TEAM -10

PROBLEM STATEMENT – TicketSys (concerts/movies/sporting events) platform

Team details

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Team Members :-

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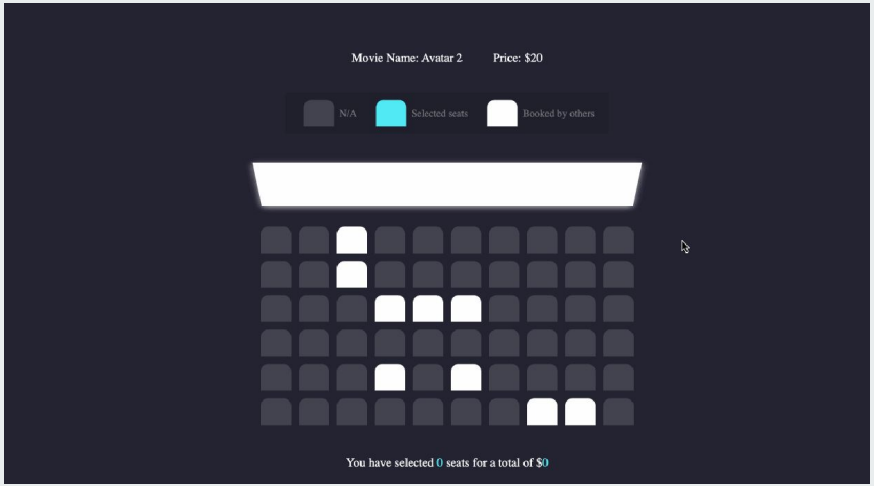


Problem Description

Develop a **TicketMaster** as a leading ticketing platform where event-executors can sell tickets for concerts, theaters, and sporting events and audience/users can purchase tickets.

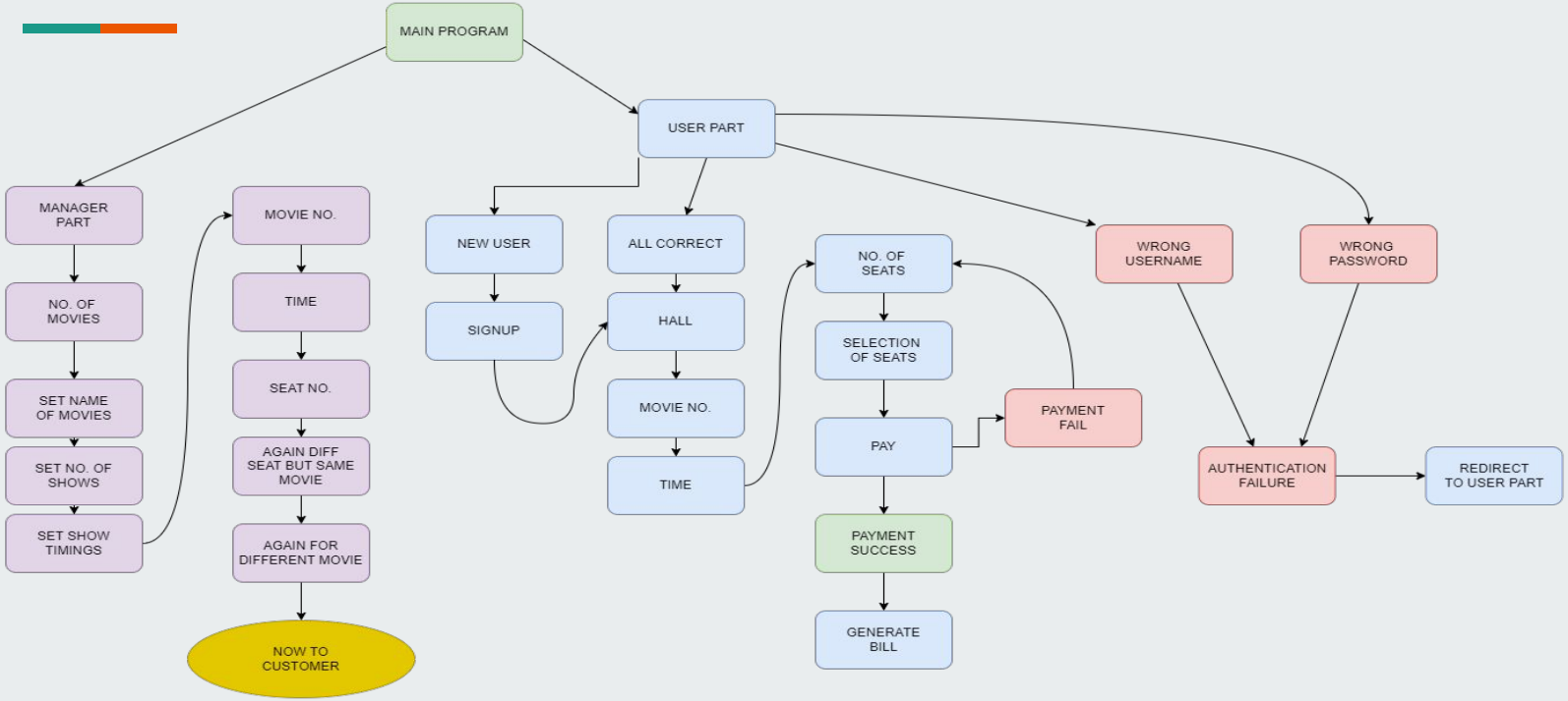
Probable Features

- Visual map of available spots, marking it as "reserved" until payment completion
- Define allocation policy
- Display various deals and packages
- Dynamic pricing (price reduction/escalation for last minute bookings; seat position, etc.) system
- Text-based user interface & availability matrix visualization & ticket generation

The system satisfy the following requirements:

- Enables event managers & users to login from different terminals from different physical machines.
- Enables Manager/User registration and authentication (using some hash based password)
- Multithreaded platform
- User-friendly text interface
- Provide a well documented header file with set of well defined APIs/function interface so that any other reservation scenario may be implemented with minor modification

Features


MAIN PROGRAM
USER PART
MANAGER PART
NO. OF MOVIES
SET NAME OF MOVIES
SET NO. OF SHOWS
SET SHOW TIMINGS
MOVIE NO.
TIME
SEAT NO.
AGAIN DIFF SEAT BUT SAME MOVIE
AGAIN FOR DIFFERENT MOVIE
NOW TO CUSTOMER
NEW USER
SIGNUP
ALL CORRECT
HALL
MOVIE NO.
TIME
NO. OF SEATS
SELECTION OF SEATS
PAY
PAYMENT FAIL
PAYMENT SUCCESS
GENERATE BILL
WRONG USERNAME
WRONG PASSWORD
AUTHENTICATION FAILURE
REDIRECT TO USER PART

User Interface

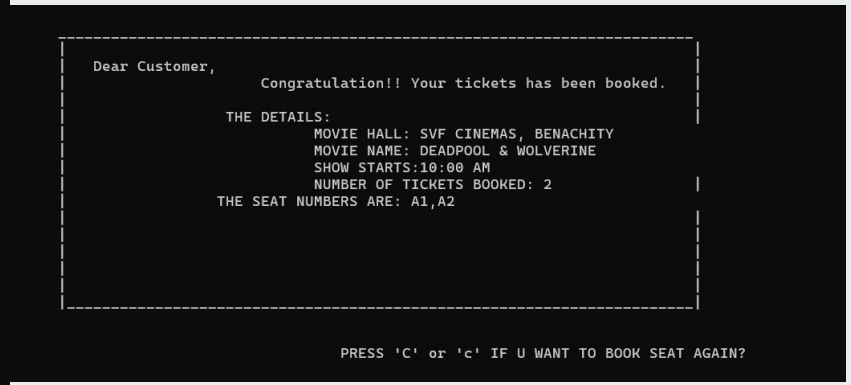
A user-friendly interface featuring four cinema halls allows easy access for both managers and customers. Managers can press the 'O' key to manage movie schedules, while customers can simply press any other key to explore and select movies and showtimes effortlessly.

```
PRESS 1 TO BOOK TICKET IN CARNIVAL ARTI CINEMAHALL, BENACHITY

PRESS 2 TO BOOK TICKET IN SVF CINEMAS, BENACHITY

PRESS 3 TO BOOK TICKET IN CITYCENTRE MOVIEHALL

PRESS 4 TO BOOK TICKET IN CHITRALAYA MOVIE HALL, B-ZONE

TO EXIT PROGRAM PRESS 9
```

```
THE MOVIES RUNNING IN HALL ARE:


MOVIE : 1       JOKER 2

THE TIMINGS OF THE MOVIE : JOKER 2 :-
9:01 AM,11:13 AM,2:08 PM,3:15 PM,4:29 PM,


MOVIE : 2       DEADPOOL & WOLVERINE

THE TIMINGS OF THE MOVIE : DEADPOOL & WOLVERINE :-
9:00 AM,10:00 AM,1:00 PM,5:00 PM,7:20 PM,
```

User Interface

Users can conveniently view and choose seats through the terminal's interactive seating matrix, simplifying the booking process. After completing the payment, they receive a generated bill, all within the terminal's easy-to-use interface, providing a seamless cinema booking experience.



Contributors

1. **Manager Side:** Avishek, Fahim, Daksh, Rishi
    1.1. Authorization of Manager, adding movies, movie timing , pricing and marking seats as selected.
2. **Customer Side:** Haseeb, Sayan, Auric
    2.1. Registration of new customers, authorization of existing customers, and seat booking by customers by choosing movie names and timings of the show.
3. **User Interface:** Shreya, Mayank, Sri Niket
    3.1. Design and updation of the seat matrix for each movie and their corresponding timing, generation of billing slips.

OS Level Features

1. **Multi-threading/Concurrency**
   1.1. If the system is handling multiple booking requests at the same time, you can use multi threading to handle concurrent requests efficiently. This ensures that the system remains responsive while processing multiple transactions simultaneously.
2. **File Handling and Persistence**
   2.1. File I/O operations allow you to store and retrieve booking data or logs directly on the file system. This can be helpful in scenarios where you're storing logs or booking histories.
3. **System Scheduling**
   3.1. Operating systems provide scheduling mechanisms that could be used to send notifications like reminders about bookings, perform automated backups, or trigger events at specific intervals.

Dynamic Pricing

Factors Considered

1. **Seat Availability:** Fewer remaining seats , should lead to higher prices.
2. **Time Remaining:** Less time until the show , should increase the price.
3. **Actor Preference:** Higher-preference actors ,should command higher prices.
4. **Early Bird Discount:** If booking is early and there's ample time, a discount should be applied

SeatFactor = (TotalSeats / RemainingSeats)

EarlyBirdFactor = (Remaining Seats / Remaining Time for the show)

Time Factor = 1/ Remaining time

ActorFactor => MorePreferred Actor

Dynamic Price Formula

Price = BasePrice * (1 + Weight1 * SeatFactor + Weight2 * TimeFactor + Weight3 * ActorFactor - Weight4 * EarlyBirdFactor)

THANK YOU!