

**Web Applications A.Y. 2022-2023**  
**Homework 1 – Server-side Design and Development**

**Master Degree in Computer Engineering**  
**Master Degree in Cybersecurity**  
**Master Degree in ICT for Internet and Multimedia**

Deadline: 28 April, 2023

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# 1 Objectives

This project is intended to be a Web App that will be used by ESN Padova, an active section of ESN Italia. It would help them to streamline and facilitate tasks of registering members and maintaining a membership list different every year (currently made by volunteers). The use of a web application would then likely increase the visibility of its events to international students and make it easier to register for events organized by ESN Padua, just from their smartphones.

Furthermore, that allows volunteers to manage events and Erasmus students, since there is the opportunity to join some events only if you're a member of ESN Padova (that corresponds in getting an ESNcard and pay a fee).

At the moment, subscription is made with a paper form, the payment by cash or POS and the overall database is a spreadsheet. Events are managed by communication manager, who post them on Instagram, website and Facebook group. Mainly former platform.

As result, this is a very time consuming process, that requires a lot of effort from volunteers and, what is more, it is not very efficient.

Overall goal is to facilitate the process and build a stronger database.

## 2 Main Functionalities

Main functionalities are intended to facilitate users and event management, besides a stronger database. Above the list of functionalities asked by a group member, who's also an active volunteer in ESN Padua. After discussing them with the group, we listed these goals for the web app.

### 2.1 Database

### 2.2 User Management

Users should be able to create a new account autonomously and confirm it via email. Also applying for ESN Card should be done without paper (as it's done at the moment), filling all necessary information for membership remotely, saved automatically in the database.

Furthermore, users would have a tiered system of participation, avoiding non eligible users to enter ESN events. Italian speaking users needs to be volunteer to participate ESN events, since they also give access to conventions with many businesses.

### 2.3 Event Management

## 3 Data Logic Layer

### 3.1 Entity-Relationship Schema

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### 3.2 Other Information

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## 4 Presentation Logic Layer

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### 4.1 A page

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## 5 Business Logic Layer

### 5.1 Class Diagram

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### 5.2 Sequence Diagram

### 5.3 REST API Summary

URI	Method	Description	Filter
What is the URI?	What HTTP method uses?	Describe briefly the result of calling the URI	is it behind a filter?

Table 2: Describe in this table your REST API

### 5.4 REST Error Codes

Error Code	HTTP Status Code	Description
Error Code Identifier	Corresponding HTTP Status Code	Description of the error

Table 3: Describe in this table your REST API

### 5.5 REST API Details

#### A resource

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- URL: the URL to retrieve it
- Method: Method to retrieve it
- URL Parameters:
- Data Parameters:
- Success Response:
- Error Response:

## **6 Group Members Contribution**

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