

Theater Ticketing System

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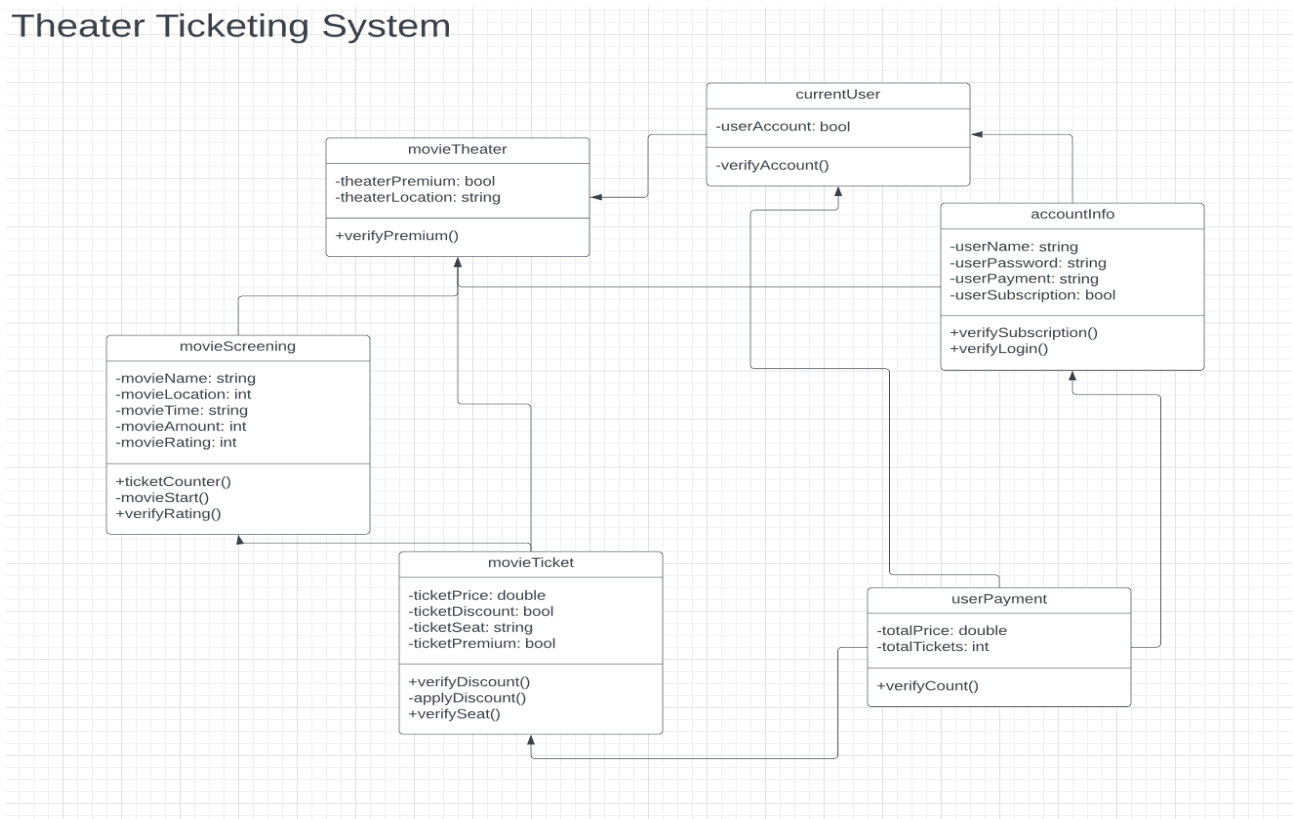
System Description

A theater ticketing system which allows the user to purchase tickets to their desired movie screening, available both in person and online (web browser). The software will allow users to browse a movie's availability per location, screening time, and see which seats are open to book (both premium and regular). The system will allow for the purchase of up to 20 tickets, reserved up to 2 weeks in advance, but purchased no later than 10 minutes after the screening begins. AMC cards are available for use, and tickets can receive discounts if the customer is a student, senior, or military. Additionally, the software shall draw from a single database that connects all the available locations along with their overall movie availability.

Software Architecture Overview

UML Class Diagram

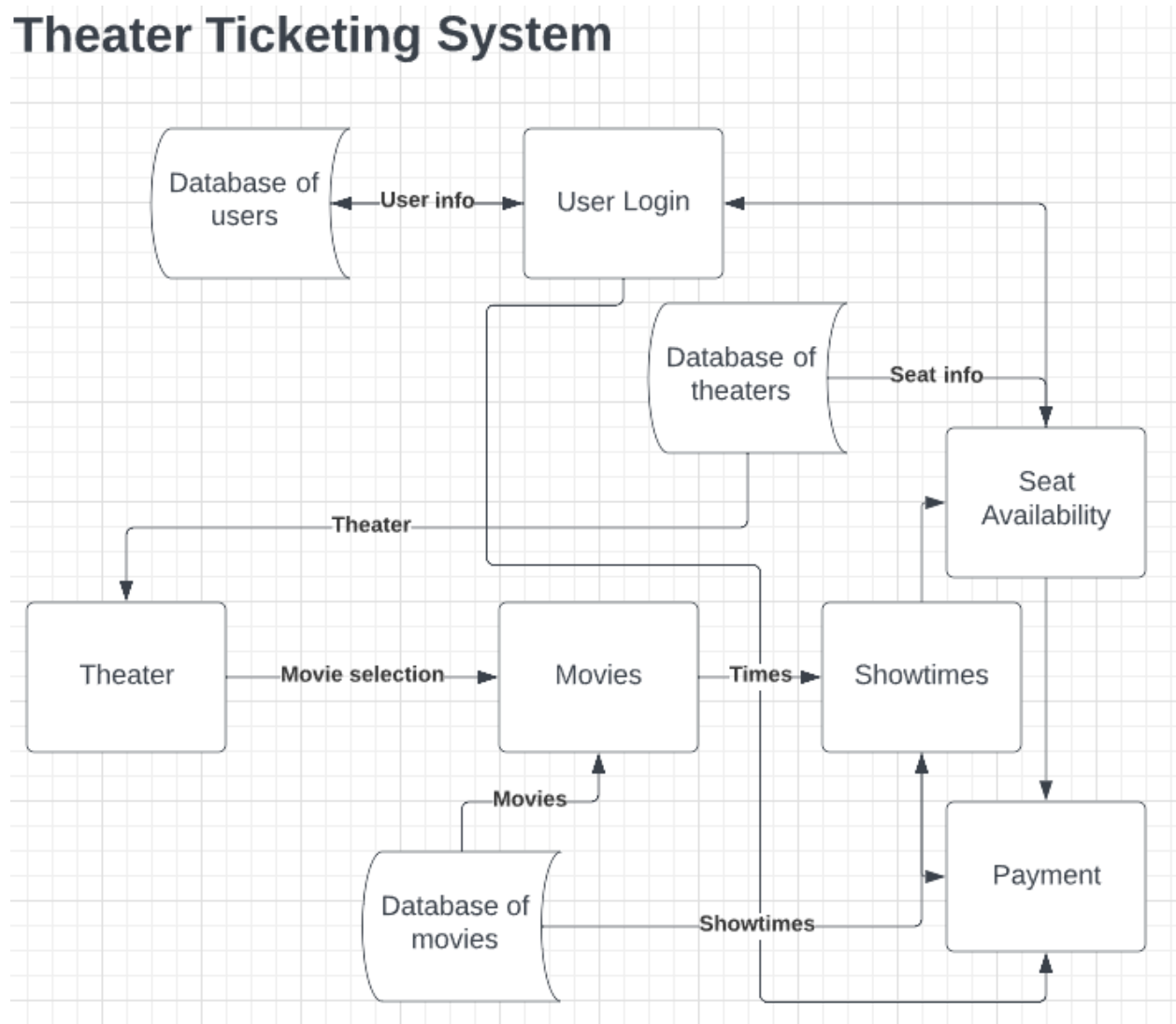
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The UML class diagram shows the many classes, their attributes, and operations. It also shows how each class inherits and interacts with other classes.

SWA Diagram

Theater Ticketing System



The SWA diagram shows the flow of an interaction with the software for the user. This diagram would borrow from the many aspects of the previously posted UML Class diagram to function.

Classes:

- **Name:** movieScreening
Type: Table
Description: Provides information about the movies and availability
- **Name:** movieTicket
Type: Table

Description: Provides information about ticket pricing

- **Name:** currentUser
Type: Table
Description: Provides information about the current user
- **Name:** movieTheater
Type: Table
Description: Provides information about the theater
- **Name:** userPayment
Type: Table
Description: Provides information about payment totals for the user
- **Name:** accountInfo
Type: Table
Description: Holds info about user if they have an account

Attributes:

movieScreening

- **Name:** movieName
Type: String
Description: Name of the movie
- **Name:** movieLocation
Type: Int
Description: Which theater screen the movie is played at
Values: Room #
- **Name:** movieTime
Type: String
Description: Time of movie showing
Values: Time of day
Format: HH:MM (Standard time)
- **Name:** movieAmount
Type: Int

Description: Number of tickets available for given movie
Values: Ticket amount

- **Name:** movieRating
Type: Int
Description: Gives rating from IMDB/Rotten Tomatoes
Values: Rating
Format: NN%

movieTicket

- **Name:** ticketPrice
Type: Double
Description: Price of ticket
Values: Ticket price
Format: D.C (Dollars.Cents)
- **Name:** ticketDiscount
Type: Bool
Description: If a ticket has a discount applied
- **Name:** ticketSeat
Type: String
Description: Reserved seat in theater
Values: Assigned seat
- **Name:** ticketPremium
Type: Bool
Description: Is the ticket distributed for a premium theater

currentUser

- **Name:** userAccount
Type: Bool
Description: Is the user logged in with an account
- **Name:** userName
Type: String
Description: Name of user

movieTheater

- **Name:** theaterPremium
Type: Bool
Description: Designates if theater is premium or not
- **Name:** theaterLocation
Type: String
Description: Location of theater
Value: Theater Address
Format: Street Address

userPayment

- **Name:** totalPrice
Type: Double
Description: Total price of the tickets being purchased
Values: Total price
Format: D.C (Dollars.Cents)
- **Name:** totalTickets
Type: int
Description: Total number of tickets being purchased

accountInfo

- **Name:** userName
Type: String
Description: Name/Username tied to account
- **Name:** userPassword
Type: String
Description: Password for given account
- **Name:** userPayment
Type: String
Description: Payment information saved on account

- **Name:** userSubscription
Type: Bool
Description: Whether use is subscribed to the AMC system

Operations:

movieScreening

- **Name:** ticketCounter
Description: Keeps track of tickets available for movie
- **Name:** movieStart
Description: Verifies the movie start time to ensure user doesn't purchase any later than 10 minutes after start or any sooner than 2 weeks prior
- **Name:** verifyRating
Description: Checks for rating from database to ensure accurate rating is displayed

movieTicket

- **Name:** verifyDiscount
Description: Certifies proper discount per customer (if applicable)
- **Name:** applyDiscount
Description: Applies discount to ticket to change price of ticket
- **Name:** verifySeat
Description: Verifies that the seat is available (if applicable)

currentUser

- **Name:** verifyAccount
Description: Verifies if the user is a guest or logging in

movieTheater

- **Name:** verifyPremium

Description: Checks whether the theater is a premium location or not (premium seating)

userPayment

- **Name:** verifyCount

Description: Verifies that the user is purchasing no more than 20 tickets

accountInfo

- **Name:** verifySubscription

Description: Checks whether the account is subscribed or not

- **Name:** verifyLogin

Description: Verifies the credentials of the account to login

Development Plan and Timeline

Date	02 / 08 / 23	02 / 22 / 23	03 / 15 / 23	04 / 12 / 23
Task	Requirement Specification	Software Design	Test plan	Software Architecture

