Movie Booking

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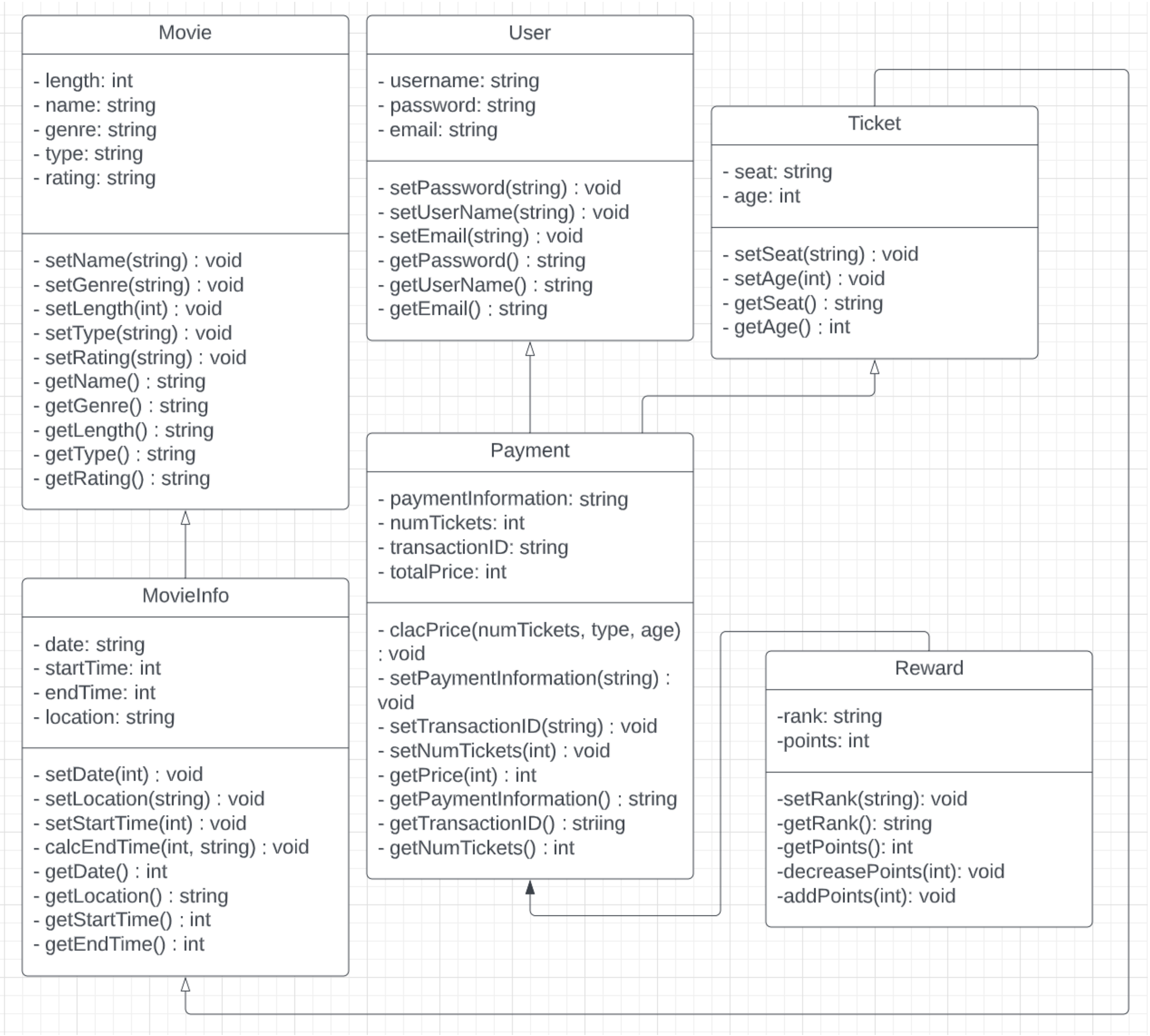
Software Design Specification:

UML Diagram:



Modifications:

In order to incentivize customers to return and feel rewarded for using our services we have decided to implement a reward system. This reward system will provide our users with points for any purchases. These points can go to merchandise or discounts on snacks, drinks, and movie tickets. A rank will also be provided to every user depending on the amount of money they have spent at the movie theater. Each rank provides better perks and benefits so that our users will feel valued for their continued patronage.

UML Class Description:

Movie Class:

Length: This is the runtime of the whole movie. This is manipulated by the setLength() method. The length variable is accessed by the getLength() method.

Name: This is the name of the movie. This is manipulated by the setName() method. The name variable is accessed by the getName() method.

Genre: This is the genre of the movie. For example a movie could be listed as an action, romance, comedy or sci-fi. This is manipulated by the setGenre() method. The genre variable is accessed by the getGenre() method.

Type: This is the type of screening the movie is being shown. For example a movie can be shown in Imax or 3-d. This is manipulated by the setType() method. The type variable is accessed by the getType() method.

Rating: This is the age rating the movie has. The different age-ratings a movie can have are G, PG, PG-13, R, and NC-17. This is manipulated by the setRating() method. The rating variable is accessed by the getRating() method.

MovieInfo Class:

Date: This is the date the movie will be shown. This is manipulated by the setDate() method. The date variable is accessed by the getDate() method.

startTime: This is the time the movie will start at. This is manipulated by the setStartTime() method. The startTime variable is accessed by the getStartTime() method.

endTime: This is the time the movie will end. This method can not be manipulated directly. It is instead calculated by the calcEndTime() method that uses the length and startTime variables. The endTime variable is accessed by the getEndTime() method.

Location: This is the location of the movie showing. This is manipulated by the setLocation() method. The location variable is accessed by the getLocation() method.

User Class:

userName: This is the username that the user inputs. This is manipulated by the setUserName() method. The userName variable is accessed by the getUserName() method.

Password: This is the password that the user inputs. This is manipulated by the setPassword() method. The password variable is accessed by the getPassword() method.

Email: This is the email that the user inputs. This is manipulated by the setEmail() method. The email variable is accessed by the getEmail() method.

Ticket Class:

Seat: This is the assigned or reserved seat inside of the movie theater. This is manipulated by the setSeat() method. The seat variable is accessed by the getSeat() method.

Age: This is the age category of the ticket owner. The different ages are child, adult, and senior. These are used to price the tickets. This is manipulated by the setAge() method. The age variable is accessed by the getAge() method.

Payment Class:

numTickets: This is the number of tickets a user is purchasing. This is manipulated by the setNumTickets() method. The numTickets variable is accessed by the getNumTickets() method.

paymentInformation: This is the payment information of the user. This is the credit or debit information that the user inputs. This is manipulated by the setPaymentInformation() method. The paymentInformation variable is accessed by the getPaymentInformation() method.

totalPrice: This is the total price of all of the items the user is buying. This variable can not be manipulated directly. It is instead calculated by the calcPrice() method that uses age, numTickets, and type variables.

transactionID: This is the ID of the transaction that the user is doing. This is manipulated by the setTransactionID() method. The transactionID variable is accessed by the getTransactionID() method.

Reward Class:

Rank: This is the tier that the user is at in the reward system. This is manipulated by the setRank() method. The Rank variable is accessed by the getRank() method.

Points: This is the amount of reward points that the user has. This is manipulated by the methods decreasePoints() and addPoints(). These methods are used to decrease and increase the amount of points that a user has. The Points variable is accessed by the getPoints() method.

Verification Test Plan:
Features Tested:

Account Creation:

Username Creation: A username is a person's displayed name on the website. These are used for people to identify different accounts easier. The limitation on a username is no repeated usernames. When a new username is being added all accounts usernames will be checked to see if the username is in current use.

Password Creation: An important feature we want is the ability to create a strong and safe password for our users accounts. To do this we would like to put limitations on a user's password. The password needs to be 8 to 20 characters long, has a number and a special character. The characters that a user can pick from are letters, numbers, and special characters.

Email Verification: Every account has an email that will be attached to it. Sometimes the wrong email address will be given. To prevent this we will send a verification email to the email address and the user needs to confirm that this is their email address.

Movie Selection:

The user should be able to view the list of available movies, search for a specific movie, and filter through the list of movies. When a user selects the movie, it should fetch all of the showtimes for that movie and allow the user to select it. The list of movies should be sorted chronologically, and the showtimes of the current day should be displayed under the movie, allowing the user to quickly select the movie and showtime together.

Test Sets #1:

Username:

1) Test if the username is already in use.

Password:

1) Test if the password meets the minimum requirement length of 8 characters.
2) Test if the password meets the maximum requirement length of 20 characters.
3) Test if the password contains a number character.
4) Test if the password contains a special character.

Email:

1) Test if an email was sent to the account's email address.

Test Set #2:

Select Screen:

1) Test if the movies can be selected display showtime information

Search Bar:

1) Checks if the search bar can find certain movies

Alphabetical Order:

1) Checks if the movie list on the movie selection page are alphabetically ordered

Showtimes:

1) Check if all the showtime information for a movie is correct

Filter:

1) Test if the movies can be sorted depending on varying aspects