

Design Document():

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# CLEAN THE WORLD;

(Web application)

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# Abstract

Clean the world is a project done by Ahmad Ataeighalehghasemi, MSc student of Politecnico di Milano. This project is a web app which gather data about litters in our cities from users and Organizations, NGOs and individuals could use these data to remove the litters and make cities cleaner.

Litter can have a detrimental impact on humans and the environment in different ways; effect on humans and wildlife are the most important ones.

Now, “Clean The World” is here to decrease these impacts as much as it’s possible by means of a public contribution!

## Main goals of the project are:

- Collect data(Coordinates, kind of litter and etc. ) about litters in the cities
- Visualize the data collected in the Database on the web app
- Let everyone to see the location of litters to remove them

## Use Cases:

- 1) Home Page Preview
- 2) Sign Up to the web app
- 3) Sign In to the web app
- 4) Add new case(s)
- 5) Modify added cases
- 6) Log out from the web app
- 7) Explore visualized data

# Web App logical Diagram

In general, there are two main actors for all of the use cases.

In the following you will find the main diagram and logic for “Clean The World” web app.

Firs flow diagram shows an overall schema of the whole web app, different pages available on the web app and their logic relationships with Database.

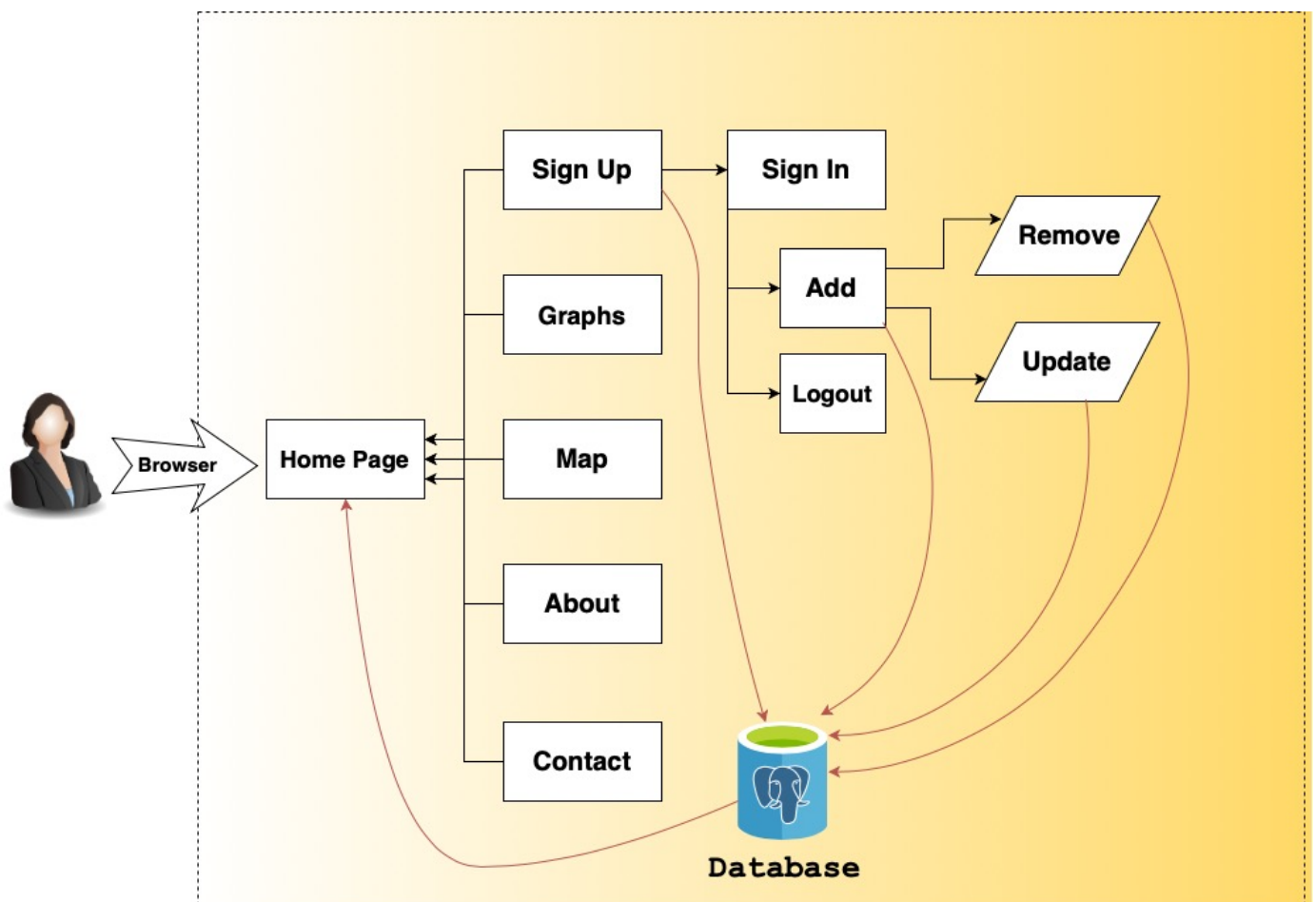


Figure 1- Overall Schema

# Use Cases Diagrams

In the next pages, you will find the flow diagrams of all the Use Cases.

- Use Case 1

## Home Page Preview

This flow diagram shows whatever is available on the home page. All the data are given from Database.

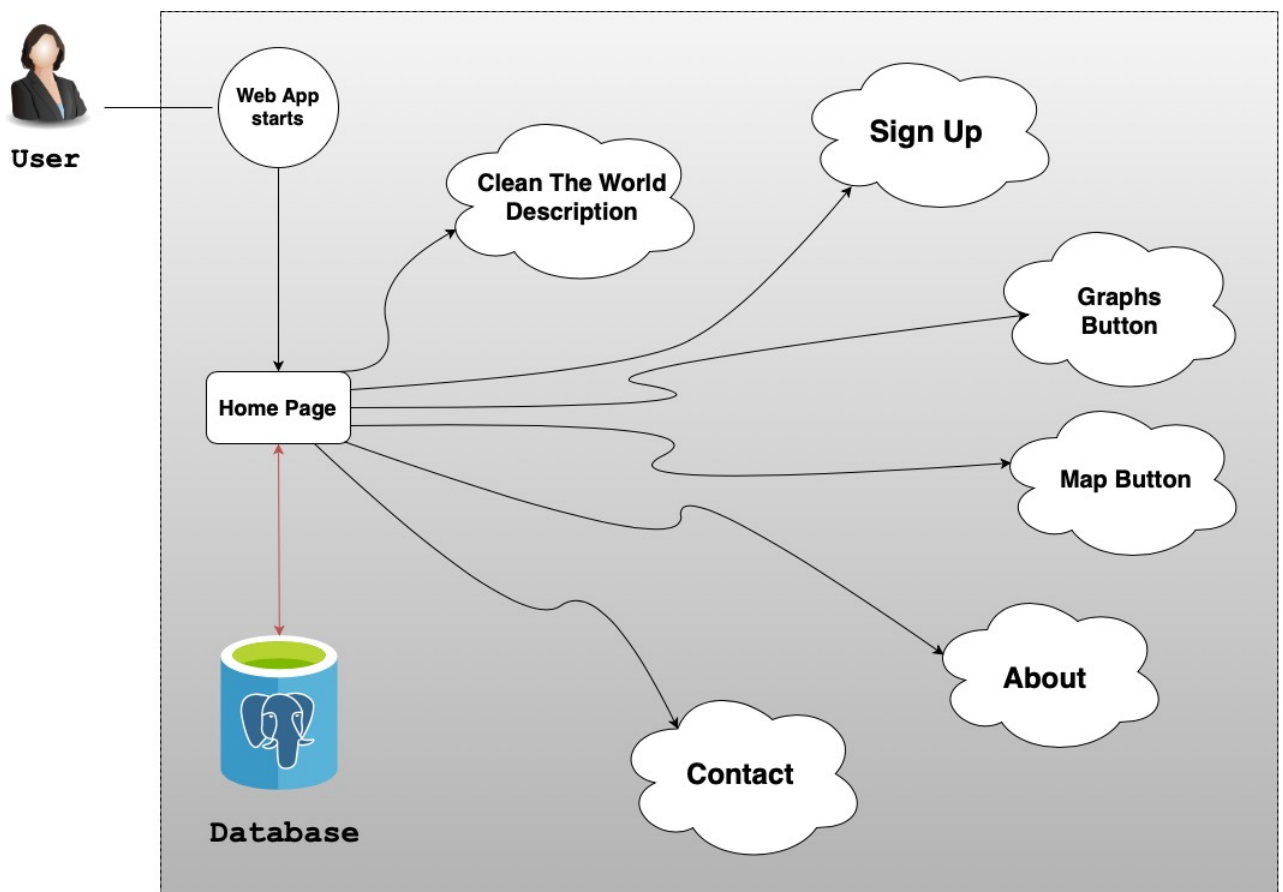


Figure 2- UC1 (Home Page Preview)

- Use Case 2

Sign Up to the web app

In this flow diagram the whole process of users signing up is shown. Checking that the inserted username is unique is the point of this use case.

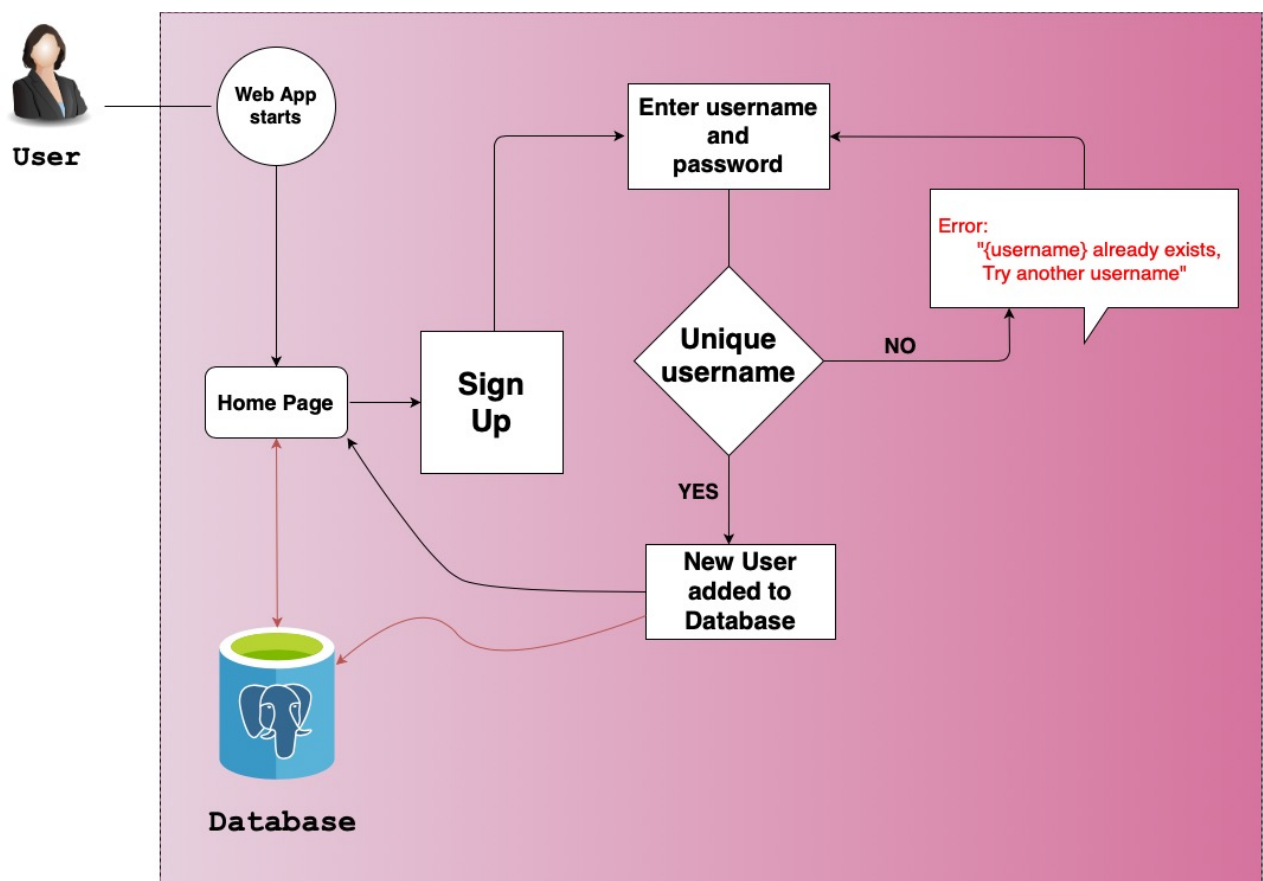


Figure 3- UC2(Sign Up to the web app)

## • Use Case 3

### Sign In to the web app

The presented flow diagram shows the Sign In logic of the web app. Username and password should be matched together.

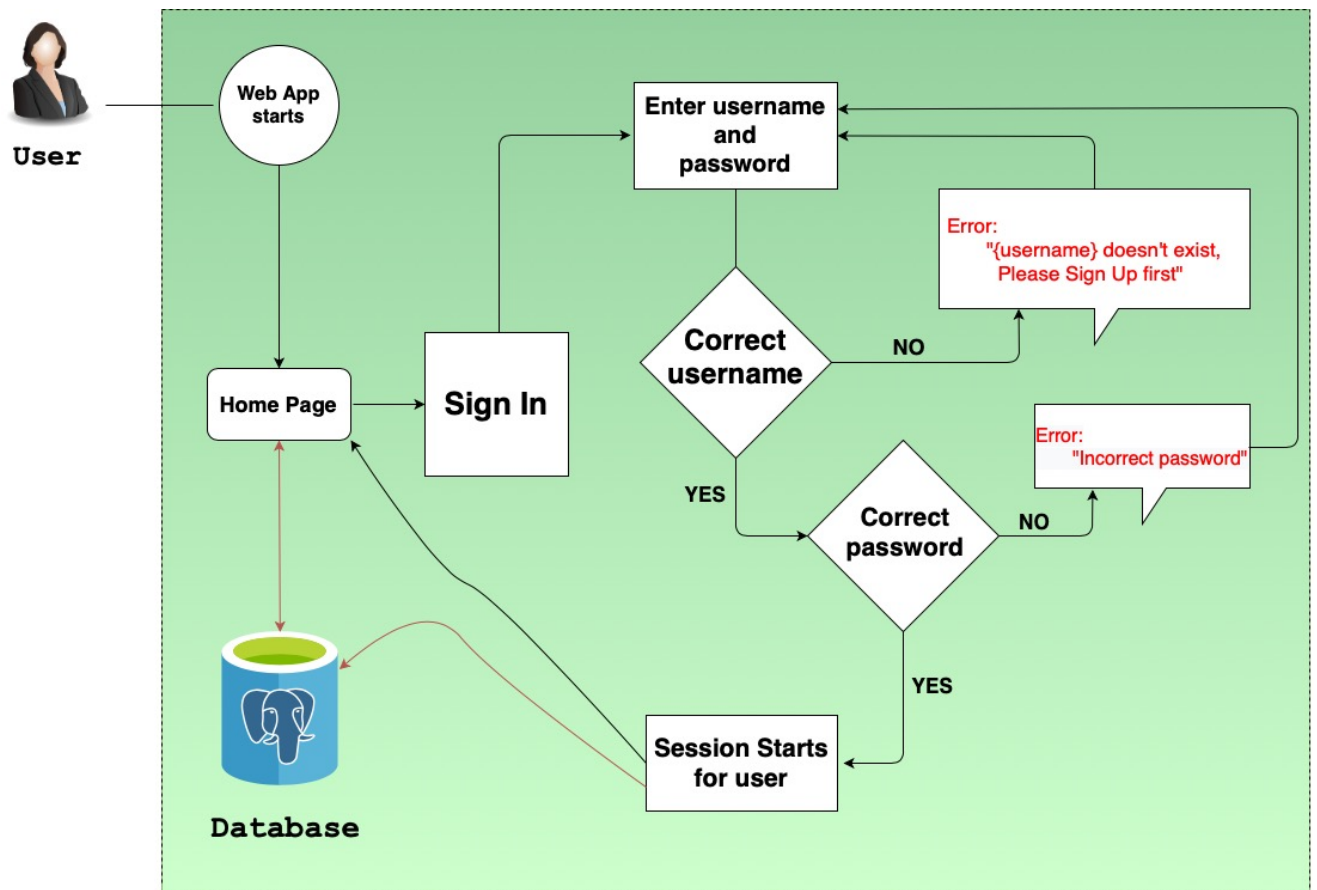


Figure 4- UC3(Sign In to the web app)

## • Use Case 4

Add new case(s)

Adding new cases by signed in users is the main goal of this project. Here you can find out how a new case's data added by a signed in user stores in the Database.

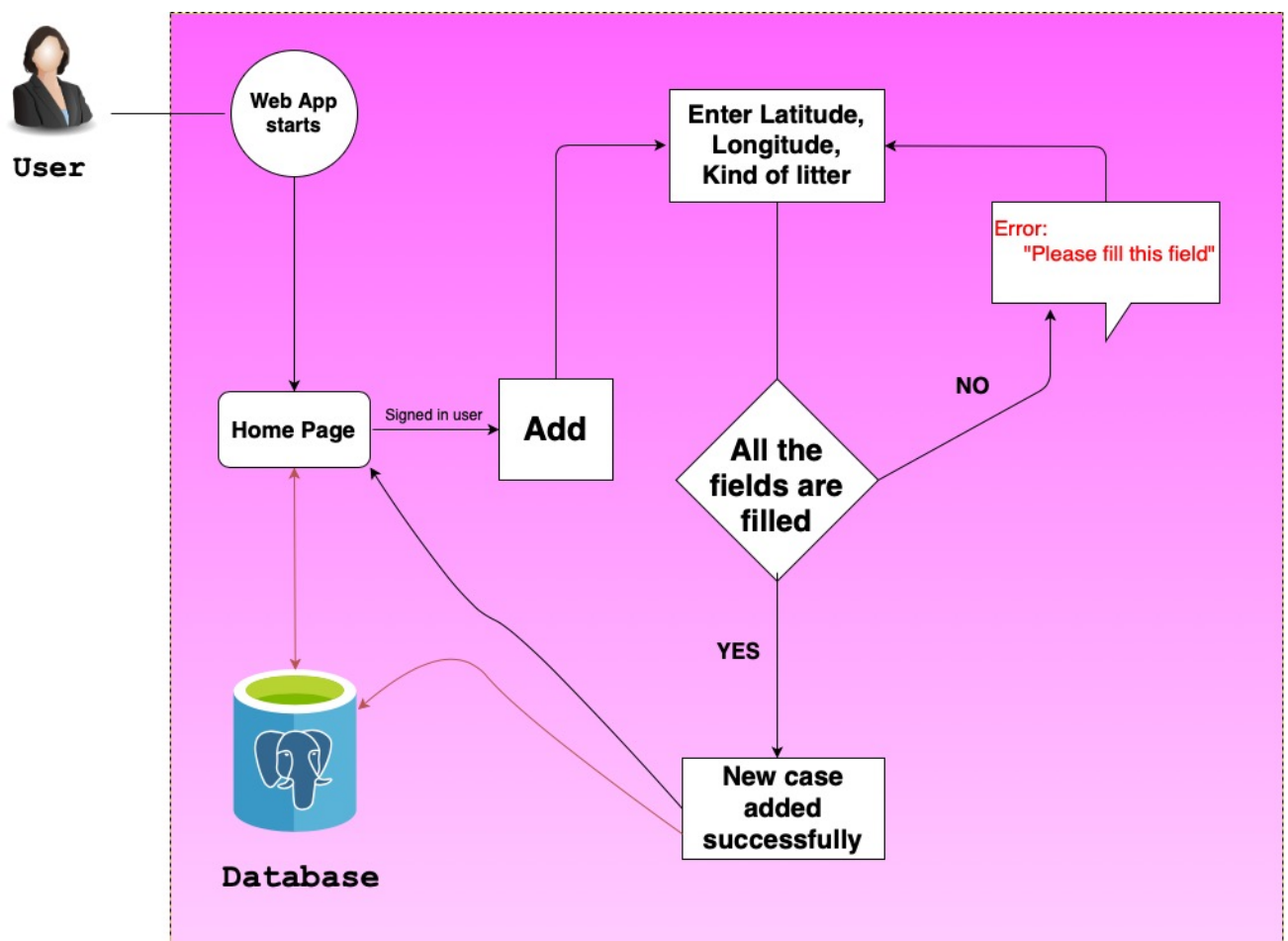


Figure 5- UC4(Add new case(s))

## • Use Case 5

### Modify added cases

Cases added by users can be modified by themselves. Modification could be update inserted data and also remove the added case.

This flow diagram shows how modification is done through the web app.

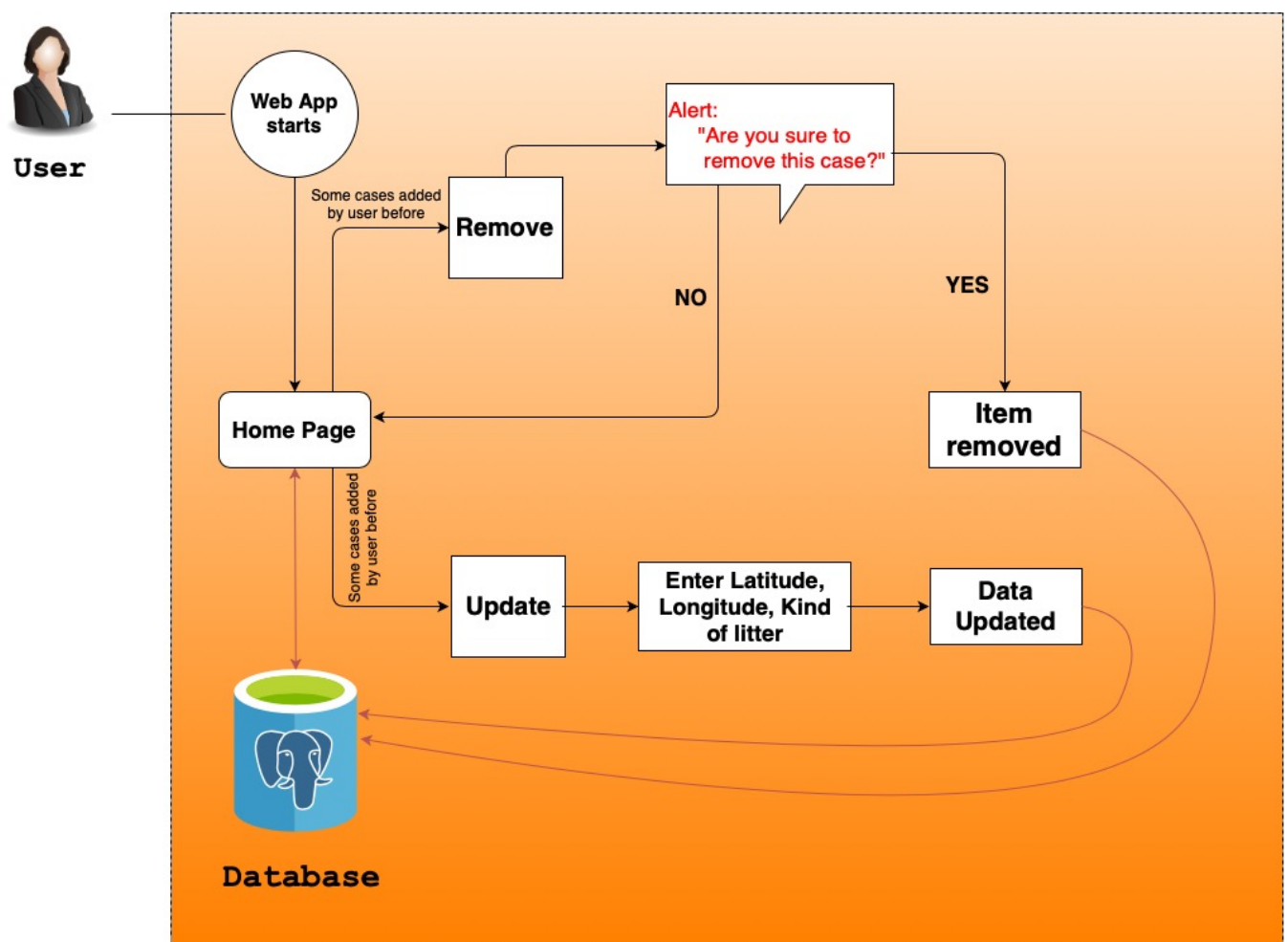


Figure 6- UC5(Modify added cases)



## • Use Case 6

Log out from the web app

Logging out from the web app could prevent undesired changes by users. These changes could be update and remove inserted data. Logging out is not mandatory to commit the changes made by user to the Database. In case user close the web app, it logs out automatically. The related flow diagram is shown here.

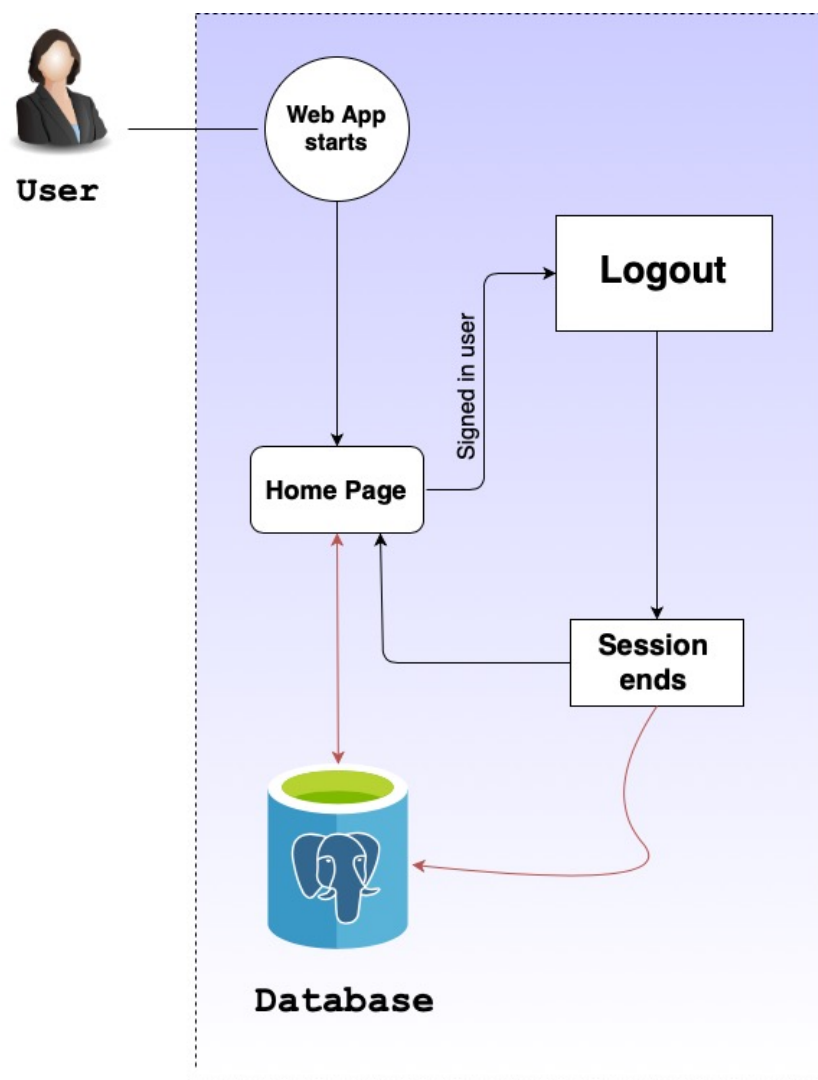


Figure 7- UC6(Log out from the web app)

## • Use Case 7

Explore visualized data

The contextual data could not be as helpful as visualized data. Visualized data are in both forms of graph and map. The graph presents the number of each kind of litter cases which are saved into the Database.

The map also projects the coordinates of each point entered by users on a base map.

Following flow diagram represents the logic relationship between Database and visualized data.

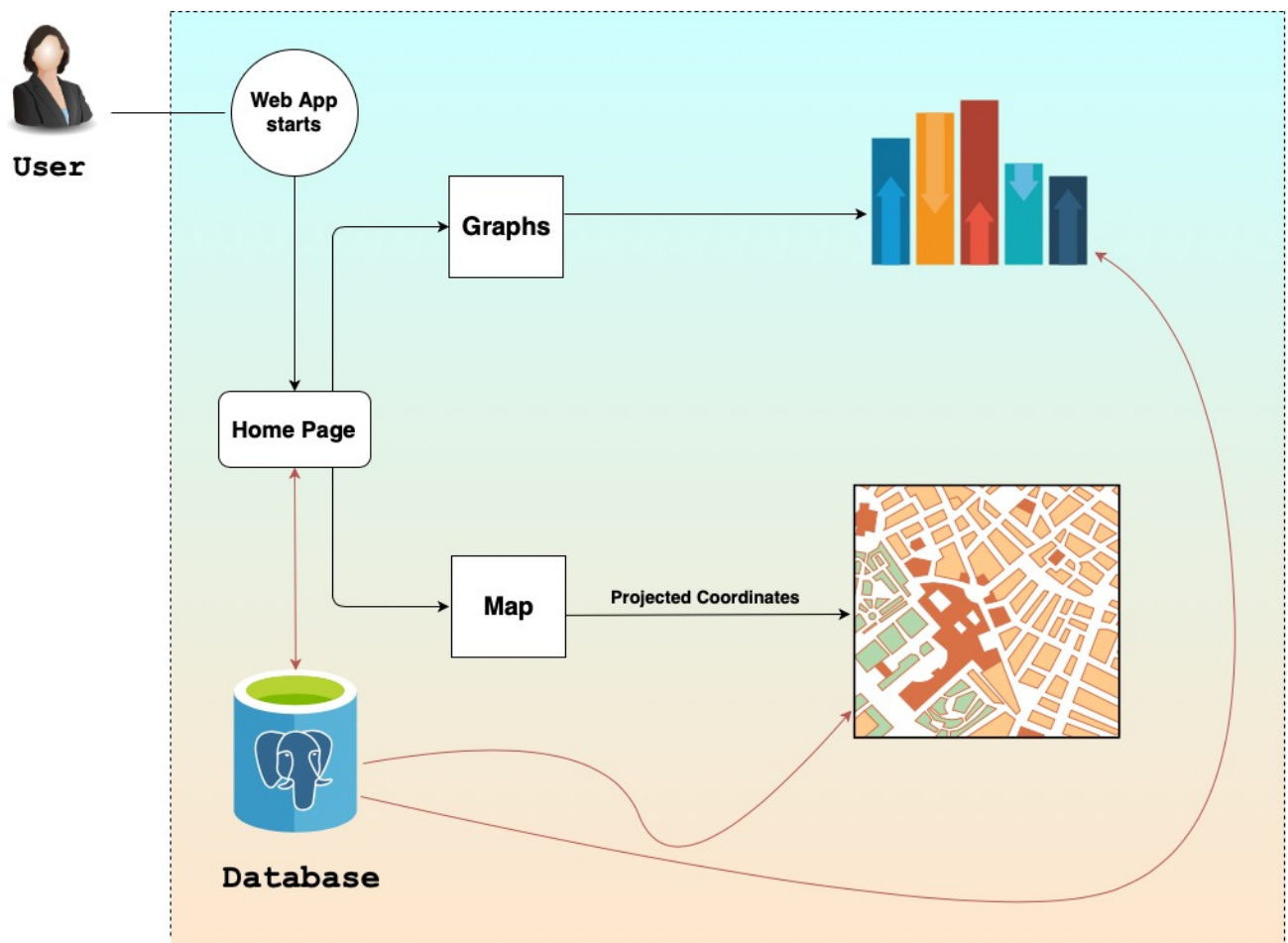


Figure 8- UC7(Explore visualized data)

# Web App Architecture

Web App architecture shows the detailed internal structure of the web app logic. The used Database for this web app is PostgreSQL. The used python package to connect to WSGI Server is psycopg2.

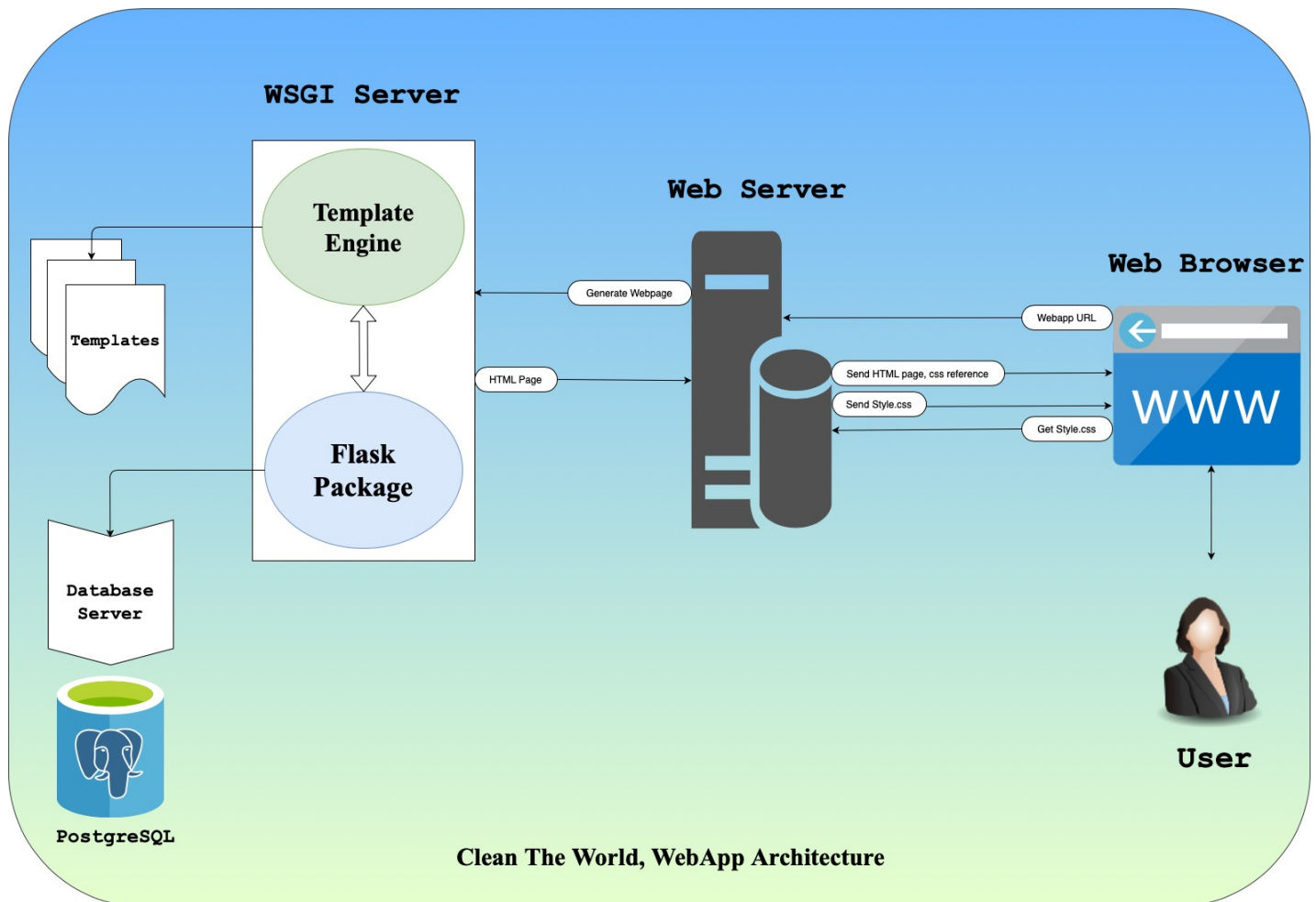


Figure 9- Web App Architecture

## References

This web app has done under supervision of Professor Elisabetta Di Nitto and Dr. Daniele Oxoli.

Python, HTML, JavaScript are the main used languages to build this web app. Style of the web app obtained from Bootstrap website. Drawing diagrams is done using [draw.io](https://draw.io) website.

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