

Advanced Software Development

Part 1

Group 3

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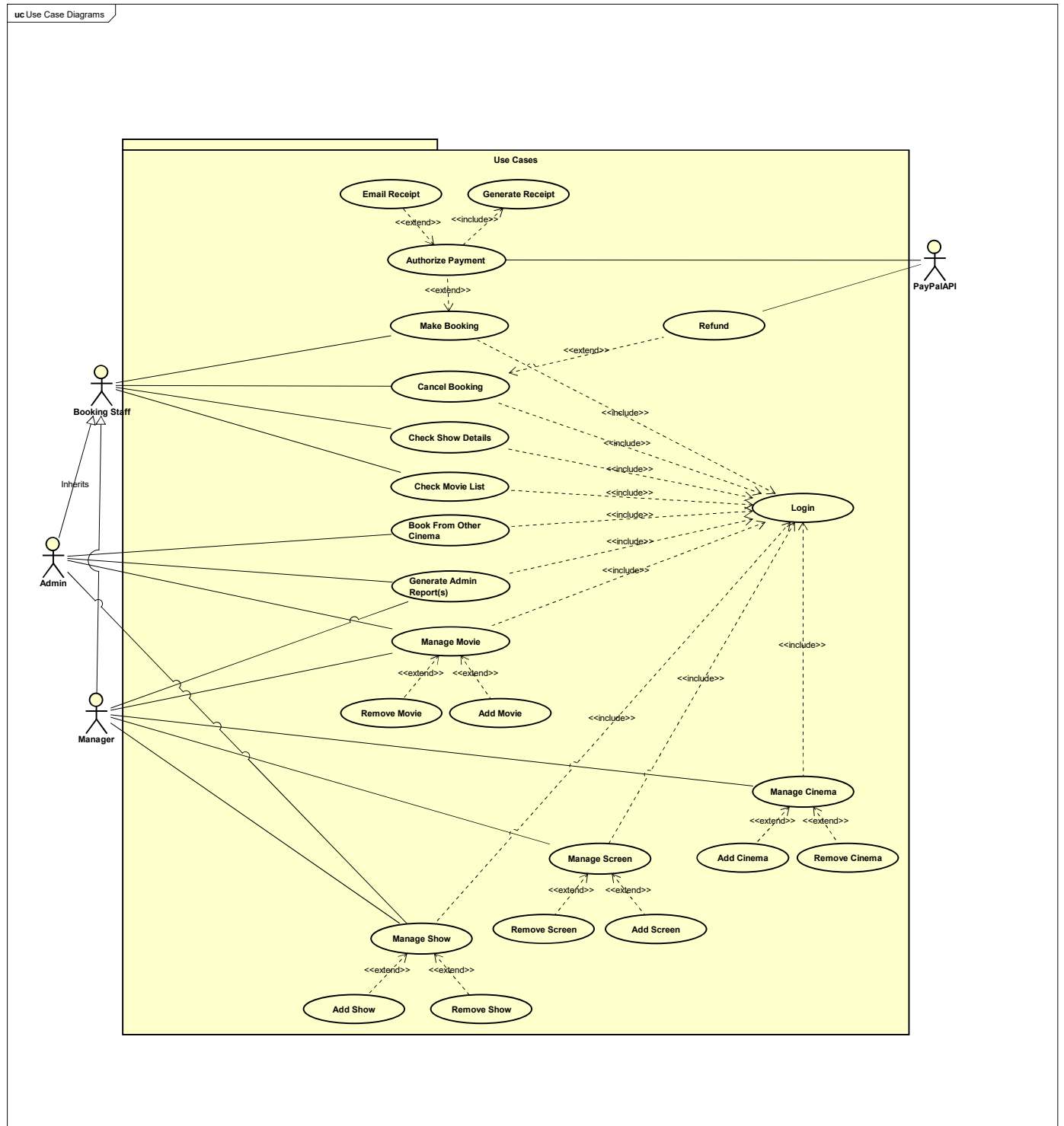
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Use Case Diagram



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Brief Description of UseCase Diagram

Booking Staff:

Are responsible for creating and cancelling movies on customer's behalf. They are also able to get the information of movie details like the name, genre, duration etc. Moreover, they can also access all of the bookings from their assigned cinema branch. Lastly, to create a booking the staff enters customer details into system.

Admin:

Admins are able to access all the functionality that Booking Staff can. Additionally, they are able to collect information to generate an Admin reports and create bookings for different cinema branches. Moreover, they can add/remove movies from screens as well as update show times.

Manager:

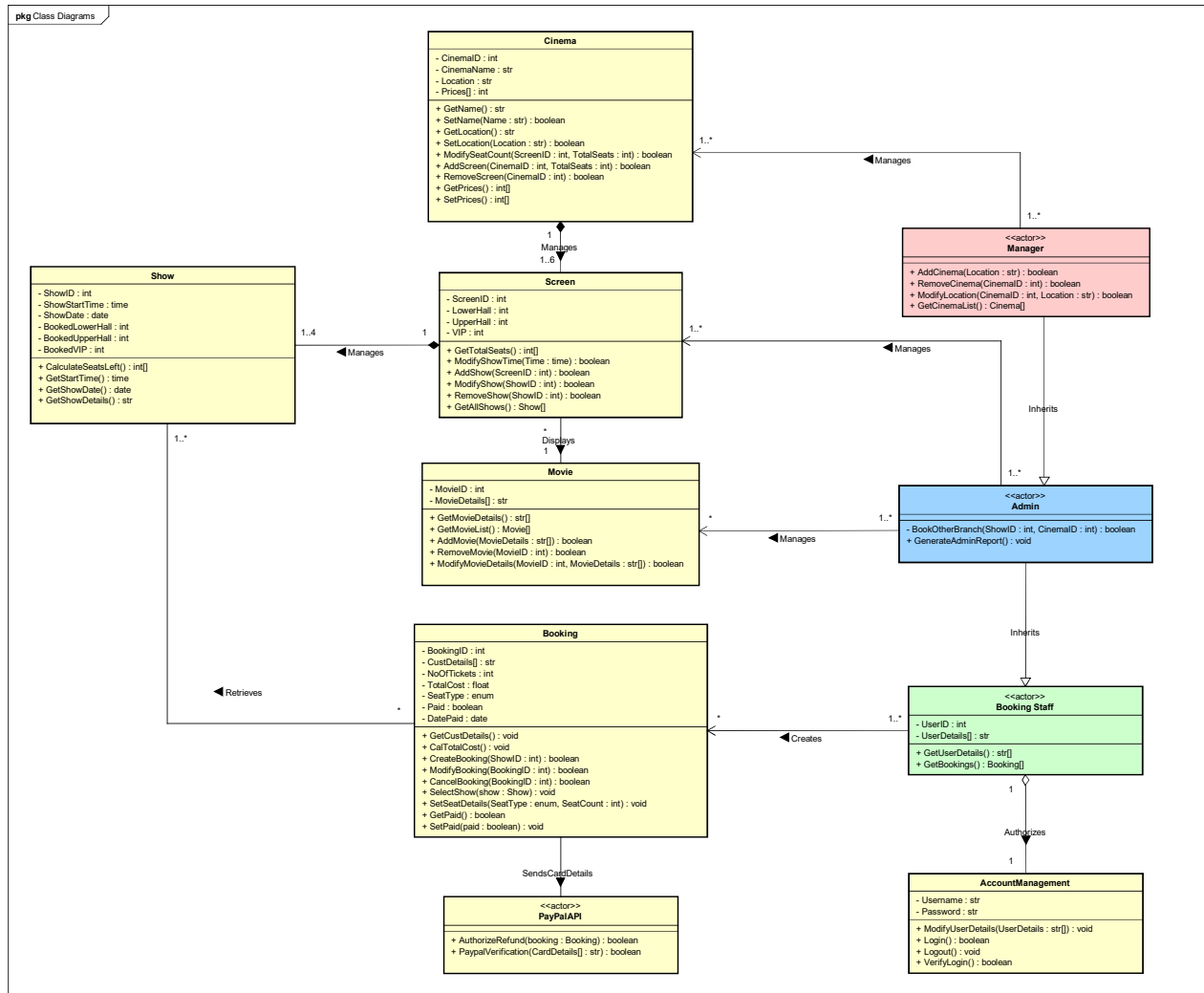
Managers are also able to do everything that Booking Staff can. The difference between an Admin and a Manager is that a Manager can expand the system by adding cinema branches from various locations. Furthermore, they can edit the amount of screens a cinema has as well as the seat numbers. They also can generate and view Admin reports.

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Class Diagram



Booking staff has access to the bookings. They can also access the Booking and Account Management class, which gives them the ability to alter bookings and personal information. The Admin class inherits all of the Booking staff functions. However, the key distinction is that Admins have the ability to create Admin reports (GenerateAdminReport()), make bookings at other cinemas (BookOtherBranch()) and manage shows. Finally, all of the Admins' functions are inherited by the Manager class, with the exception of the Book Other Branch method, which is set to private. Additionally, Manager can also modify cinemas.

Show relationship with Screen is composition, therefore if screen is to be destroyed, all shows will be destroyed as well. Similarly, the cinema manages screens, thus destroying cinema results in screens to be also destroyed. These relationships help to manage database entries and ensure no outdated information is kept. Moreover, this hierarchy helps to ensure Booking Staff and Admins only have access to the relevant functions increasing the security of the system.

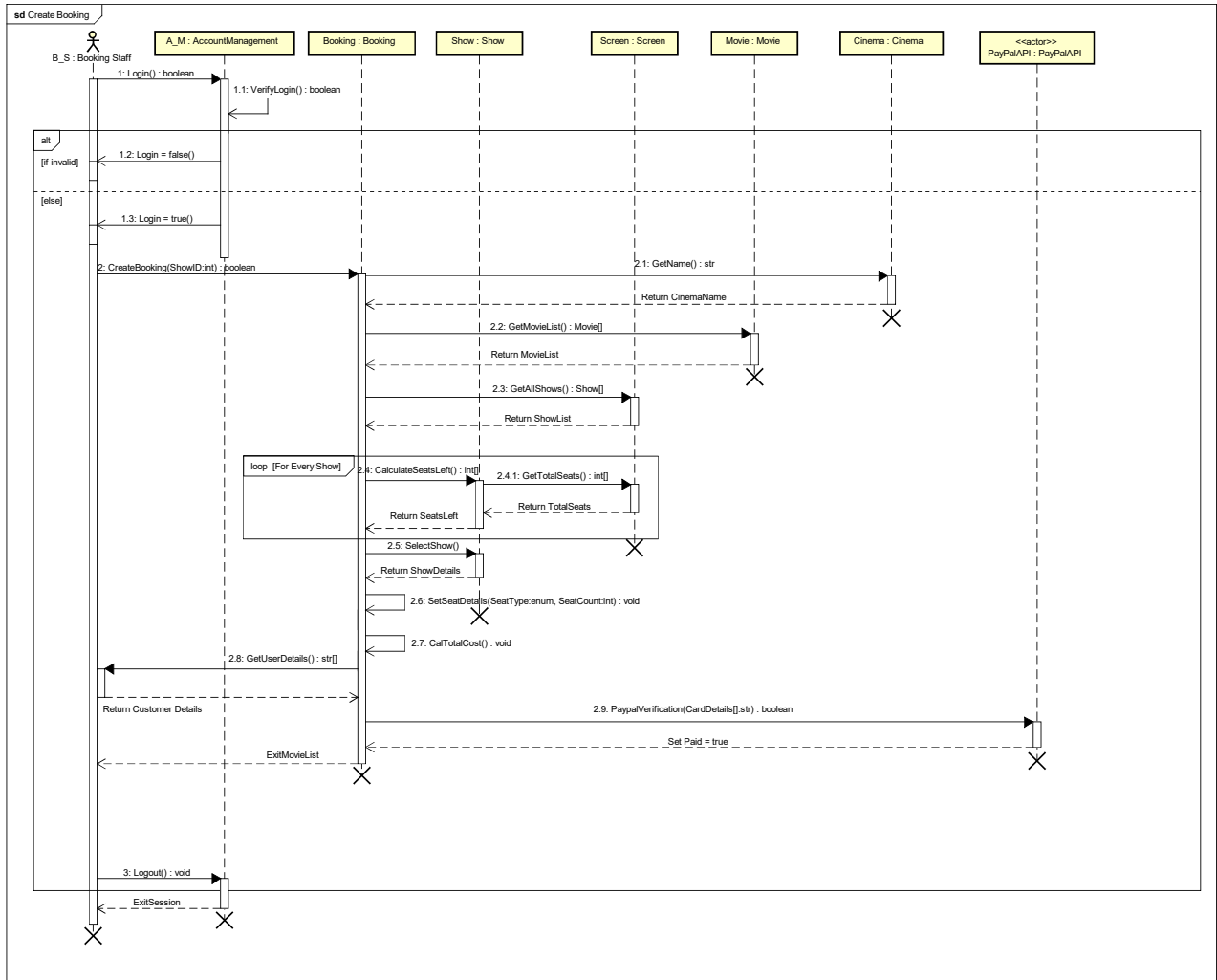
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Sequence Diagrams

1. Create a Booking Sequence Diagram



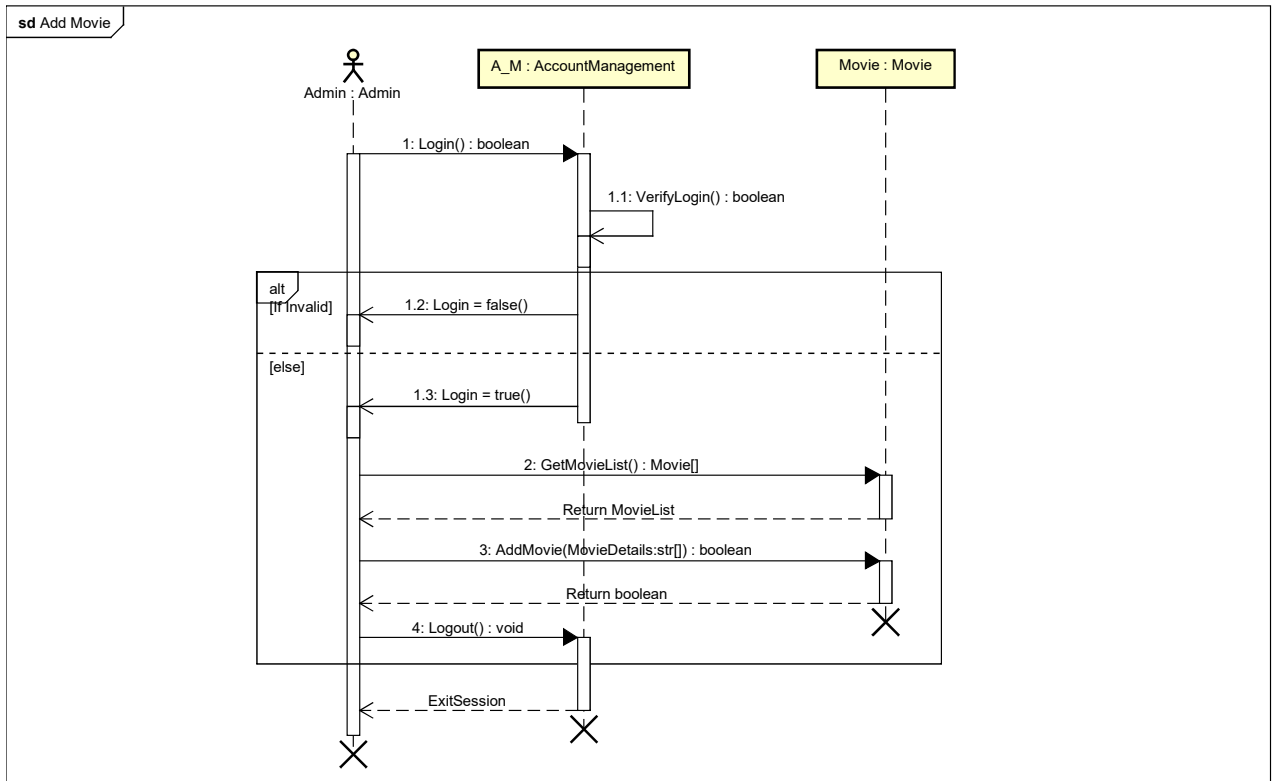
This sequence diagram starts with the Booking Staff logging into the system to verify the login credentials (VerifyLogin()). If the login is unsuccessful it returns an error, otherwise the user is able to create a new booking (createBooking()) in the branch he is assigned to. Next, the Booking Staff gets the movie list and show details (GetMovieList() and GetAllShows()), then the booking system calculates and returns seats left (CalculateSeatsLeft() and GetTotalSeats()). Once the user selects a show and the seat type (SetSeatDetails()), it enables the booking system to calculate the total cost of the booking (CalTotalCost()). After that, the system requests customer details (GetUserDetails()) proceeding with the payment using PaypalAPI (PaypalVerification()). Finally, the Booking Staff can exit from the movie list and logout (Logout()).

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2. Add a Movie Sequence Diagram



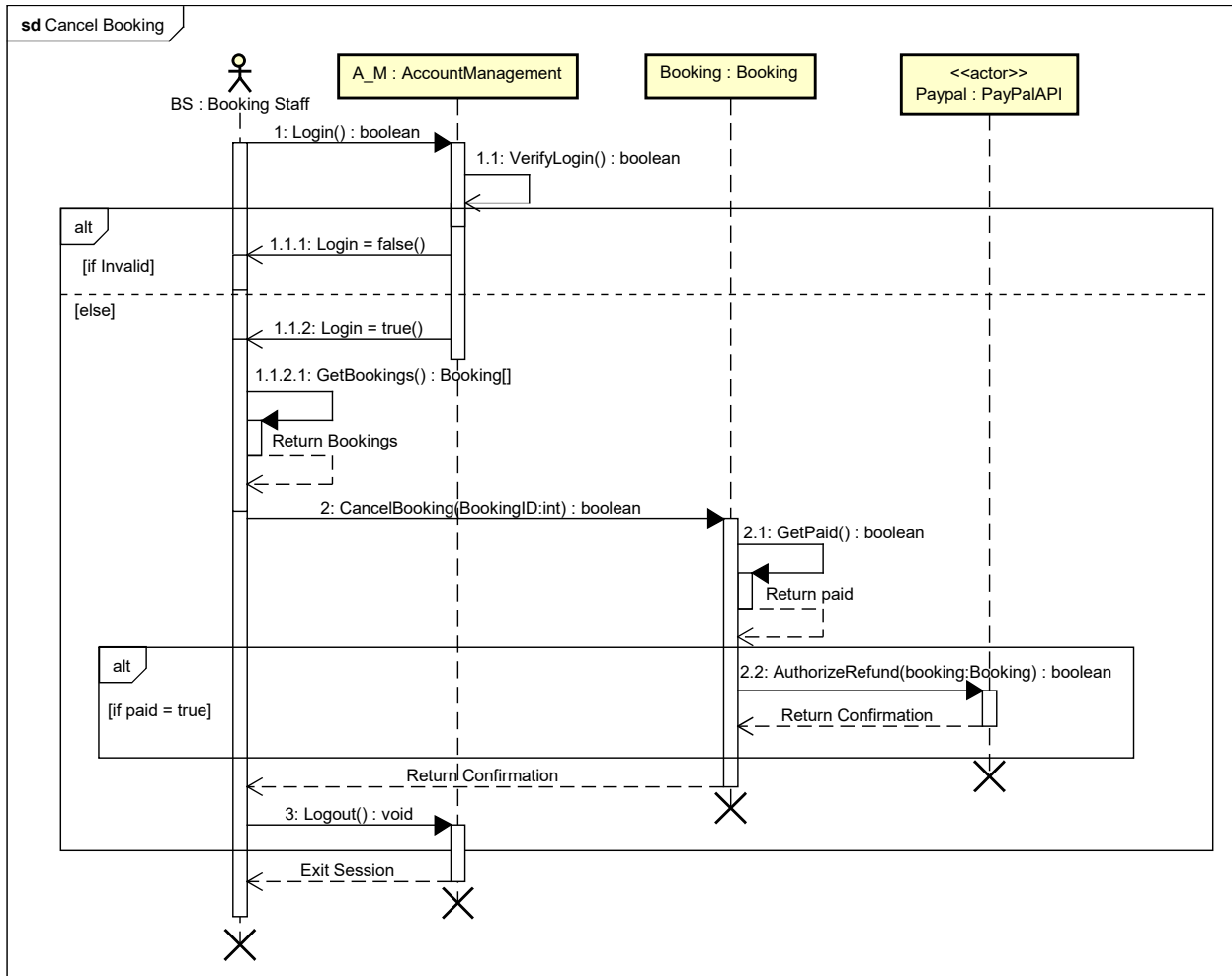
To add a movie, an Admin first has to login through a verification system to verify the user details. If it fails to verify (Username or Pass is incorrect) – an error message will be shown. Contrarily, if the details are correct – Admin will be taken to a different page to choose from a list of actions. In this case, Admin chooses to add a movie. In order to add movies, a movie list will be presented (using GetMovieList()). Then they can add movies to the existing list by providing details of the movie in the function (using AddMovie()). A confirmation message will appear and once they are satisfied, they are able to logout to exit the session.

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3. Cancel a Booking Sequence Diagram



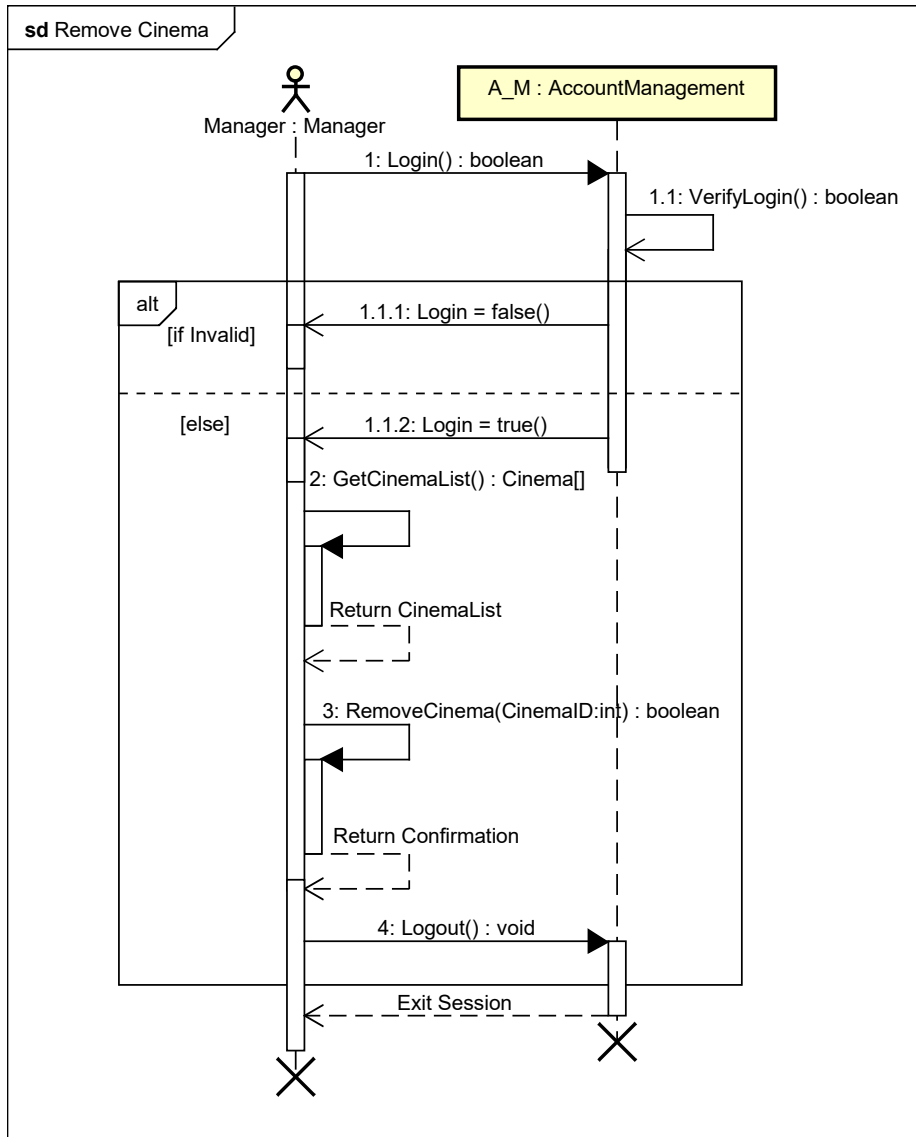
To cancel bookings, Booking Staff has to login using verification system to verify the user credentials. If the details are correct, the Booking Staff will be taken to a new page, otherwise, if details are incorrect – an error message appears. Next, in order to be able to cancel a booking they will first need to retrieve the booking details. To do that, the user will have to go to a list of all bookings in the branch (GetBookings()) and upon selecting the booking, they can choose to cancel it (using CancelBooking()). If the booking was paid for, a refund is issued by sending details to PayPalAPI and a confirmation message would be shown. Finally, once satisfied, the user is able to logout and end the session.

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4. Remove a Cinema Sequence Diagram



To remove cinemas, the Manager has to login by entering his credentials. If the details are correct, it opens the Manager page. However, if the details are incorrect, an error message is shown. To remove cinemas, the Manager will need to access the list of all cinemas (this is done using GetCinemaList()). From the aforementioned list, a Manager can select a specific cinema to remove it. Once they are satisfied, they can logout and end the session.

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