

The UML Class diagram represents a Ticketing System, which consists of two main components - a MasterSchedule and Tickets. The MasterSchedule is an array of Movie objects, while Tickets is an array of Ticket objects.

The Ticketing System has three main operations - CreateTicket, addMovie, and cancelMovie, which are used to create a new ticket, add a new movie to the MasterSchedule, and cancel an existing movie from the MasterSchedule, respectively. There is also an operation called rescheduleMovie, which is used to reschedule an existing movie in the MasterSchedule.

The Ticket class has several attributes, including Movie (a string that represents the name of the movie), Time (an integer that represents the movie's start time), Location (a string that represents the theater where the movie is being shown), Age (an integer that represents the minimum age required to watch the movie), and Payment System (an object that represents the payment system used to buy the ticket). The Payment System object has several attributes, including totalPrice (an integer that represents the total price of the ticket), discount (a boolean that indicates whether a discount was applied), discountAmt (an integer that represents the amount of the discount applied), VerifyPayment (an operation that verifies the payment for the ticket), and issueRefund (an operation that issues a refund for the ticket).

The Movie class has several attributes, including Name (a string that represents the name of the movie), Length (an integer that represents the length of the movie in minutes), Motion Picture Association Rating (a string that represents the movie's rating), Movie Time (an integer that represents the movie's start time), Location (a string that represents the theater where the movie is being shown), Total Seats (an integer that represents the total number of seats in the theater), available seat (an integer that represents the number of available seats in the theater), cast (an array of strings that represents the cast of the movie), crew (an array of strings that represents the crew of the movie), and Review (an array of Review objects that represent reviews of the movie). The Review class has several attributes, including Rating (an integer that represents the rating of the movie on a scale of 1 to 10), Description (a string that represents a description of the movie), Review (an operation that adds a new review for the movie), SetRating (an operation that sets the rating of the movie), and setDescription (an operation that sets the description of the movie).

The Movie class is also connected to the Theater class, which has several attributes, including Theater Number (an integer that represents the number of the theater), Total Seats (an integer that represents the total number of seats in the theater), Seats (an array of Seat objects that represent the seats in the theater), currentMovie (an object that represents the current movie being shown in the theater), currentMovieTime (an integer that represents the start time of the current movie), and Schedule (an array of Movie objects that represent the schedule of movies for the theater). The Seat class has several attributes, including RowLetter (a character that represents the row of the seat), SeatNumber (an integer that represents the number of the seat), SeatType (a string that represents the type of the seat), Availability (a boolean that indicates whether the seat is available or not), SetAvailability (an operation that sets the availability of the seat), and getAvailability (an operation that returns the availability of the seat).

In this Ticketing System, users can cancel a ticket using the CancelMovie operation, which takes a Movie object as input. If the user cancels the ticket before the movie starts, they may be eligible for a refund. The Ticket class has an operation called VerifyPayment, which verifies the payment for the ticket and issues a refund if necessary. Payment methods can be registered to the user's account, allowing for a faster and more convenient checkout process in the future. Users can create a registered account, which stores their personal and payment information for future purchases. This also allows the system to provide a personalized experience for the user, with recommendations based on their purchase history and preferences.

Overall, this UML class diagram represents a Ticketing System, which allows users to create, view, and manage movie tickets, movies, theaters, and reviews. It provides a clear overview of the main components and operations of the system, as well as the relationships and dependencies between them.