRONYM	ABBREVIATION
CSV	Comma separated value
PIL	Python Imging Library

CHAPTER 1

INTRODUCTION

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1.1 OBJECTIVE

The Theatre Booking System project, aims to transform the ticketing experience for theatre patrons and management by providing a user-friendly, efficient, and secure platform. This system offers an intuitive user interface that allows customers to easily navigate, select seats, and complete their purchases. Key features include an interactive seat map with real-time availability, a streamlined booking workflow, and user account management capabilities. The focus on comprehensive seat management ensures efficient utilization of the theatre's seating capacity, while the integration of a secure payment gateway protects customer financial information and facilitates hassle-free transactions.

By addressing the critical needs of both customers and theatre management, this project seeks to enhance the overall theatre-going experience. The intuitive design and secure features aim to build trust and satisfaction among users, ultimately optimizing the booking process and improving operational efficiency. This Theatre Booking System is set to become a valuable asset for theatres, ensuring a seamless and enjoyable experience for all stakeholders involved.

CHAPTER 2

SYSTEM ANALYSIS AND DESIGN

CHAPTER 2

SYSTEM ANALYSIS AND DESIGN

2.1 EXISTING SCENARIO

In the current scenario, theatre booking processes often face several challenges that impact both customer satisfaction and operational efficiency. Traditional booking systems, which are frequently manual or semi-automated, can lead to long wait times, errors in seat allocation, and limited options for real-time seat selection. Customers often find it difficult to navigate through cumbersome booking interfaces, which lack intuitive design and user-friendly features. This results in a frustrating experience, potentially deterring customers from making future bookings.

From the management perspective, the lack of an integrated system for seat management and payment processing poses significant hurdles. Theatre staff must manually track seat availability and reservations, leading to potential errors and inefficiencies. Additionally, the absence of a secure and reliable payment gateway increases the risk of financial fraud and data breaches, compromising customer trust. Overall, the existing scenario is characterized by inefficiencies, security concerns, and a subpar user experience, highlighting the urgent need for a comprehensive and modern theatre booking system.

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2.2 PROBLEM STATEMENT

The current theatre booking systems are plagued by inefficiencies, user dissatisfaction, and security vulnerabilities. Customers face challenges in navigating non-intuitive interfaces, leading to difficulties in seat selection and completing transactions. This not only results in a frustrating booking experience but also deters repeat business. Additionally, theatre management struggles with manual or semi-automated systems that are prone to errors in seat allocation and lack real-time updates, causing operational inefficiencies and potential revenue loss. Moreover, the absence of a secure payment gateway raises significant security concerns, risking customer financial data and undermining trust. Therefore, there is a critical need for a comprehensive, user-friendly, and secure theatre booking system that enhances the booking experience for customers while improving operational efficiency and security for theatre management.

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CHAPTER 3

PROPOSED SOLUTION

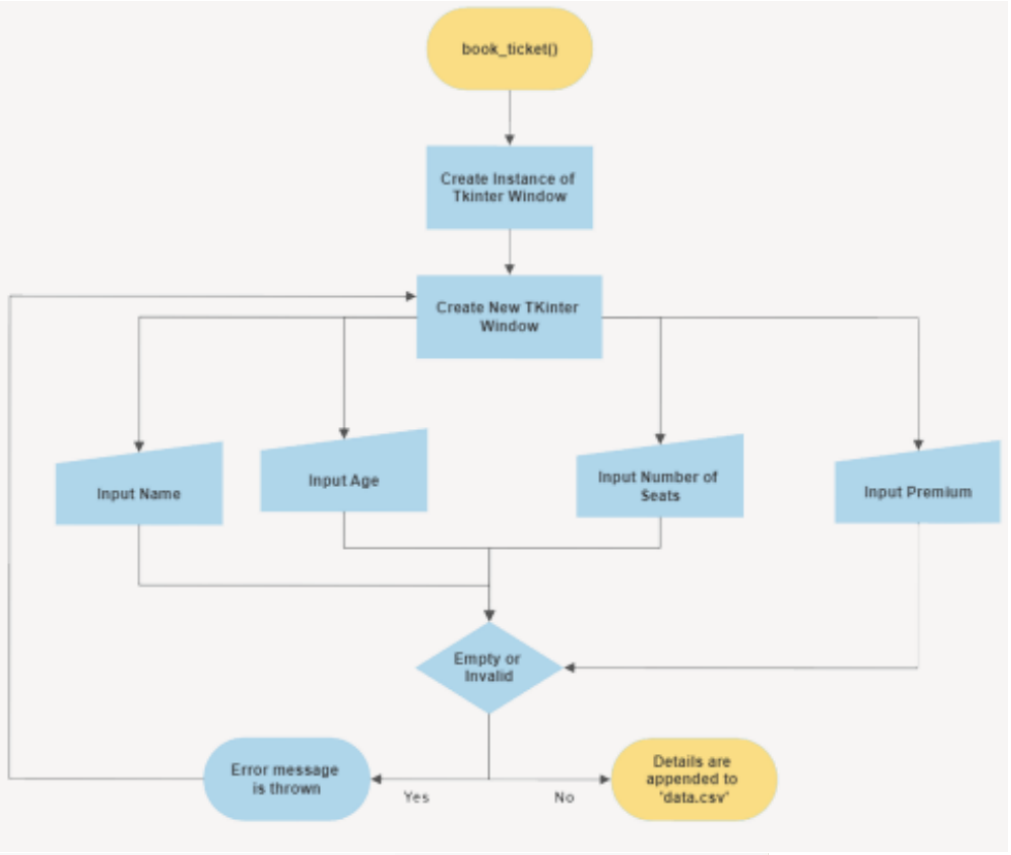
CHAPTER 3 PROPOSED SOLUTION

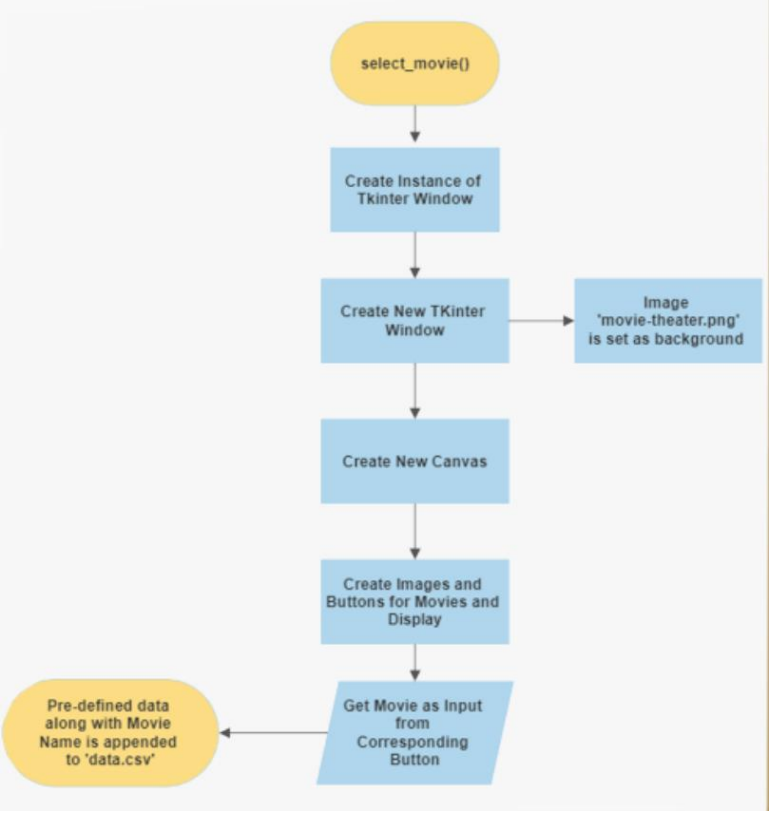
3.1 OVERVIEW

The proposed solution is the development of a comprehensive Theatre Booking System designed to address the inefficiencies and challenges of current booking processes. This system aims to deliver an intuitive, user-friendly interface that simplifies the booking process for customers. Key features include an interactive seat map providing real-time seat availability, enabling users to easily select and reserve seats. The streamlined booking workflow will guide users through each step, from choosing show dates to entering personal information and completing reservations seamlessly.

To enhance security and reliability, the system will integrate a robust payment gateway, ensuring secure and hassle-free financial transactions. This integration will protect customer financial information and foster trust in the system. For theatre management, the solution offers comprehensive seat management capabilities, allowing real-time updates on seat availability and reservations. This will maximize the utilization of theatre seating capacity, reduce errors, and improve overall operational efficiency. By addressing the critical needs of both customers and theatre management, the proposed Theatre Booking System aims to revolutionize the booking experience, making it more efficient, secure, and enjoyable for all stakeholders.

3.2 BLOCK DIAGRAM





CHAPTER 4

SYSTEM SPECIFICATION

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4.1 HARDWARE REQUIREMENTS

- Processor Type : Core i3
- Speed : 3.40GHZ
- RAM : 4GB DD2 RAM
- Hard disk : 500 GB
- Keyboard : 101/102 Standard Keys
- Mouse : Optical Mouse

4.2 SOFTWARE REQUIREMENTS

- Operating System : Windows 7+
- Software : Google Colabatory
- Coding Language : Python

CHAPTER 5

PROJECT DESCRIPTION

CHAPTER 5 PROJECT DESCRIPTION

5.1 METHODOLOGY

The methodology is designed to systematically tackle the challenge of deforestation detection by employing a multi-step approach. Initially, we collect satellite imagery data from relevant sources, ensuring a comprehensive coverage of the target areas. Subsequently, we preprocess the acquired images to enhance their quality and prepare them for analysis. This preprocessing stage involves tasks such as noise reduction, image normalization, and resolution enhancement, aimed at optimizing the input data for subsequent processing. Following preprocessing, we apply the K-Means clustering algorithm to segment the images into distinct clusters based on pixel values. By iteratively grouping pixels into clusters that minimize the within-cluster sum of squares, K-Means enables us to identify regions within the images that exhibit similar characteristics, which may indicate deforestation or afforestation activities.

In the next phase of our methodology, we leverage a combination of Streamlit, NumPy, Matplotlib, and OpenCV to develop an interactive web application for deforestation analysis. This application serves as a user-friendly platform for stakeholders to upload satellite images and visualize the results of our detection algorithm. Through intuitive controls and real-time visualization capabilities, users can explore the segmented images and gain insights into the spatial distribution and extent of deforested areas. Additionally, the application generates color-coded bar charts that display the distribution of RGB color counts within the segmented regions, providing quantitative information about the composition of deforested areas. By integrating advanced technologies with a user-centric design approach, our methodology aims to facilitate accessible and actionable insights into deforestation patterns, empowering stakeholders to make informed decisions in environmental conservation efforts.

5.2 IMPLEMENTATION

5.2.1 Create Account:

• We ask the user to create a new account with their Email ID and password and store it a CSV file.

5.2.2 Main Page:

• We get name, age and the number of seats and confirmation for premium account from the user and store the information into a CSV file.

5.2.3 Selecting Movie:

• A plethora of movies are on display and the user can chose the one for their liking by clicking on the movie's name.

5.2.4 Selecting seats:

• The user can choose the seats to their liking and the number of seats chosen is up to the user. All these information is stored in a CSV file.

5.2.5 Payment:

• A bill with the required amount is shown as a pop up to the user with a redirect button which will redirect them to the payment page.

• After payment, a pop-up message will show saying that the transaction was successful and a receipt will be sent to the user's Email ID.

5.2.6 Modules used

■ TKinter: This is used to create the frontend of the entire project, and improve user experience.

■ Python Imaging Library (PIL): The Python Imaging Library adds image processing capabilities to your Python interpreter. The library provides extensive file format support, an efficient internal representation and fairly powerful image processing capabilities.

■ CSV (Comma Separated Values): This enables the usage of a CSV file to obtain and append the Name, Age, No. of seats, Confirmation of Premium, Movie name, Movie Language, Selected seats, Cast in a CSV file.

CHAPTER 6

RESULT AND IMPLEMENTATION

CHAPTER 6 RESULT AND IMPLEMENTATION

```
# Importing necessary module(s)
from tkinter import *
from PIL import ImageTk, Image
import backend


# Defining the Frontend of the Customer
def frontend():


    def user_input():
        # Defining an instance of a GUI window using TKinter
        childl = Tk()
        childl.title("CreateAcct")
        childl.geometry('400x200')

        # Labels are the text that appears on the GUI window
        # Entries are the places where we input the data
        """ .place() is a method associated with TKinter to display the object (here: Label, Entry or Radiobutton)
            on the GUI using coordinates"""

        head_label = Label(childl, text = "Login or Register", font = ("Times New Roman", 20)).place(x=100, y=10)

        gmail_label = Label(childl, text = "Enter Gmail: ", font = ("Calibri", 15)).place(x = 20, y = 50)
        gmail_entry = Entry(childl, width = 40)
        gmail_entry.place(x = 140, y = 55)

        pass_label = Label(childl, text="Enter Password: ", font=("Calibri", 15)).place(x = 20, y = 90)
        pass_entry = Entry(childl, show="*", width=30)
        pass_entry.place(x=185, y=97)

        """This function will be called only when the button "create_button"
        (defined below) is clicked on, or when the function is called"""
```

Figure 6.1 – front end

```
# importing necessary module(s)
import csv

movie_Data = open("data.csv", "w", newline="")
wtr = csv.writer(movie_Data)
wtr.writerow(["Name", "Age", "Number of seats",  "Premium"])
movie_Data.close()

user_Data = open("user_data.csv", "w", newline="")
wtr = csv.writer(user_Data)
wtr.writerow(["Gmail", "Password"])
user_Data.close()


def input_data(name, age, seat_nos, premium):

    movie_Data = open("data.csv", "a", newline ="")
    wtr = csv.writer(movie_Data)
    wtr.writerow([name, age, seat_nos, premium])
    movie_Data.close()


def input_userData(gmail, password):
    user_Data = open("user_data.csv", "a", newline="")
    wtr = csv.writer(user_Data)
    wtr.writerow([gmail, password])


def write_newData(movie, genre, movie_lang, cast):
    old_Data = open("data.csv", 'r')
    rdr = csv.reader(old_Data)

    data = []

    for column in rdr:
        column.extend(['Movie', 'Genre', 'Movie Language', 'Cast'])
        data.append(column)
        break

    for column in rdr:
        column.extend([movie, genre, movie_lang, cast])
        data.append(column)

    old_Data.close()

    new_Data = open("data.csv", 'w', newline="")
    wtr = csv.writer(new_Data)
    wtr.writerows(data)
    new_Data.close()
```

Figure 6.2 – Code Implementation

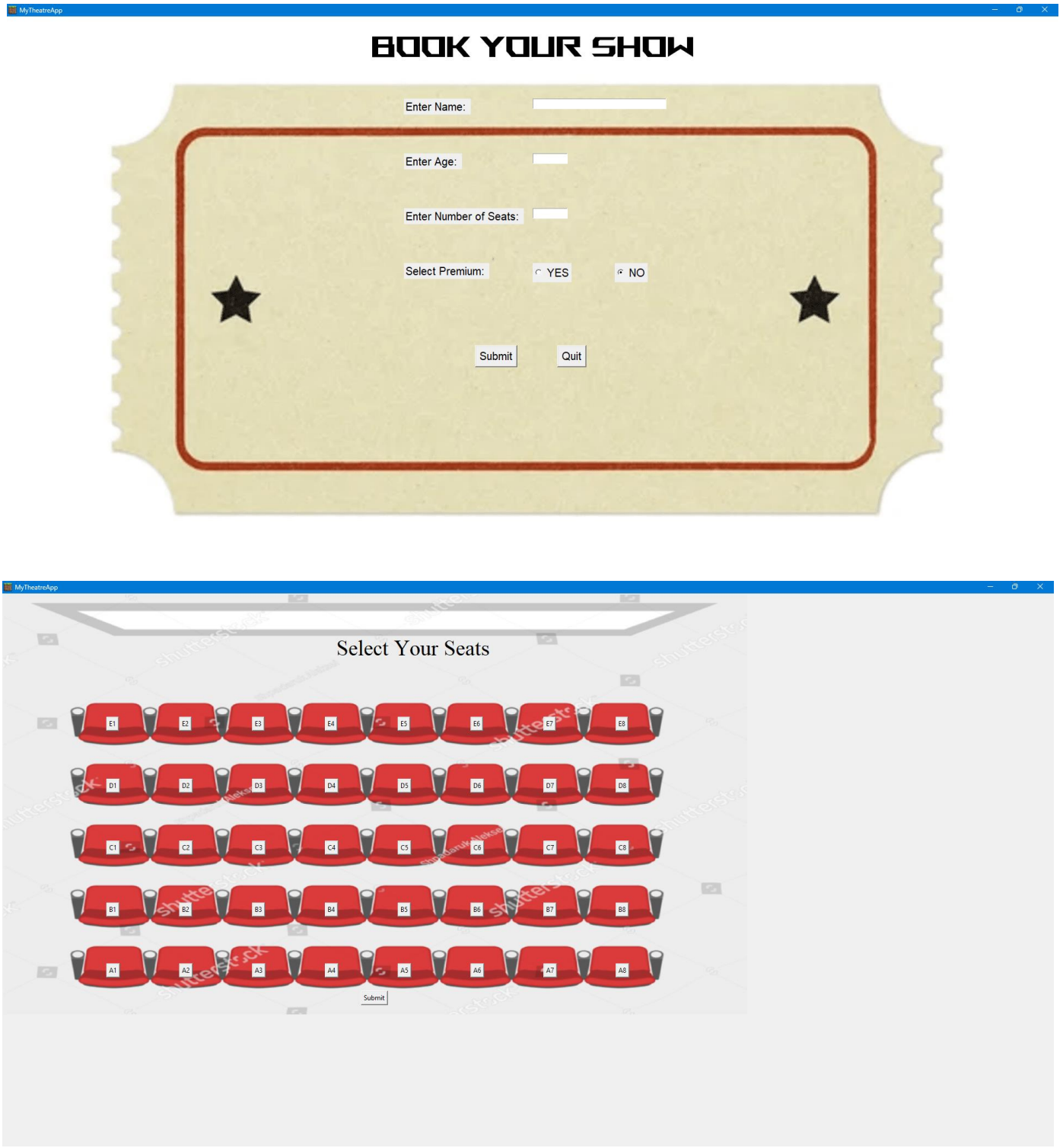

Figure 6.3 – Application Output

CHAPTER 7

CONCLUSION

CHAPTER 7 CONCLUSION

The Theatre Booking System project addresses critical inefficiencies and challenges in the current theatre booking processes by providing a comprehensive, user-friendly, and secure platform. By integrating an intuitive user interface with real-time seat selection, a streamlined booking workflow, and a secure payment gateway, the system enhances the customer experience and builds trust. For theatre management, the system offers robust seat management capabilities, ensuring efficient utilization of seating capacity and reducing operational errors. Overall, this project aims to revolutionize the theatre booking experience, making it more efficient, secure, and enjoyable for all stakeholders involved.

CHAPTER 8
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