

TP Subjects

1 General instructions

This TP consists in $8 \times$ slots of 1h30. By two-person teams, you will have to follow and answer the instructions that will be given to you latter. The notation consists in:

- a small PDF report answering the questions that require so.
- the project source code.
- a 10min discussion with the teacher on October 10th (last TP slot).

2 Common subject goal

Your goal is to create a **REST API** (Application Programming Interface) to handle some data and access to it. A REST API is a way to communicate with a server and access resources located in the server. For this REST API, all queries made to communicate to the server and for the responses will be in **HTTP**. You will implement a **Flask** application to render the server, and **sqlite3** to handle the database (a skeleton of such an application will be provided to you).

3 Subjects

Your first task is to choose one of the subjects with your partner. Caution! First come, first served.

Cyber incidents

The DGSE has specific requirements for its data. The agents are authenticated using a username and a password. When an attack is discovered, an agent is tasked with collecting information about it, such as the date of the attack, its title, description, type of attack (espionage, data destruction, etc.) and the main sources of information. Next, the agent must gather information on the victims of the attack and the industry sectors that have been targeted. Once this data has been collected, the agent can begin the real investigation

by looking for the group of attackers responsible for the attack. He wants to know which country they come from and whether or not they are sponsored by their government. Sometimes those responsible for the attack cannot be found or clearly identified, so the agent can mention the main suspect of his investigation without confirming it. Finally, the agent should add a possible response from the victim to the attack in the form of a type and source of information.

JO tickets

The IOC has specific requirements for its data. Spectators must be authenticated using a username and password. They can buy several tickets, and each ticket allows the spectator to enter with a certain number of unspecified people. A ticket allows a spectator to access an event in a specific area of a venue. Each venue can have several locations and a ticket only allows access to a specific location. Venues are identified by a code and have a name and a city name, while locations are also identified by a code and have a description to help spectators locate them. An event takes place on a certain day, in a certain time slot (start and end date), to allow spectators to attend a phase of a competition of a certain type and for a single gender. As some events may be cancelled, the IOC wishes to monitor the status of all events so that spectators can be alerted. In addition, each event must include a discipline that is easily identifiable by its unique code and by its name. Finally, the results of most competitions are accessible via URLs, and several events may have the same results URL for the same competition.

Paris 2024 News

Our community of users can find different information on the "Paris 2024 News" web application. Whether it's to impress colleagues at the coffee machine or to strategically bet money, our users are the most informed about Paris 2024 Games. First, users can choose to follow one or more athletes. Every athlete has a full name, a nationality, a gender, a birthday date, speak language(s) and practice discipline(s). You can also have some evidence if your favorite athletes want to evade tax, chill at the beach or train very hard all day long with their residence city. Fun facts such as a text description of the athletes' hero or hobbies are also provided (if the athlete is fun though). If the discipline happened, the athlete either won a medal (gold, silver, bronze) or did not. Second, our users stay up to date on country medal numbers, the most important Games information, of course. The country medal table is ordered by medal importance numbers. Users may follow one or several countries. When a user follows an athlete, an event is generated for further analysis (i.e., data resale for money gain). This event information includes the date and the reason for the following.

Airplane Crash Investigation Squad

Our team is composed of professional journalists. They are identified by their username and password in the web application. By the end of the investigation time, all airplane crashes will have been assigned to a journalist. Some crashes may require the analysis of several journalists because of their exceptional seriousness. Note that the journalists must investigate the crash by the date specified at the assignation. A crash happened at some date. A crash often provokes the death of the person(s) aboard: either all of them, part of them or nobody died. The incident involves some planes, which have a type, an ICAO registration and/or a construction/serial number. Finally, a plane is operated by an entity that has a name and that is either civil or military. A plane is not necessarily associated to a crash. Once analyzed, every crash should be summed up within a report. The report contains a short summary and a label regarding the incident cause (mechanical, human, attack).