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1. Scenario Description in Words

This scenario describes the complete journey of a registered user booking a movie ticket. The user logs into the system, browses the available movies, selects a specific movie and showtime, and chooses their seats. They then proceed to a third-party payment gateway to complete the transaction. Upon successful payment, the system performs several tasks simultaneously: it generates the e-ticket, sends a confirmation email, and updates the internal sales reports. Finally, as a value-added service, the system automatically sends a reminder to the user via email one hour before the movie is scheduled to begin.

2. Step-wise Description of the Scenario

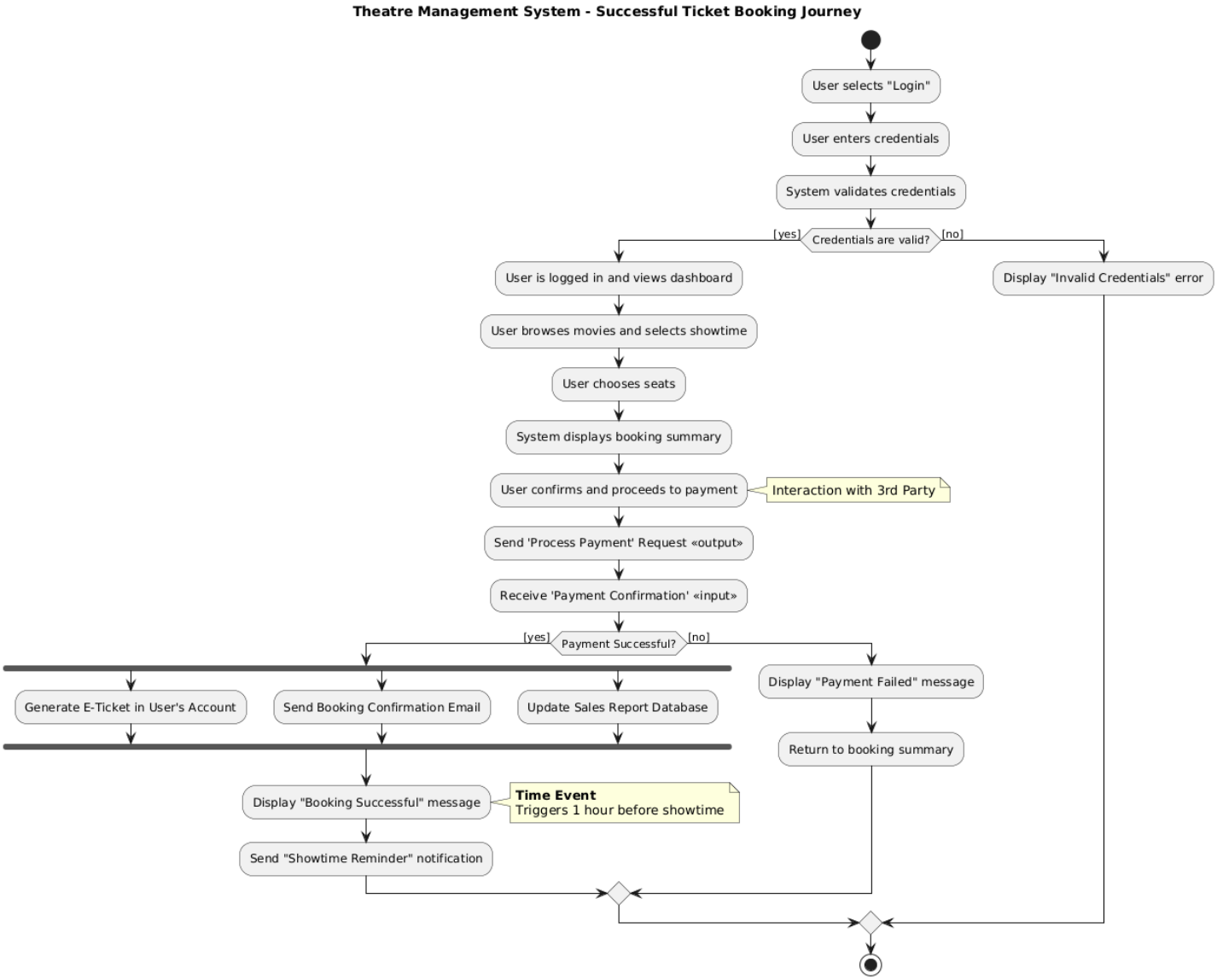
1. A registered user opens the application and selects the "Login" option.
2. The user enters their credentials (email and password).
3. The system validates the submitted credentials.
4. [Decision] The system checks if the credentials are valid.
5. [Condition: Credentials are valid] The system logs the user in and displays the main dashboard.
6. The user browses the movie listings and selects a movie.
7. The user chooses a specific showtime and selects their desired seats from the seating chart.
8. The system displays a summary of the booking (movie, time, seats, total cost).
9. The user confirms the details and proceeds to payment.
10. The system Sends a Signal (API Payment Request) to the external Payment Gateway service.
11. The system waits for a response from the third-party service.
12. The system Receives a Signal (API Payment Success Confirmation) after the user completes the payment on the gateway's interface.
13. [Decision] The system checks the payment status.
14. [Condition: Payment is successful] The system initiates three tasks in parallel (Fork):
    - (Parallel Task 1) The system generates a printable e-ticket and makes it available in the user's account.
    - (Parallel Task 2) The system sends a booking confirmation email to the user's

registered address.

- (Parallel Task 3) The system updates the booking records and sales report database for administrative analysis.

15. The system waits for all three parallel tasks to complete (Join).
16. The system displays a "Booking Successful" message to the user.
17. A scheduled Time Event triggers one hour before the selected movie showtime.
18. The system sends a "Showtime Reminder" notification email to the user.
19. The scenario concludes (Final Node).

3. Activity Diagram without Swimlanes



4. Activity Diagram with Swimlanes