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TE COMP-B - Batch D

SE LAB

Experiment 2: UML Diagrams

Use Case Diagram:

Table 1: List of Actors

Actor	Description
User	A registered user who can search for travel packages, book trips, view trip history, modify profile details, and provide feedback.
Admin	The admin has control over the system, managing users, viewing statistics, deleting bookings, and ensuring smooth operation by overseeing the system.

Table 2: List of Use-Cases

UC1	**User Login**
UC2	**Fetch Travel Options**
UC3	**Compare Costs**
UC4	**Book Travel**
UC5	**Make Payment**
UC6	**Calculate Budget**
UC7	**Budget Optimisation**

UC8	**Manage Travel Options**
UC9	**Generate Reports**
UC10	**Handle APIs**
UC11	**View User Activity**
UC12	**Manage User Account**

Use Case Scenarios:

#UC1:

Use Case	User Login
Goal	Log in to the system with valid credentials.
Actors	User
Pre Condition	User has an account in the system.
Post Condition	User is authenticated and logged into the system
Mainline Scenario	<table><tr><td>User Actions</td><td>System Actions</td></tr><tr><td>1) User enters login credentials.</td><td>1) System validates credentials and logs the user in.</td></tr></table>
Alternate Flows	1) User enters incorrect credentials. 2) System displays an error message and prompts for re-entry.

#UC2:

Use Case	Fetch Travel Options
Goal	View available travel options based on filters.
Actors	User
Pre Condition	User is logged in.
Post Condition	Travel options matching the user's criteria are displayed.
Mainline Scenario	<table><tr><td>User Actions</td><td>System Actions</td></tr><tr><td>1) User selects filters (destination, date, budget).</td><td>1) System retrieves matching travel options.</td></tr></table>
Alternate Flows	1) No matching options found. 2) System displays a "No options available" message.

#UC3:

Use Case	Compare Costs
Goal	Compare costs of different travel options to make an informed choice.
Actors	User
Pre Condition	User has fetched travel options.
Post Condition	A comparison of travel costs is displayed.
Mainline Scenario	<table><tr><td>User Actions</td><td>System Actions</td></tr><tr><td>1) User selects multiple travel options to compare.</td><td>1) System calculates and displays the cost comparison.</td></tr></table>
Alternate Flows	1) User selects fewer than two options. 2) System displays a prompt to select more options for comparison.

#UC4:

Use Case	Book Travel
Goal	Book a selected travel option.
Actors	User
Pre Condition	User is logged in and has selected a travel option.
Post Condition	Travel is booked, and payment is processed.
Mainline Scenario	

	User Actions	System Actions
	1) User selects a travel option.	1) System processes payment.
	2) User proceeds to pay.	2) System confirms the booking.
Alternate Flows	1)Payment fails.	
	2) System notifies the user and requests a reattempt.	

#UC5:

Use Case	Make Payment
Goal	Complete payment for the travel booking.
Actors	User
Pre Condition	User has initiated a booking process.
Post Condition	Payment is successfully completed.
Mainline Scenario	

User Actions	System Actions
1) User enters payment details.	1) System processes payment and confirms it.

Alternate Flows	1) Payment gateway timeout.
	2) System shows error and allows retrying payment or using a different method.

#UC6:

Use Case	Calculate Budget
Goal	Estimate the total budget for a travel plan.
Actors	User
Pre Condition	User has selected travel options.
Post Condition	Estimated budget is displayed.
Mainline Scenario	<table><tr><td>User Actions</td><td>System Actions</td></tr><tr><td>1) User selects options for budget calculation (e.g., number of travelers).</td><td>1) System calculates and displays the total estimated budget.</td></tr></table>
Alternate Flows	1) User inputs invalid data. 2) System shows an error and asks the user to re-enter valid data.

#UC7:

Use Case	Budget Optimization
Goal	Suggest optimized travel options based on the user's budget.
Actors	System
Pre Condition	User has calculated a budget.
Post Condition	Optimized travel options are displayed.
Mainline Scenario	

User Actions	System Actions
	1) System analyzes the user's calculated budget. 2) System suggests travel options that fit within the budget.

Alternate Flows	1) No optimized options available. 2) System notifies the user and suggests revising filters or increasing the budget.

#UC11:

Use Case	Manage Travel Options
Goal	Add, update, or delete travel options.
Actors	Admin
Pre Condition	Admin is logged in with required privileges.
Post Condition	Travel options are added, updated, or deleted.
Mainline Scenario	

Admin Actions	System Actions	User Actions
1) Admin adds/updates/deletes travel options.	1) System applies the changes to the user account.	1) Users can view the updated options via Fetch Travel Options.

Alternate Flows	1) Admin submits invalid data (e.g., missing fields). 2) System prompts the admin to correct the input.

#UC9:

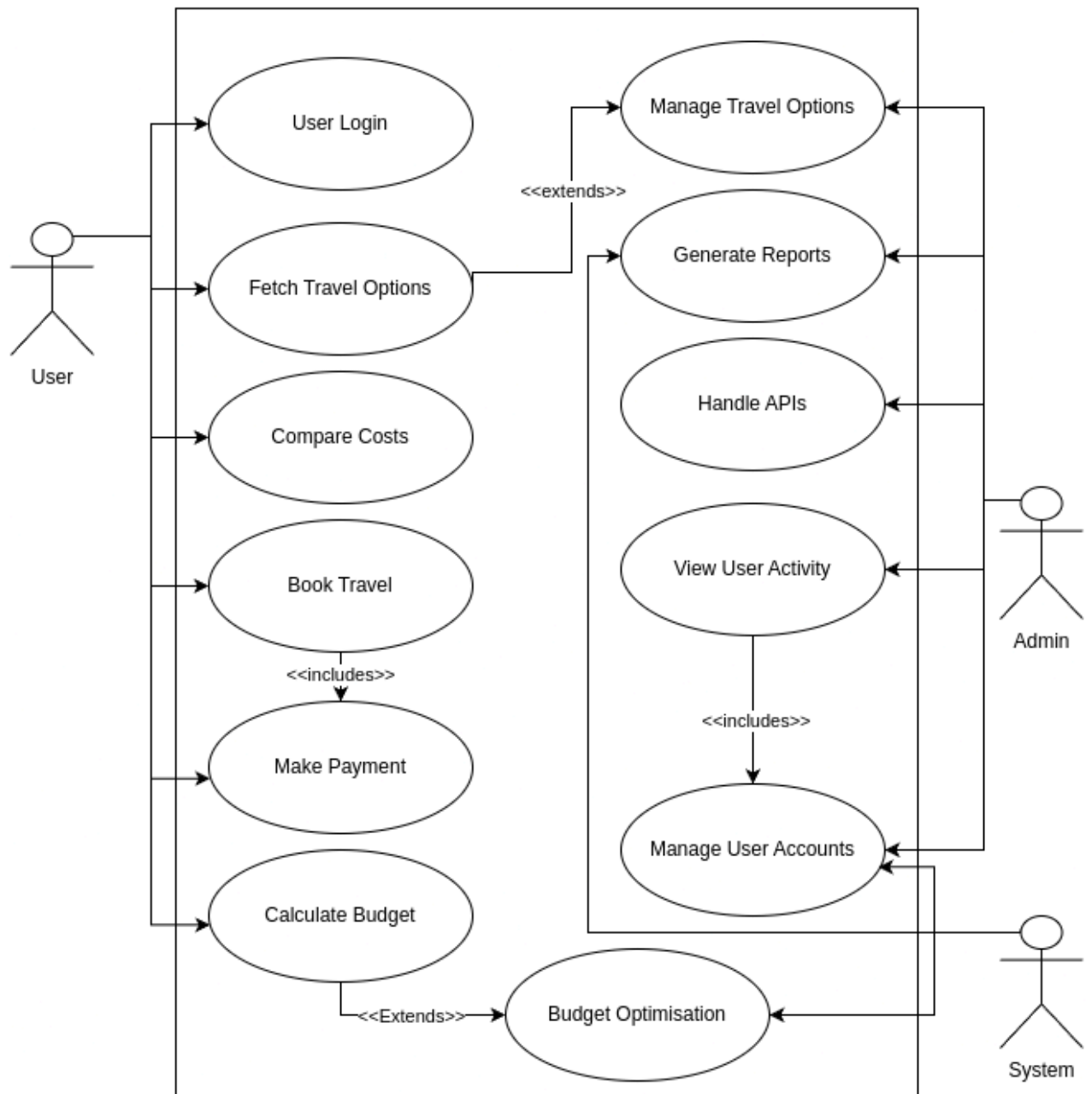| Use Case	Generate Reports
Goal	Generate reports on bookings, user activities, and payments.
Actors	Admin
Pre Condition	Admin is logged in with the required privileges.
Post Condition	System generates the requested reports.
Mainline Scenario	<table><tr><td>Admin Actions</td><td>System Actions</td></tr><tr><td>1) Admin selects the report type (bookings, payments, or user activity).</td><td>2) System validates credentials and logs the user in.</td></tr></table>
Alternate Flows	1) System generates reports according to the admin needs.

#UC10:

Use Case	View User Activity
Goal	View activity logs such as login times, bookings, and feedback.
Actors	Admin
Pre Condition	Admin is logged in with appropriate privileges.
Post Condition	User activity logs are displayed.
Mainline Scenario	

	Admin Actions	System Actions
	1) Admin selects a user to view their activity.	2) System retrieves and displays the user's activity.
Alternate Flows	1) No activity data available.	

#UC11:

Use Case	Manage User Accounts	
Goal	Admin can update, suspend, or delete user accounts.	
Actors	Admin	
Pre Condition	Admin is logged in with required privileges.	
Post Condition	User account changes (suspend/delete) are applied.	
Mainline Scenario		
	Admin Actions	System Actions
	1) Admin selects a user account. 2) Admin updates, suspends, or deletes the account.	1) System applies the changes to the user account.
Alternate Flows	1) Admin tries to delete a user with active bookings. 2) System alerts and shows a warning to the admin.	

Use Case Diagram:

| Conclusion | The UML diagrams for the travel system outline key interactions between users and admins. Users can search, compare, book travel options, and manage budgets, while admins handle system management, travel options, and |

	reporting. This comprehensive use case model ensures an efficient, user-friendly travel management system.