The TP sessions $9 - 13$ are dedicated to the project.

1   Project description

The goal of the project is to design an application that uses a `postgreSQL` database to manage all the data.

<div align="center" style="color:blue">You will choose and propose to me your own project.</div>

Data. You must use publicly available data.

> **Links for Data**
>
> Here are some suggestions for finding data :
>
> `https://www.kaggle.com/datasets`
> `https://www.data.gouv.fr/datasets`

Functionality. You should decide the features to implement in your application. Here are some suggestions for general ideas:

- Give the option for users to create an individual account with a password.
- Save past queries in the database, and then suggest options for new search using most frequent past searches (done by a `query` in the database).
- Give option to sort the results by various parameters.

Project suggestions. Here are some project suggestions, but please, feel free to propose your own project:

- A library application for `USPN`.
- An application for remembering and storing all meals offered by `CROUS` for the past years.
- An application like the website `Goodreads`.
- An application to store food recipes.
- A database for movies and tv series.

Good Luck ... and importantly, have FUN!

2   Submission

Here are the steps to follow for submitting your project:

Step 1, deadline: 15/11/2025.

    Email to `nabil.mustafa@univ-paris13.fr` the following information:

- first and last names of all group members and their student ids,
- project title, and a one paragraph project description,
- a link to the data that you plan to use (more data can be added later).

Step 2, deadline: 06/01/2026.

    There are two things to do for the final project submission:

(a) **Email to `nabil.mustafa@univ-paris13.fr` the following files:**
- The PDF file of your report.
- State the Postgresql account (`l3info_xx`) where your project is stored.
- **One** `Python` script that contains the main project code. This code **must** be executable on the computers in the salles de TP. I should be able to run your project application directly from the information you give me.

    If it does not work on these computers, you get a 0 note for the project.

(b) **Make a Gitlab project (set to private) at**
        https://gitlab.sorbonne-paris-nord.fr/
    and put the following in your Gitlab project:
- add me as a member (my account id: `nabil.mustafa`) so I can access it.
- A `README.md` file that contains your report. You should make it nice, with images, tables, illustrations.
- **One** `Python` script that contains the main project code.
- **All** `Python` scripts that were used to parse the input data into `SQL` commands.

Step 3, deadline: 08/01/2026.

    I will send you the time of your soutenance later.

    The soutenance will take place on 08/01/2026 and 09/01/2026.

    Soutenance will be group by group, but the project final note will be individual.

3   Administrative details

- At *most* three students in each project (for any exceptions, you must discuss with me for authorization).

- We have already covered various *pieces* of technology that you can use:
  - `GUI` (buttons, lists, forms) with `Qt6Python`,
  - connect to `postgreSQL` with a `psycopg2`,
  - display and interact with live maps using `folium` and `jinja2`,
  - parse `CSV` data with `Python`.

- You must use `Python` for the `GUI` as well as for parsing the input data.

- **You cannot use any other scripts and code from the internet. All code must be written by you.**

  You will get a 0 project note if you use any unauthorized code.

  The only exception is for `GUI` aspects (buttons, dropdown boxes, checkboxes, maps, etc.), for which you can use snippets of code from the internet.

- The final code **must** be executable on the computers in the salles de TP.

  If it does not work on these computers, you get a 0 project note.

- You must submit a 10-15 page report in **PDF format**. It must contain:
  1. the functionality that you have designed in your application,
  2. list of tables together with their description,
  3. list of all `data dependencies` for all tables,
  4. the list of all `primary`, `candidate` and `foreign` keys for all tables,
  5. for each table, explain why (or why not) it is in BCNF form, or in 3NF form,
  6. the `SQL` queries associated to each functionality of your application,
  7. any difficulties you had while doing the project,
  8. for each group member, the precise contribution to the project.

- **The deadline for submitting the project code and the report is:**

  6 January, 2026.