**Introduction to Computer Communications – Project —a website in MVC**

**The project – Travel Agency**

**Instructions:**
1. The project can be developed in singles, pairs or in thirds in MVC. **In addition to MVC**, you can choose to implement other web development technologies on YOUR RESPONSIBILITY. **Please note that if it's a team of three there is additional assignment for that!**
2. The project is to be presented during the dates published in Moodle (later in the course). All the partners must be present during the meeting. **Both partners will be graded separately for their part in their project.**
3. The project must be submitted till 07/01/2023 into Moodle. Only one partner should submit the project but the names of both partners must be included.
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 the Travel Flights booking at the Travel Agency (local host) using all the technologies taught during the lab sessions.

The user types and their permissions, respectfully: admin (managing the site) and users (booking a flight and confirming the payment). Other users can be added with their permissions.
All of the types of users should get a separate page view according to their permissions.

Travel Agency is a slight version of the real Travel Agencies, which should manage flights, tickets, countries, payments, etc.

**The following is a necessary list of requirements to be implemented in the project.** You are responsible of taking care of other possible constraints (e.g., different users are simultaneously trying to book the same seat in the same flight while browsing the site from the same localholst, etc.). All the constraints, which does not meet requirements, must give a relative error message.

Admin is responsible for (can be managed automatically in a database):
- adding/removing flights
- managing the prices
- managing the countries (where each flight can take)
- managing the number of seats in each airplane
- adding the number of seats for each flight.

Users can:
- choose a flight according to its date and time, country
- "book" an unoccupied seat (i.e., the seat is stored for the user)
- Change a number of tickets (if available) till the "booking" (that is, after the number of tickets is chosen and payment is processed, the number of tickets cannot be changed).
- Make a payment
- Etc.

### Flight options:
- has a list of flights with their destination and origin country, flight date and time, price
- **Bonus (6 pts)** : a flight list can be ordered according to
    - price increase
    - price decrease
    - most popular
    - country
- Users can choose flights of a specific date/country/time/price range
- Direct flights only.
- One-way or two-way flight.

### Buying a ticket:
- Users can choose a ticket for a specific flight at a specific date and time to a specific destination from a specific destination.
- It's impossible to buy a ticket for a flight, which already departed

### Payment:
- Processing a payment (using SSL certificate – there are free ones online – is a **bonus  - 5 pts**)
- **No real** credit card must be stored in the database but some "credit card" must be stored for payment in database or must be entered during payment by the user (i.e., the user is redirected to the payment page. (S)he must enter ID number and Full Name of the payer and credit card number. The user is asked if (s)he wants to store the payment details in a database of the agency.
- **Bonus (5 pts):** the ability to pay with a PayPal (redirection to a PayPal site using its API)
- Show notification message after the payment is accepted or failed. After that, a user is redirected to Home page.
- **Bonus (10 pts)**: to encrypt the payment and payment details – suggestion – AES algorithm.

All data must be managed in the Database according to the user permission. For any violation, the points will be taken.

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

### Groups of three must implement:

- Two of the bonuses for your choice – the requirement!!.

**Good Luck!!!**