ONLINE MOVIE CART SYSTEM

DBMS MINI PROJECT REPORT

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BONAFIDE CERTIFICATE

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ABSTRACT

The Online Movie Cart System is an innovative project aimed at replicating the functionalities of a modern online movie rental and purchase platform using Python and SQLite. This system, developed entirely through backend technologies, omits a graphical user interface to focus on the robust management of movie data and user interactions through a command-line interface. The primary objective of this project is to provide a seamless experience in browsing a wide array of movie titles, managing a virtual shopping cart, and processing rental or purchase transactions. The system architecture leverages Python's powerful scripting capabilities to handle business logic, user authentication, and transaction processes. SQLite, a lightweight yet powerful database engine, is employed for data storage, ensuring efficient management and retrieval of data related to movies, user accounts, and transaction histories. Key functionalities include user registration and login, secure authentication, detailed movie catalog browsing with search capabilities, and comprehensive cart management features like adding, removing, and updating cart items. Additionally, the system supports order processing, tracking rental periods, and managing purchase records. One of the standout features of this project is its focus on backend development, providing a solid foundation for understanding the interaction between application logic and database management. The absence of a frontend interface shifts the focus to backend mechanisms, offering an in-depth exploration of data handling and processing tasks. This approach not only simplifies the development process but also enhances the scalability and maintainability of the system. The Online Movie Cart System demonstrates the feasibility of creating a fully functional e-commerce backend using Python and SQLite, serving as a significant educational tool. It highlights best practices in coding, database design, and system architecture, making it a valuable resource for students and developers interested in backend development and database management.

TABLE OF CONTENTS

CHAPTER 1
INTRODUCTION

The Online Movie Cart System represents an innovative endeavor in the realm of backend development, utilizing Python and SQLite to create a functional and scalable platform for online movie rentals and purchases. The project's primary objective is to simulate the core functionalities of an e-commerce system, specifically tailored for digital movie distribution, while focusing on backend processes without the inclusion of a graphical user interface. This approach provides a unique opportunity to delve deeply into the intricacies of data management, application logic, and system architecture.

The entertainment industry has seen a significant shift towards digital platforms, with consumers increasingly preferring the convenience of online moviestreaming and purchasing. Recognizing this trend, our project aims to offer a comprehensive solution that captures the essential components of an online moviecart system. By leveraging the capabilities of Python, we ensure robust handling of user interactions, transaction processes, and business logic. SQLite, known for its efficiency and ease of integration, serves as the backbone for data storage, managing information on movies, users, and transactions seamlessly.

The system is designed to facilitate a smooth and intuitive user experience through a command-line interface. Users can easily register and log into their accounts, browse an extensive catalog of movies, and manage their shopping carts. The catalog browsing feature includes search functionality, allowing users to find movies by title, genre, or other attributes. The cart management system enables users to add, remove, and update items, providing flexibility in managing their selections. Upon finalizing their choices, users can proceed to checkout, where the system handles rental or purchase transactions, records details, and updates the database accordingly.

Our focus on backend development brings several advantages. It simplifies the development process by eliminating the need for a frontend interface, allowing us to concentrate on the core functionality and data handling. This focus

enhances our understanding of backend processes and database interactions, crucial skills for any aspiring developer. Secondly, it ensures scalability and maintainability, as the modular nature of our codebase allows for easy updates and integration with future frontend technologies, should we decide to expand the project.

Moreover, the project serves as an educational tool, providing valuable insights into best practices in coding, database design, and system architecture. It demonstrates the practical application of theoretical concepts, bridging the gap between classroom learning and real- world implementation.

Through this project, students and developers can gain hands-on experience in building a fully functional e-commerce backend, preparing them for more complex challenges in their professional careers.

In conclusion, the Online Movie Cart System stands as a testament to the potential of backend development using Python and SQLite. It offers a comprehensive, scalable, and maintainable solution for online movie rentals and purchases, encapsulating the essential elements of a modern e-commerce platform. This project not only meets the current demands of digital entertainment but also provides a robust foundation for future development and innovation.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction:

The online movie cart system is a web-based application that enables users to browse, select, and purchase movie tickets online. This review focuses on the development of an online movie cart system using Python and SQLite, which provides a robust and efficient solution for handling the database and backend operations. Python, a high-level programming language, is widely used for web development due to its simplicity and readability. SQLite, a relational database management system (RDBMS), is a popular choice for small-scale applications due to its serverless architecture and ease of use.

2.2 Python and SQLite Integration:

The integration of Python and SQLite has been widely studied and implemented in various applications, including online movie cart systems. Python provides a built-in library, sqlite3, which allows developers to interact with SQLite databases directly from Python code. This integration enables developers to create, read, update, and delete (CRUD) data in the SQLite database using Python, making it anideal choice for backend development. Moreover, Python provides several libraries and frameworks, such as Django and Flask, which simplify the development of web applications and provide built-in support for SQLite.

The use of Python and SQLite in online movie cart systems involves several steps, including database schema design, data modeling, and querying. The database schema design defines the structure of the database, including tables, columns, and relationships. Data modeling involves mapping the database schema to Python classes and objects, which enables developers to manipulate the data using Python code. Querying involves retrieving and updating data in the database using SQL statements, which are executed using the sqlite3 library.

2.3 Database Design:

The design of the database is a critical aspect of any online movie cart system. In this context, SQLite provides a robust solution for handling the database operations. The database design typically includes tables for movies, showtimes, seats, users, and transactions. The relationships between these tables are defined using primary and foreign keys, ensuring data integrity and security. Moreover, SQLite provides several mechanisms for optimizing the performance of the database, including indexing, query optimization, and transaction management.

The movie table typically includes columns for the movie title, description, genre, and duration.The showtime table includes columns for the movie ID, start time, and end time. The seat table includes columns for the seat ID, row, and column. The usertable includes columns for the user ID, name, email, and password. The transaction table includes columns for the transaction ID, user ID, movie ID, showtime ID, seat ID, and payment method. The relationships between these tables are defined usingprimary and foreign keys, which ensure that the data is consistent and accurate.

2.4 Performance and Scalability:

The performance and scalability of online movie cart systems are critical factors that determine their success. Python and SQLite offer several mechanisms to improve performance and scalability. For instance, Python provides libraries for caching and asynchronous programming, which can significantly improve the performance of web applications. SQLite offers mechanisms for indexing and query optimization, which can improve the performance of database operations.

To improve the performance and scalability of online movie cart systems, developers should consider several best practices, including caching, load balancing, and database optimization. Caching involves storing frequently accessed data in memory, which reduces the number of database queries and improves the performance of the application. Load balancing involves distributing the workload across multiple servers, which improves the scalability and availability of the application. Database optimization involves tuning the database schema, indexes, and queries, improves the performance of the database operations.

2.5 Security and Privacy:

Security and privacy are significant concerns in online movie cart systems. Python and SQLite provide several mechanisms to ensure the security and privacy of user data. For instance, Python provides libraries for implementing secure communication protocols, such as HTTPS and SSL, to protect data during transmission. SQLite offers mechanisms for data encryption and user authentication to protect data at rest. Moreover, Python and SQLite provide built-in support for hashing and salting passwords, which ensures that the passwords are stored securely in the database.

To ensure the security and privacy of user data, online movie cart systems should implement several best practices, including data encryption, user authentication, and access control. Data encryption involves encoding the data using a secret key, which ensures that the data is unreadable to unauthorized users. User authentication involves verifying the identity of the user, which ensures that the user is authorized to access the data. Access control involves defining the permissions and roles of the users, which ensures that the users can only access the data that they are authorized to access.

2.6 User Experience and Interface Design:

The user experience and interface design of online movie cart systems are critical factors that determine their adoption and success. Python and SQLite provide several mechanisms for developing user-friendly and visually appealing interfaces. For instance, Python provides libraries for developing web interfaces, such asDjango and Flask, which provide built-in support for HTML, CSS, and JavaScript. SQLite provides mechanisms for storing and retrieving multimedia data, such as images and videos, which can be used to enhance the user experience.

To improve the user experience and interface design of online movie cart systems, developers should consider several best practices, including user-centered design, responsive design, and accessibility. User-centered design involves involving the users in the design process, which ensures that the interface meets their needs and expectations. Responsive design involves developing interfaces that adapt to different screen sizes and devices, which improves the usability and accessibility of the application.
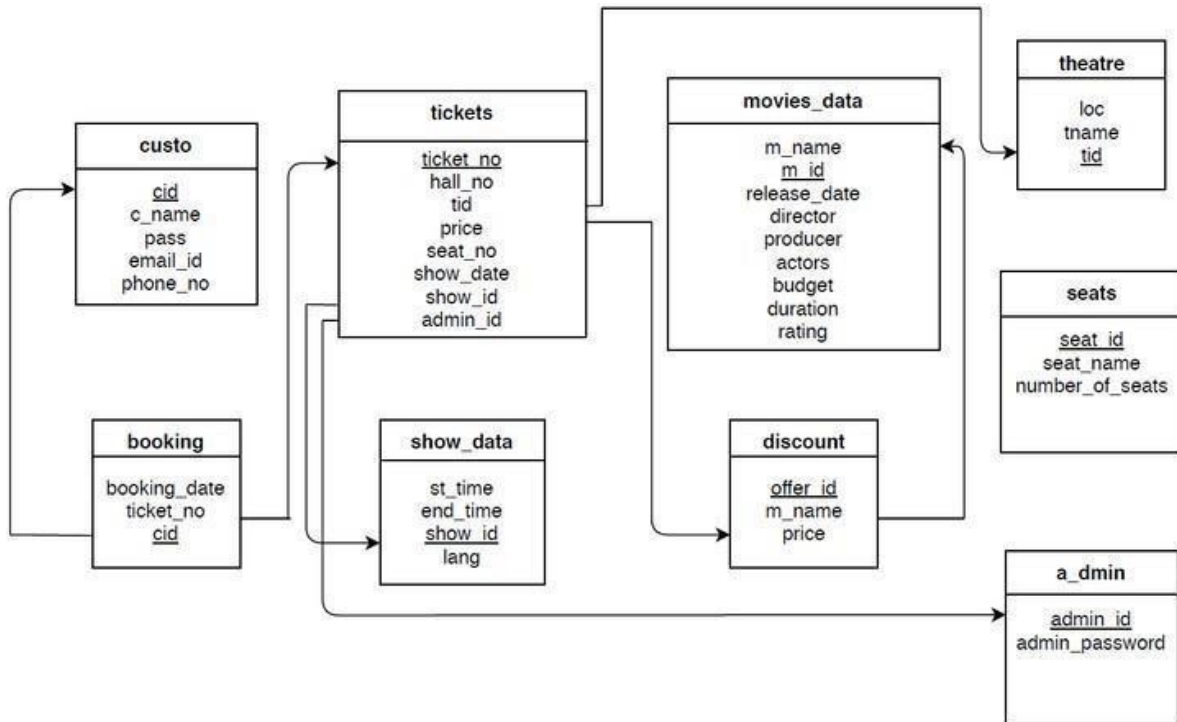
CHAPTER 3
SYSTEM ARCHITECTURE

Figure 3.1 System Architecture

The architecture of the Online Movie Cart System is designed to ensure robustness, scalability, and maintainability, focusing primarily on backend development using Python and SQLite. The architecture is divided into several key components: the database layer, the application layer, and the user interactionlayer. Each layer is meticulously crafted to handle specific functions and responsibilities, ensuring a seamless and efficient system.

3.1 Database Layer

At the heart of the system is the database layer, which utilizes SQLite for several medium-sized databases. The database schema is designed to encompass several interconnected tables to store comprehensive data about movies, users, and transactions.This table contains details about each movie available in the system, including the movie ID, title, genre, description, release year, and rental price. This structured data allows users to perform efficient searches and queries.

This table stores user information, including user ID, username, password (hashed for security), email, and other relevant details. It facilitates user authentication and authorization within the system.This table records all rental and purchase transactions, including transaction ID, user ID, movie ID, transaction type (rental or purchase), transaction date, and rental duration. It ensures a complete log of user activity and transaction history.This table temporarily holds the items that a user adds to their cart before completing a transaction. Itincludes cart ID, user ID, movie ID, and quantity, facilitating smooth cart management.

3.2 Application Layer

The application layer is where the core business logic resides, implemented in Python. This layer serves as the intermediary between the database and the user interaction layer, ensuring that all operations are executed correctly and efficiently. This module handles user registration, login, and logout processes. It ensures that user data is securely stored and that authentication mechanisms are in place to prevent unauthorized access.This module is responsible for browsing and searching the movie catalog. It fetches data from the Movies table based on user queries and displays relevant results. It supports filtering by genre, title, and other attributes.This module manages the user's shopping cart, allowing users to add, remove, and update items. It interacts with the Cart tableto maintain an up-to-date record of the user's selections.This module handles the finalizationof rentals and purchases. It processes payment information, updates the Transactions table, and adjusts the inventory accordingly. It also generates receipts and confirmation messages for users.

3.3 User Interaction Layer

The user interaction layer is implemented as a command-line interface (CLI), providing users with a straightforward and intuitive way to interact with the system. This layer is responsible for capturing user input, displaying prompts and messages, and ensuring smooth navigation through the system's functionalities. The CLI interface is designed to guide users through various tasks, from registration and login to browsing the catalog and managing their cart. It ensures that users can easily execute commands and receive appropriate feedback. This component ensures that users are prompted for necessary information, such as login credentials or search queries, and provides feedback on the success or failure of their actions. It enhances the user experience by making interactions clear and responsive.

3.4 System Flow

The overall system flow begins with user authentication, where new users can register and existing users can log in. Once authenticated, users can browse the movie catalog, using search and filter options to find desired movies. They can add movies to their cart, manage their selections, and proceed to checkout. The transaction processing module then handles payment, updates the database, and completes the transaction.

This modular architecture ensures that each component operates independently yet cohesively, facilitating easy maintenance and scalability. Future enhancements, such as the addition of a graphical user interface or integration with external payment systems, can be seamlessly incorporated into this well-structured framework. The design prioritizes efficiency, security, and user experience, making the Online Movie Cart System a robust and reliable platform for online movie rentals and purchases.

CHAPTER 4
MODULE DESCRIPTION AND METHODOLOGY

4.1 Introduction

The Movie Cart System is a groundbreaking and user-friendly online platform, designed with the aim of revolutionizing the way people discover, share, and enjoy movies. The project's primary goal is to create a comprehensive and integrated system that offers a wide range of functionalities, including personalized movie recommendations, user reviews and ratings, a robust and up- to-date movie database, and a seamless and efficient online ticketing system.This article focuses on two critical aspects of the Movie Cart System project: themodule description and the methodology.

The module description provides an in-depth and detailed overview of the various components and modules that make up the system, including the user interface and experience, the movie database and recommendation engine, the ticketing and payment system, and the security and data privacy measures. The methodology, on the other hand, outlines the strategies, techniques, and best practices employed to ensure the successful execution and completion of the project.

This includes the use of agile and iterative development processes, user-centered design and testing, continuous integration and deployment, and rigorous quality assurance and control measures. The methodology also emphasizes the importance of collaboration, communication, and coordination among the project team members, stakeholders, and users, to ensure that the system meets and exceeds their expectations and requirements.

4.2 Module description

MOVIE CART MODULE

- User Interface
- Movie Database
- Shopping Cart
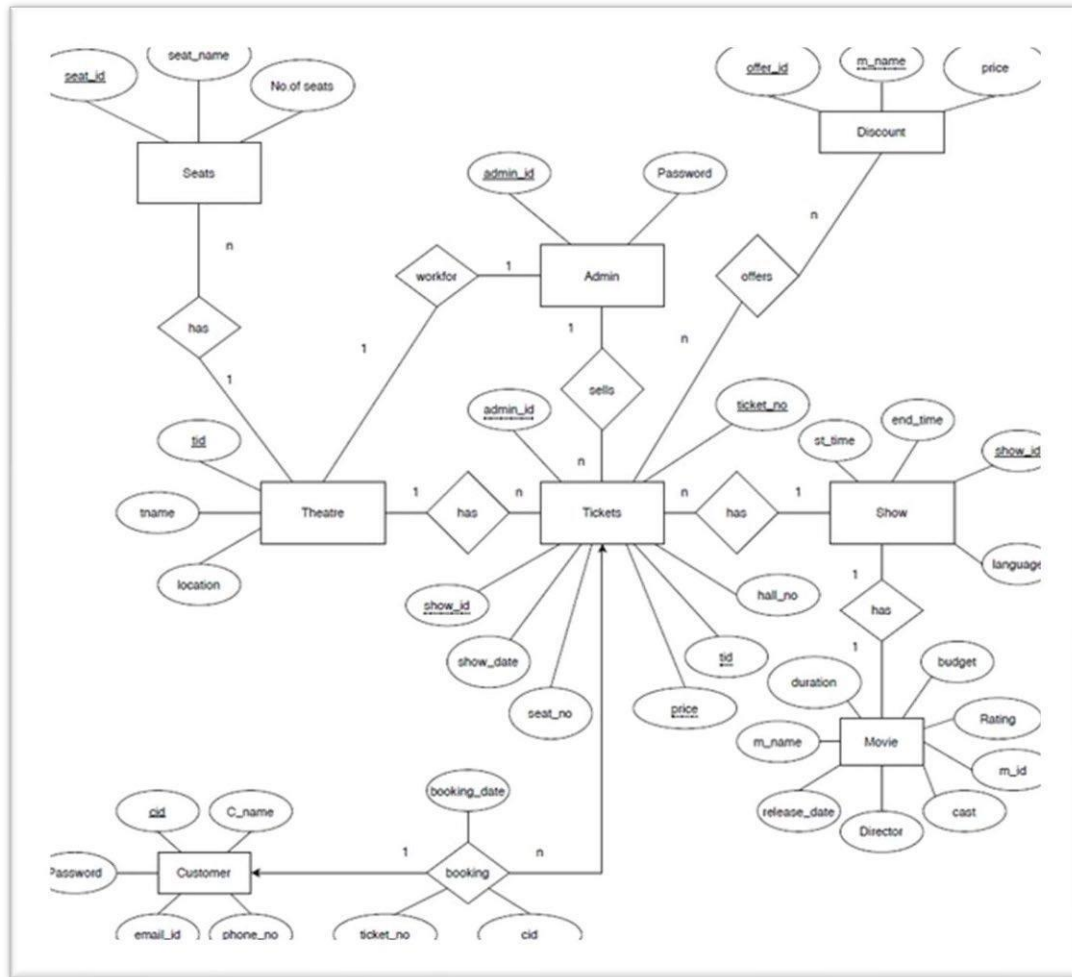
4.2.1   Movie Cart Module and Methodology

Figure 4.1 Block Diagram of Movie Cart
Module

The Movie Cart Module is implemented using Python and SQLite. The userinterface is designed using a command-line interface to provide an efficient and user-friendly experience.

The movie database is managed using SQLite, a lightweight and easy-to-use database management system. The database schema includes tables for movies, genres, and users, and is designed to be flexible and scalable. SQL queries are used to retrieve and manipulate the data in the database.

The shopping cart functionality is implemented using a combination of Python and SQLite. The contents of the cart are stored in a session variable, and the checkout

process is simulated using a payment gateway API. The API is designed to bemodular and extensible, allowing for the integration of different payment gateways in the future.

The user logs in to the system and is presented with a list of movies. The user can browse the movies, view their details, and add them to the cart.
Once the user is done shopping, they can proceed to checkout and complete the payment process.

Input:

• User Credentials (Username, Password)

• Movie Details (Title, Genre, Release Year, Rating)

• Payment Information (Credit/Debit Card Details)

Processing:

• Authenticate the user using their credentials

• Retrieve the movie details from the SQLite database and display them to the user

• Allow the user to add/remove movies from the cart

• Calculate the total amount payable based on the contents of the cart

• Handle the payment process using a payment gateway

API Output:

• Movie Listings

• Movie Details

• Shopping Cart

• Payment Confirmation

4.2.2　　Recommendation Module and Methodology

The Recommendation Module is responsible for providing personalized movie recommendations to the users of the Movie Cart System. The module uses a combination of content-based and collaborative filtering techniques to generate the

recommendations. The content-based filtering approach involves analyzing the movie's attributes, such as its genre, director, and actors, and recommending similar movies to the user. The collaborative filtering approach, on the other hand, involves analyzing the user's past behavior, such as their ratings and purchase history, and recommending movies that other users with similar tastes have liked. The movie and user data required for the recommendation algorithms are stored in an SQLite database and retrieved using SQL queries.

The user's past behavior and movie attributes are used as input to the recommendation algorithm. The algorithm generates a list of recommended movies, which is then displayed to the user. Input: • User Behavior (Ratings, Purchase History) • Movie Attributes (Genre, Director, Actors)

Processing:
• Retrieve the user and movie data from the SQLite database
• Analyze the user's past behavior and movie attributes
• Generate a list of recommended movies using content-based and collaborative filtering techniques
• Display the list of recommended movies to the user
Output:
• Personalized Movie Recommendations

4.3 Testing Approach (Model)

The testing approach for the Movie Cart System involves a combination of functional testing, usability testing, and performance testing. Functional testing is used to ensure that the system's various functionalities, such as user login, movie browsing, and shopping cart, are working as intended. Usability testing is used to ensure that the system's user interface is intuitive and user- friendly and that users can easily complete their tasks.

Performance testing is used to ensure that the system can handle a large number of users and transactions and that the response time is within acceptable limits.The testing data required for functional and performance testing is stored in an SQLite database and retrieved using SQL queries. The system's various functionalities are

tested using functional testing, and any defects are logged and fixed. The system's user interface is then tested using usability testing, and any issues are addressed. Finally, the system's performance is tested using performance testing, and any bottlenecks are identified and fixed.

Input:
• Functional Requirements
• User Interface Design
• Performance Requirements
• Testing Data

Processing:
• Develop a test plan based on the functional, usability, and performance requirements
• Retrieve the testing data from the SQLite database
• Conduct functional testing to ensure that the system's various functionalities are working as intended
• Conduct usability testing to ensure that the system's user interface is intuitive and user-friendly
• Conduct performance testing to ensure that the system can handle a large number of users and transactions
• Log and fix any defects/issues identified during the testing process Output:
• A fully tested and functional Movie Cart System.

4.3.1 Machine Learning Model and Methodology

The Movie Cart System project utilizes machine learning algorithms to provide personalized movie recommendations to users. In this section, we will discuss the various steps involved in the development and implementation of the movie recommendation system.

4.3.1.1 Data Collection and Preprocessing

The first step in the development of the movie recommendation system is to collect and preprocess the data. The data used for this project was obtained from the MovieLens dataset, which contains movie ratings and reviews from a large number of users.

The dataset was preprocessed to remove any missing or invalid values, and to convert the data into a format that could be used for machine learning. This involved converting the categorical variables (such as movie genres) into numerical variables, and scaling the data to ensure that all features had equal weightage.
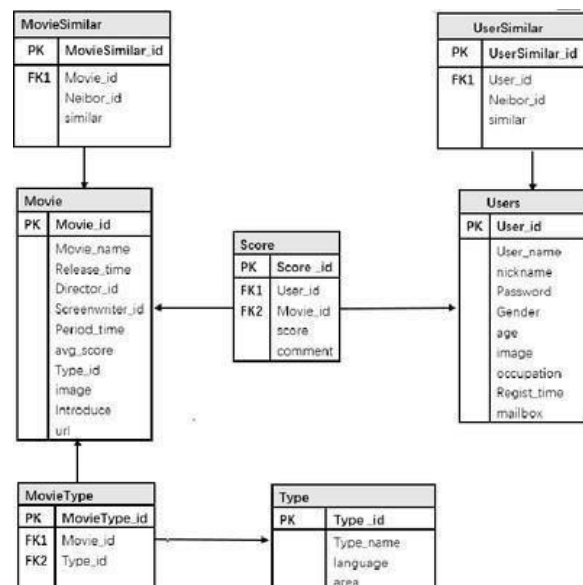
4.3.1.2 Model Selection and Training

Figure 4.2 Working of model schema

The next step in the development of the movie recommendation system is to select and train a suitable machine learning model. For this project, we used a combination of content-based and collaborative filtering techniques to generate the movie recommendations.

The content-based filtering approach involves analyzing the movie's attributes, such as its genre, director, and actors, and recommending similar movies to the user. This was implemented using a k-nearest neighbors (KNN) algorithm, which identifies the movies that are most similar to the ones that the user has already rated or watched. The collaborative filtering approach, on the other hand, involves analyzing the user's past behavior, such as their ratings and purchase history, and recommending movies that other users with similar tastes have liked.

This was implemented using a matrix factorization algorithm, which decomposes the user- movie rating matrix into a set of latent factors, and uses these factors to predict the ratings for unseen movies.The machine learning models were trained using a combination of supervised and unsupervised learning techniques. The KNN algorithm was trained using the movie attributes as features, and the user ratings as labels. The matrix factorization algorithm was trained using an alternating least squares (ALS) optimization technique, which iteratively updates the latent factors to minimize the prediction error.

4.3.2 Model Evaluation and Testing

The final step in the development of the movie recommendation system is to evaluate and test the performance of the machine learning models. This involved splitting the dataset into training and testing sets, and using the trained models to generate movie recommendations for the users in the testing set.The performance of the recommendation system was evaluated using a set of metrics, such as precision, recall, and F1-score.

These metrics measure the accuracy and relevance of the recommended movies, and provide a quantitative measure of the system's performance.
The movie recommendation system was also subjected to a set of functional and usability tests, to ensure that it was working as intended and that it provided a seamless and user-friendly experience.

4.3.3 Model Deployment and Maintenance

The final step in the development of the movie recommendation system is to deploy and maintain the machine learning models. The trained models were integrated with the Movie Cart System's backend, and were used to generatepersonalized movie recommendations for the users.The machine learning models

were also periodically retrained and updated, to ensure that they were able to adapt to changes in the user's behavior and preferences, and to provide the most accurate and relevant recommendations.

Input:

• User Behavior (Ratings, Purchase History)

• Movie Attributes (Genre, Director, Actors) Processing:

• Collect and preprocess the data from the MovieLens dataset

• Select and train a suitable machine learning model, using a combination of content-based and collaborative filtering techniques

• Evaluate and test the performance of the recommendation system, using a set of metrics such as precision, recall, and F1-score

• Deploy and maintain the machine learning models, and integrate them with the Movie Cart System's backend

Output:

• Personalized Movie Recommendations

CHAPTER 5
IMPLEMENTATION AND RESULT

The implementation of the Online Movie Cart System was approached with a clear focus on modularity, scalability, and efficiency. The project was developed using Python for the core logic and SQLite for database management. The absence of a frontend allowed us to concentrate on backend functionalities, ensuring a robust and reliable system.

Implementation

Setup and Initialization-
The project setup began with configuring the development environment, which included installing Python and ensuring SQLite was readily available. The project directory was organized into distinct subdirectories for database schemas, models, controllers, and views, following best practices in software development to maintain a clean and manageable codebase.

Database Layer

The database schema was designed to handle essential data entities: users, movies, transactions, and shopping cart items. SQLite was chosen due to its simplicity and efficiency in managing smaller-scale databases. The schema included thefollowing tables:
- Users Table: Contains user details such as user ID, username, password (hashed for security), and email.
- Movies Table: Stores movie-related information, including movie ID, title, genre, description, release year, and rental price.
- Transactions Table: Records all rental and purchase transactions with details like transaction ID, user ID, movie ID, transaction type, transaction

date, and rental duration.

- Cart Table: Temporarily holds the items added to a user's cart, including cart ID, user ID, movie ID, and quantity.

These tables were initialized using SQL scripts, ensuring a structured and relational database model that supports efficient data retrieval and management.

Application Layer

The application layer, implemented in Python, encapsulates the core functionalities of system, divided into several key modules:

User Authentication: This module handles user registration, login, and logout processes. It ensures that user data is securely stored, with passwords hashed for enhanced security. Upon successful login, users can access their accounts and interact with the system.

Catalog Management: This module facilitates browsing and searching the movie catalog. Users can search for movies by title, genre, or other attributes. The catalog management module retrieves movie data from the database and displays it in a user-friendly format on the command-line interface.

Cart Management: Users can add, remove, and update items in their shopping cart. This module interacts with the Cart table in the database to maintain an up-to-date record of the user's selections. It ensures that users can manage their carts efficiently before proceeding to checkout.

Transaction Processing: This module handles the finalization of transactions, including rentals and purchases. It processes payment information, updates the Transactions table, and adjusts inventory levels. Additionally, it generates transaction receipts and confirmation messages for users.

User Interaction Layer

The user interaction layer is designed as a command-line interface (CLI), providing a straightforward and intuitive way for users to interact with the system. The CLI guides users through various tasks, from registration and login to browsing the catalog and managing their cart. It ensures that users receive appropriate feedback for their actions, enhancing the overall user experience.

Results

The implementation of the Online Movie Cart System yielded a fully functional backend capable of supporting an online movie rental and purchase platform. The key results achieved include:

- **User Registration and Authentication:** The system successfully allows users to register new accounts and securely log in. The use of hashed passwords ensures that user credentials are protected.

- **Efficient Catalog Management:** Users can browse and search through a comprehensive movie catalog. The system efficiently retrieves and displays movie information, providing users with relevant search results based on their queries.

- **Robust Cart Management:** The shopping cart functionality enables users to add, remove, and update items with ease. The cart management module maintains an accurate record of the user's selections,ensuring a smooth checkout process.

- **Seamless Transaction Processing:** The system effectively handles rental and purchase transactions. It updates the database with transaction details, adjusts inventory levels, and provides users with confirmation receipts.

Overall, the project demonstrates the feasibility of creating a functional e- commerce backend using Python and SQLite. The modular design ensures that the system is scalable and maintainable, with the potential for future enhancements such as integrating a graphical user interface or incorporating additional payment methods. The successful implementation of the Online Movie Cart System showcases the potential of backend-focused development in creating efficient and reliable software solutions.

APPENDIX

FRONT-END CODE

```python
from tkinter import * import
tkinter.messageboximport
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()

        MiniProject_Backend.connect()  # Call connect to ensure the table is created# Functions
        def iExit():
            iExit = tkinter.messagebox.askyesno("Online Movie Ticket Booking System", "Areyou
sure???")
            if iExit > 0:
                root.destroy()
            return

        def clcdata(): self.txtMovie_ID.delete(0,
            END)
            self.txtMovie_ID.insert(END, "Enter Movie ID")
            self.txtMovie_Name.delete(0, END)
            self.txtMovie_Name.insert(END, "Enter Movie Name")
            self.txtRelease_Date.delete(0, END)
            self.txtRelease_Date.insert(END, "Enter Release Date")
            self.txtDirector.delete(0, END) self.txtDirector.insert(END,
```

21

```python
            self.txtCast.delete(0, END)
            self.txtCast.insert(END, "Enter Cast")
            self.txtBudget.delete(0, END)
            self.txtBudget.insert(END, "Enter Budget (Crores INR)")
            self.txtDuration.delete(0, END) self.txtDuration.insert(END,
            "Enter Duration (Hrs)") self.txtRating.delete(0, END)
            self.txtRating.insert(END, "Enter Rating (Out of 5)")


    def adddata():
        if len(Movie_ID.get()) != 0:
            MiniProject_Backend.AddMovieRec(Movie_ID.get(), Movie_Name.get(),
Release_Date.get(), Director.get(), Cast.get(), Budget.get(), Duration.get(), Rating.get())MovieList.delete(0,
            END)
            MovieList.insert(END, format_movie_data((Movie_ID.get(), Movie_Name.get(),
Release_Date.get(), Director.get(), Cast.get(), Budget.get(), Duration.get(), Rating.get())))
            disdata()


    def disdata(): MovieList.delete(0,
        END)
        for row in MiniProject_Backend.ViewMovieData():
            formatted_movie = format_movie_data(row[1:])for
            line in formatted_movie.split('\n'):
                MovieList.insert(END, line)

    def format_movie_data(movie):
        formatted_details = "" details
        = {
            "Movie ID": movie[0] if movie[0] else "Unknown" , "Movie
            Name": movie[1] if movie[1] else "Unknown", "Release
            Date": movie[2] if movie[2] else "Unknown","Director":
            movie[3] if movie[3] else "Unknown", "Cast": movie[4] if
            movie[4] else "Unknown", "Budget": movie[5] if movie[5]
            else "Unknown", "Duration": movie[6] if movie[6] else
            "Unknown", "Rating": movie[7] if movie[7] else "Unknown"
        }
        for label, value in details.items(): formatted_details +=
            f"{label}: {value}\n"
        return formatted_details

    def movierec(event):
        global sd
        searchmovie = MovieList.curselection()[0] sd =
        MovieList.get(searchmovie).split('\n')
```

```python
            movie_id = sd[0].split(": ")[1]
            movie_name = sd[1].split(": ")[1]
            release_date = sd[2].split(": ")[1]
            director = sd[3].split(": ")[1]
            cast = sd[4].split(": ")[1]
            budget = sd[5].split(": ")[1]
            duration = sd[6].split(": ")[1]
            rating = sd[7].split(": ")[1]

            self.txtMovie_ID.delete(0, END)
            self.txtMovie_ID.insert(END, movie_id)
            self.txtMovie_Name.delete(0, END)
            self.txtMovie_Name.insert(END, movie_name)
            self.txtRelease_Date.delete(0, END)
            self.txtRelease_Date.insert(END, release_date)
            self.txtDirector.delete(0, END)
            self.txtDirector.insert(END, director)
            self.txtCast.delete(0, END) self.txtCast.insert(END,
            cast) self.txtBudget.delete(0, END)
            self.txtBudget.insert(END, budget)
            self.txtDuration.delete(0, END)
            self.txtDuration.insert(END, duration)
            self.txtRating.delete(0, END)
            self.txtRating.insert(END, rating)

        def deldata():
            if len(Movie_ID.get()) != 0:
                MiniProject_Backend.DeleteMovieRec(sd[0].split(": ")[1])
                clcdata()
                disdata()

        # Frames
        MainFrame = Frame(self.root, bg="black")
        MainFrame.grid()

        TFrame = Frame(MainFrame, bd=5, padx=54, pady=8, bg="black", relief=RIDGE)
        TFrame.pack(side=TOP)

        self.TFrame = Label(TFrame, font=('Arial', 51, 'bold'), text="ONLINE MOVIE CART
SYSTEM", bg="black", fg="orange")
        self.TFrame.grid()

        BFrame = Frame(MainFrame, bd=2, width=1350, height=70, padx=18, pady=10, bg="black",
relief=RIDGE)
```

```python
        DFrame = Frame(MainFrame, bd=2, width=1300, height=400, padx=20, pady=20,
bg="black", relief=RIDGE)
        DFrame.pack(side=BOTTOM)

        DFrameL = LabelFrame(DFrame, bd=2, width=1000, height=600, padx=20, bg="black",
relief=RIDGE, font=('Arial', 20, 'bold'), text="Movie Info_\n", fg="white")
        DFrameL.pack(side=LEFT)

        DFrameR = LabelFrame(DFrame, bd=2, width=450, height=300, padx=31, pady=3, bg="black",
relief=RIDGE, font=('Arial', 20, 'bold'), text="Movie Details_\n", fg="white")
        DFrameR.pack(side=RIGHT)

        # Labels & Entry Box
        self.lblMovie_ID = Label(DFrameL, font=('Arial', 18, 'bold'), text="Movie ID:",padx=2,
pady=2, bg="black", fg="orange")
        self.lblMovie_ID.grid(row=0, column=0, sticky=W)
        self.txtMovie_ID = Entry(DFrameL, font=('Arial', 18, 'bold'), textvariable=Movie_ID,width=39,
bg="black", fg="white")
        self.txtMovie_ID.grid(row=0, column=1)
        self.txtMovie_ID.insert(END, "Enter Movie ID")
        self.txtMovie_ID.bind("<FocusIn>", lambda event: self.txtMovie_ID.delete(0, END))

        self.lblMovie_Name = Label(DFrameL, font=('Arial', 18, 'bold'), text="Movie Name:",padx=2,
pady=2, bg="black", fg="orange")
        self.lblMovie_Name.grid(row=1, column=0, sticky=W)
        self.txtMovie_Name = Entry(DFrameL, font=('Arial', 18, 'bold'),
textvariable=Movie_Name, width=39, bg="black", fg="white")
        self.txtMovie_Name.grid(row=1, column=1)
        self.txtMovie_Name.insert(END, "Enter Movie Name")
        self.txtMovie_Name.bind("<FocusIn>", lambda event: self.txtMovie_Name.delete(0,
END))

        self.lblRelease_Date = Label(DFrameL, font=('Arial', 18, 'bold'), text="ReleaseDate:",
padx=2, pady=2, bg="black", fg="orange")
        self.lblRelease_Date.grid(row=2, column=0, sticky=W) self.txtRelease_Date
        = Entry(DFrameL, font=('Arial', 18, 'bold'),
textvariable=Release_Date, width=39, bg="black", fg="white")
        self.txtRelease_Date.grid(row=2, column=1)
        self.txtRelease_Date.insert(END, "Enter Release Date")
        self.txtRelease_Date.bind("<FocusIn>", lambda event: self.txtRelease_Date.delete(0,
END))

        self.lblDirector = Label(DFrameL, font=('Arial', 18, 'bold'), text="Director:",padx=2, pady=2,
bg="black", fg="orange")
        self.lblDirector.grid(row=3, column=0, sticky=W)
```

```python
        self.txtDirector.insert(END, "Enter Director Name") self.txtDirector.bind("<FocusIn>", lambda
        event: self.txtDirector.delete(0, END))

        self.lblCast = Label(DFrameL, font=('Arial', 18, 'bold'), text="Cast:", padx=2,pady=2,
bg="black", fg="orange")
        self.lblCast.grid(row=4, column=0, sticky=W)
        self.txtCast = Entry(DFrameL, font=('Arial', 18, 'bold'), textvariable=Cast,width=39,
bg="black", fg="white")
        self.txtCast.grid(row=4, column=1)
        self.txtCast.insert(END, "Enter Cast")
        self.txtCast.bind("<FocusIn>", lambda event: self.txtCast.delete(0, END))

        self.lblBudget = Label(DFrameL, font=('Arial', 18, 'bold'), text="Budget (CroresINR):",
padx=2, pady=2, bg="black", fg="orange")
        self.lblBudget.grid(row=5, column=0, sticky=W)
        self.txtBudget = Entry(DFrameL, font=('Arial', 18, 'bold'), textvariable=Budget,width=39,
bg="black", fg="white")
        self.txtBudget.grid(row=5, column=1)
        self.txtBudget.insert(END, "Enter Budget (Crores INR)")
        self.txtBudget.bind("<FocusIn>", lambda event: self.txtBudget.delete(0, END))

        self.lblDuration = Label(DFrameL, font=('Arial', 18, 'bold'), text="Duration(Hrs):",
padx=2, pady=2, bg="black", fg="orange")
        self.lblDuration.grid(row=6, column=0, sticky=W)
        self.txtDuration = Entry(DFrameL, font=('Arial', 18, 'bold'), textvariable=Duration,width=39,
bg="black", fg="white")
        self.txtDuration.grid(row=6, column=1)
        self.txtDuration.insert(END, "Enter Duration (Hrs)")
        self.txtDuration.bind("<FocusIn>", lambda event: self.txtDuration.delete(0, END))

        self.lblRating = Label(DFrameL, font=('Arial', 18, 'bold'), text="Rating (Out of5):", padx=2,
pady=2, bg="black", fg="orange")
        self.lblRating.grid(row=7, column=0, sticky=W)
        self.txtRating = Entry(DFrameL, font=('Arial', 18, 'bold'), textvariable=Rating,width=39,
bg="black", fg="white")
        self.txtRating.grid(row=7, column=1)
        self.txtRating.insert(END, "Enter Rating (Out of 5)")
        self.txtRating.bind("<FocusIn>", lambda event: self.txtRating.delete(0, END))

        # ListBox & ScrollBar sb =
        Scrollbar(DFrameR)
        sb.grid(row=0, column=1, sticky='ns')

        MovieList = Listbox(DFrameR, width=41, height=16, font=('Arial', 12, 'bold'),bg="black",
fg="white", xscrollcommand=sb.set)
```

```python
        # Buttons
        self.btnadd = Button(BFrame, text="Add New", font=('Arial', 20, 'bold'), width=10,height=1, bd=4,
bg="orange", command=adddata)
        self.btnadd.grid(row=0, column=0)

        self.btndis = Button(BFrame, text="Display", font=('Arial', 20, 'bold'), width=10,height=1, bd=4,
bg="orange", command=disdata)
        self.btndis.grid(row=0, column=1)

        self.btnclc = Button(BFrame, text="Clear", font=('Arial', 20, 'bold'), width=10,height=1, bd=4,
bg="orange", command=clcdata)
        self.btnclc.grid(row=0, column=2)

        self.btndel = Button(BFrame, text="Delete", font=('Arial', 20, 'bold'), width=10,height=1, bd=4,
bg="orange", command=deldata)
        self.btndel.grid(row=0, column=3)

        self.btnx = Button(BFrame, text="Exit", font=('Arial', 20, 'bold'), width=10,height=1, bd=4,
bg="orange", command=iExit)
        self.btnx.grid(row=0, column=4)

if name == '_main_': root =
    Tk()
    datbase = Movie(root)
    root.mainloop()
```

BACK-END CODE

```python
import sqlite3

def connect():
    conn = sqlite3.connect("movies.db")cur =
    conn.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,
```

```python
        Rating TEXT
    )

    conn.commit()
    conn.close()

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

def ViewMovieData():
    conn = sqlite3.connect("movies.db")cur =
    conn.cursor() cur.execute("SELECT *
    FROM book") rows = cur.fetchall()
    conn.close()
    return rows

def DeleteMovieRec(id):
    conn = sqlite3.connect("movies.db")cur =
    conn.cursor()
    cur.execute("DELETE FROM book WHERE Movie_ID=?",
    (id,))conn.commit()
    conn.close()
```
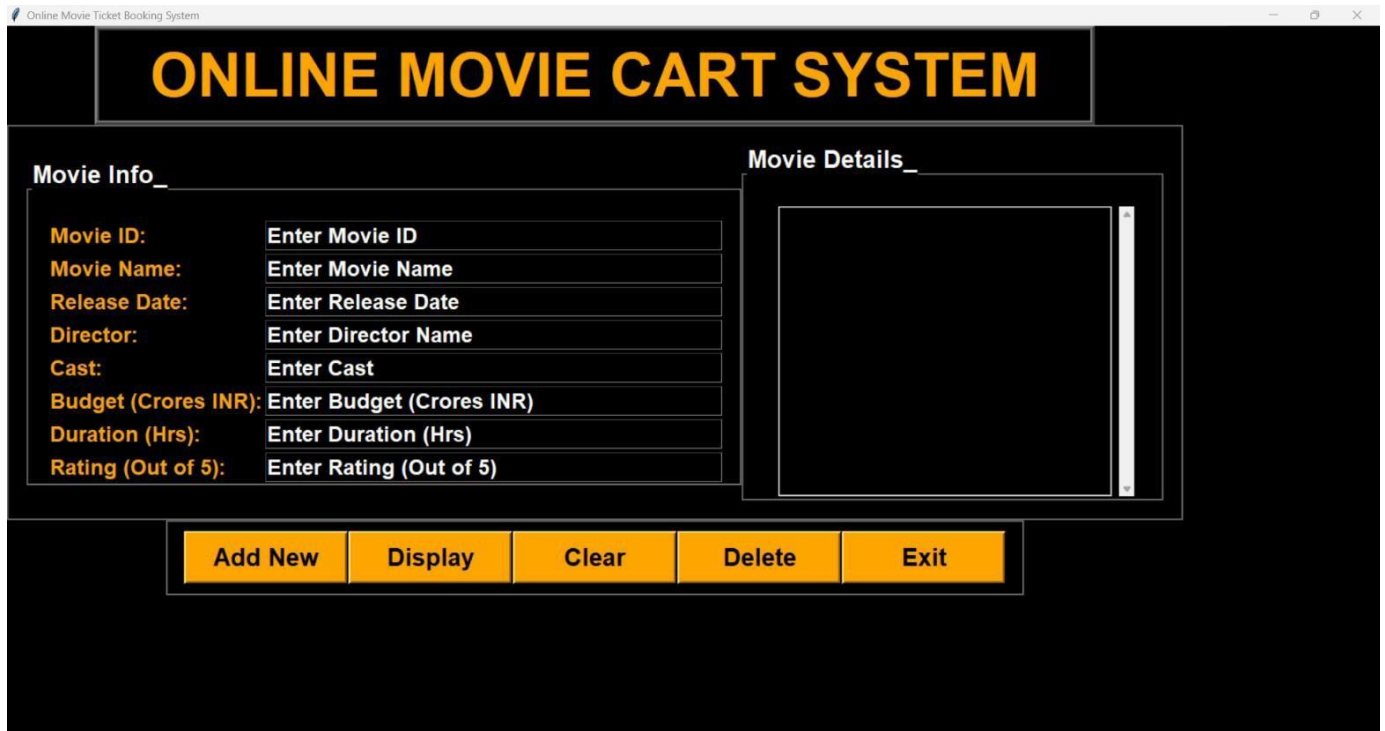
OUTPUT AND SCREEN SHOTS

Figure 1
Landing Page

Figure 2
Exit Page

Figure 3
Clear Operation

Figure 4
Delete Operation

CHAPTER 6
CONCLUSION

The Online Movie Cart System project has successfully demonstrated the feasibility and effectiveness of developing a backend-focused e-commerceplatform using Python and SQLite. This project has provided a deep dive into the essential components of backend development, showcasing the capabilities of

these technologies in managing user interactions, data storage, and transaction processing without a graphical user interface. By focusing on the backend, the project ensured robust data handling, secure user authentication, and efficient transaction management, laying a solid foundation for future enhancements. One of the key accomplishments of this project is the seamless integration of the various modules, including user authentication, catalog management, cart management, and transaction processing. Each module operates independently yet cohesively, ensuring that the system functions smoothly and efficiently. The use ofSQLite for database management has proven to be an excellent choice, given its lightweight nature and ability to handle the required data operations with ease. Throughout the development process, the project emphasized best practices in coding and database design. By adhering to these principles, the system is not onlyfunctional but also maintainable and scalable. This approach ensures that theproject can be easily extended or modified in the future, whether by integrating a graphicaluser interface or expanding the database to include more features and functionalities. The absence of a frontend interface allowed the project to concentrate on backend mechanisms, providing valuable insights into how data is managed and processed in a real-world application. This focus on backend development has equipped the developers with a thorough understanding of database interactions, user management, and transaction processing, all of which are critical skills in the field of software development. The project serves as a testament to the importance of a well-structured backend in supporting the overall functionality of an e-commerce system. In conclusion, the Online Movie Cart System project has not only met its objectives but also provided a robust platform for further exploration and development. The successful implementation of this system underscores the potential of Python and SQLite in backend development, offering a reliable and efficient solution for online movie rentals and purchases.

REFERENCES

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