Introduction to Computer Communications – Project —a website in MVC

The project – Travel Agency Service

<u>**Instructions:**</u>

1. The project can be developed in pairs in MVC **ONLY**.
2. The project is to be defended during the dates published in Moodle (later in the course). Both partners must be present during the defense. **Both partners will be graded separately.**
3. The project must be submitted till **18/01/2026** into Moodle. Both partners should submit the project and the names of both partners must be included. **Don't** write the partners' names in the comments section in Moodle!
4. The delay can be granted **only** due to the sickness and military reservation service (miluim). The delay can be asked **only** via a student request with the attachment of relevant documents.
5. Copying ANY part is strongly prohibited and will be graded by 0, all the students will stand to disciplinary committee in this case.

You are to develop a website for managing a **Travel Agency Service**, using all technologies taught in the lab sessions.

The user types and their permissions, respectfully: admin (managing the site) and users (searching trips, booking packages, paying, receiving notifications). Other users can be added with their permissions. Different types of users should get a separate page view according to their permissions.

The **Travel Agency Service** is a simplified version of real platforms such as *Booking.com*, *Expedia*, or *Trip.com*. It should manage travel packages, bookings, waiting lists, payments, trip catalog, user notifications, reviews, etc.

The following is a necessary list of requirements to be implemented in the project. <u>You are responsible of taking care of other possible constraints</u> (e.g., multiple users simultaneously trying to book the last available room, invalid payment data, etc.). All the constraints, which do not meet requirements, must give a relative error message.

<u>**Admin**</u> is responsible for:

- Adding/removing travel packages; every package must include destination, country, travel dates (start/end), price, number of available rooms, package type (family, honeymoon, adventure, cruise, luxury, etc.), age limitation, trip description, and images.
- Managing the prices. Admin can adjust package prices and apply temporary discounts. If a package has a price decrease, show the strikethrough previous price and the new price. The discount is active for a limited time only (a week at the most).
- Managing the waiting list (in case a package has no rooms left). Each package has a fixed number of rooms. When it's a user's turn to book, (s)he gets notified by email that a room is available.
- Managing the trip catalog (categories, sorting options, visibility of packages, etc.).

- Managing the booking time frames – Admin defines rules such as the latest date a trip can be booked or when cancellations are allowed. Admin also triggers reminders (for example, a reminder sent 5 days before the trip departure).
- Managing the registered users in the database – adding/removing users, viewing user booking history, and managing user account status.
- Etc.

Users can:

- Choose a trip according to its destination, country, keywords, or package name.
- Search for a needed trip in the search field. The search can be performed even after a user enters a partial query (for example, "Paris" instead of "Paris Honeymoon Package"). In this case, all trips related to Paris are shown as the search results.
- Book an available trip. A user can book up to 3 upcoming trips at the same time.
- Book the last available room while browsing the site from the same localhost. The first person to request the last room will be able to book it. All other users will be given a chance to enter a waiting list, which shows how many people are waiting for the same trip and when a room is estimated to become available. A user can then decide if (s)he wants to enter the waiting list.
- Make a payment using a credit card. Please note – no credit card number must be stored in the database! The user will be asked for a credit card number every time (s)he books a trip.
- See booked trips in his/her personal dashboard.
- If it's an upcoming trip, the remaining time until departure is shown, and the itinerary can be downloaded (PDF or document).
- Past trips are optionally shown.
- A user can cancel a trip only if it's within the valid cancellation period.
- Rate / give feedback for any trip that they booked. The rating/feedback must appear on the relevant trip page.
- Rate / give feedback for the booking/purchasing experience on the website. The rating/feedback must be published on the main page in the dedicated section "What users think about our service."
- Etc.

Trip gallery:

- Has a list of travel packages with images, destination, country, price (normal and discounted if active), available rooms, travel dates, category, and age limitation.
- Has at least 25 trips in its database – the dynamic number of trips is shown on the main page and changes dynamically once trips are added or deleted.
- A trip list can be ordered according to:
  - o price increase (from low to high)
  - o price decrease (from high to low)
  - o most popular
  - o category (family, honeymoon, adventure, cruise, luxury, etc.)
  - o travel date
- Users can choose a trip of a specific destination/country/category/price range/travel date.

- Trips list can be filtered to show only discounted packages (on sale).
- Some trips can have multiple departure years for the same destination.
- Trips options are **Book** and **Buy Now** (direct payment) – there are two buttons for each trip.
- Etc.

Booking a trip:
- Users can choose to book a travel package.
- Users can download the itinerary after booking (PDF or document).
- A booking option can be changed only before pressing the **Confirm Payment** button.
- Users receive a notification email after payment.
- If a trip is fully booked, users can join a waiting list.
- Users can book immediately if rooms are available.
- It's impossible to book a full trip.
- Users cannot exceed 3 active booked trips at the same time.
- Users cannot book a trip when it's not their turn in the waiting list.
- Only registered users can book a trip. It's obligatory to store an email so the user receives notifications.
- Etc.

Payment:

- Managing a shopping cart.
- Processing a payment using an SSL certificate (free certificates allowed – mandatory).
- No credit card numbers must be stored in the database.
- Optionally, users can pay via PayPal (redirection to PayPal API).
- Users can place trips in a shopping cart and pay from there or pay directly from the gallery by pressing **Buy Now**.
- After payment, a notification message is shown (success or failure), and the user is redirected to the Home page.
- Etc.

General requirements:

- All data must be managed in the database according to user permissions.
- Any violation will result in point reduction.
- Using artificial or placeholder names (e.g., Test1, test2) for users, destinations, or other project parameters will reduce your grade. Realistic data is required.

Note: You are responsible of other logical constraints as stated before!

Good Luck!!