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HERALD COLLEGE KATHMANDU

Internet Software Architecture (4CS017)

Weather App Prototype 3

Report

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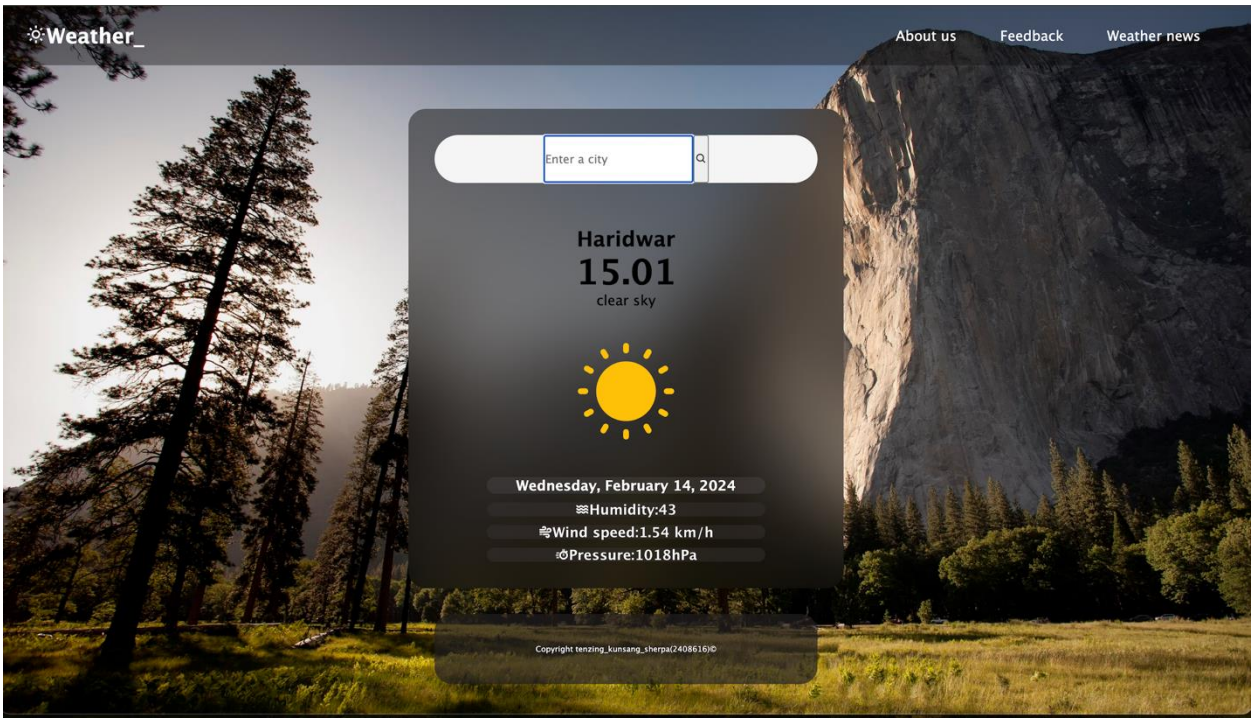
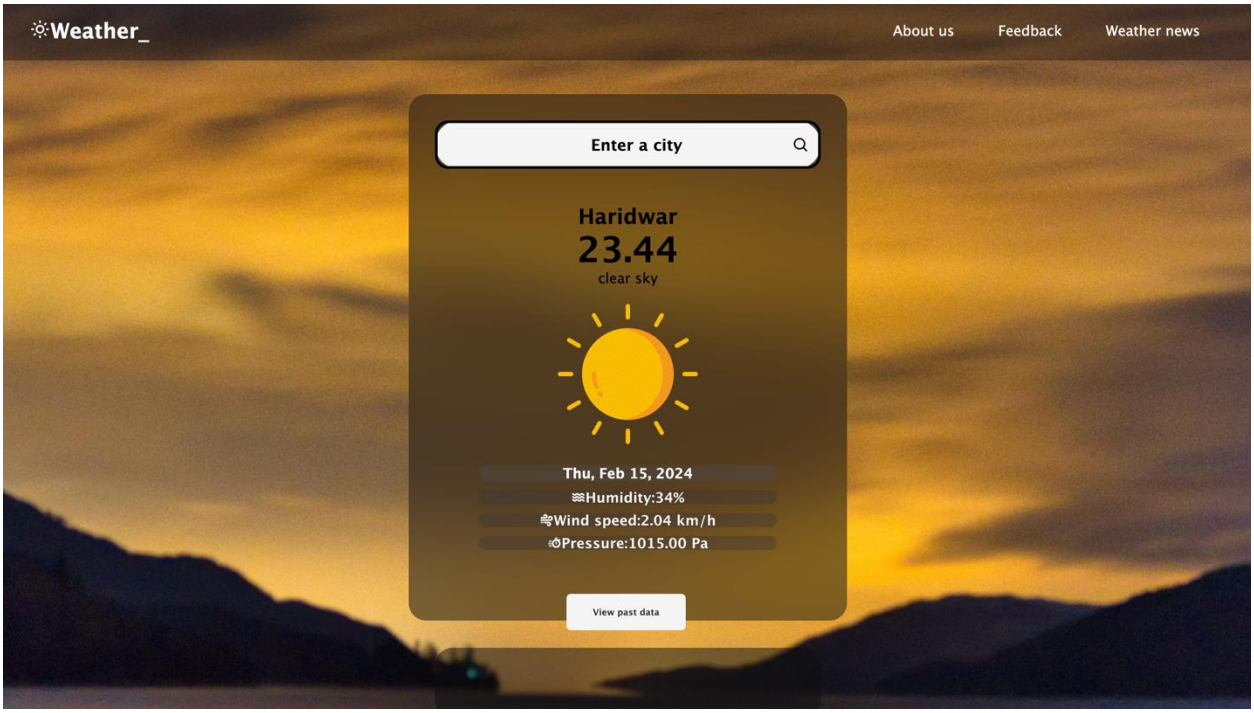
Prototype:1

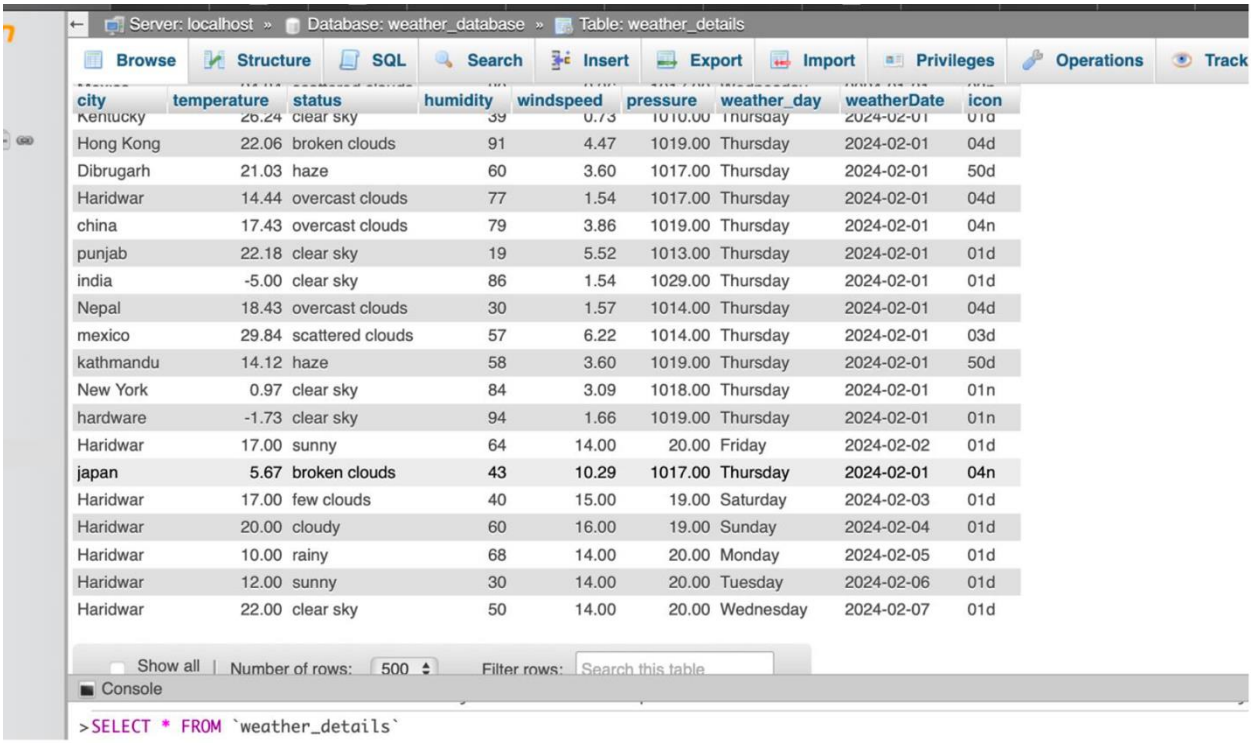
In the first prototype, the app OpenWeatherMap API is used by the prototype weather application to retrieve real-time weather data, which is then displayed in an intuitive and adaptable web. Interface using HTML, CSS, and JavaScript. In this reflective report of the first prototype, it also discusses the weather app's functionality and how easy it is to use as a web application. In this web application, the user enters a city name and receives accurate weather data for that location. Its interactivity, real-time data updates, and cross-device interoperability are its strong points. Also, the web application can be used in any browser in which the data are updated regularly which benefits the user. allowing users to access the web application from any device. However, its dependency on API availability, lack of offline functionality, and lack of a database for data storage are hampered by flaws. The web application will not run if there is no internet which will not show any result to the user. It also lacks a database to store data which results in no savings of data. Despite its functional aspects, there is room for development in terms of the application's interface and functionality.



Prototype:2

In prototype 2, the weather application uses PHP to retrieve data from the OpenWeatherMap API, stores it in a MySQL database, and uses JavaScript to show past and present weather. Error control, user-friendly design, and easy access to historical weather data are among its strong points. Data is obtained from PHP, resulting in fewer API keys and fewer constraints. The weather app does not have to rely solely on the weather API code because the new API key is fetched via PHP. Also, the weather app allows the user to easily see the prior weather details, allowing them to access data from the previous seven days. A feedback option is available as well where the user may give their rating. However, shortcomings include dependence on internet connection, limited historical data display, and possible mistakes in PHP-JavaScript integration. There is a limited amount of prior data that can be shown for a limited number of dates. As it is fetching through PHP in JavaScript, there may be issues in the web application and if no data is coming from the WeatherAPI, the weather will not display any data. Also, if there is no past data recorded in the database, it will not be displayed until the user searches for the weather for that day. Overall, even if the program improves data retrieval and storage; it still requires improvements in error management and responsiveness.





Prototype: 3

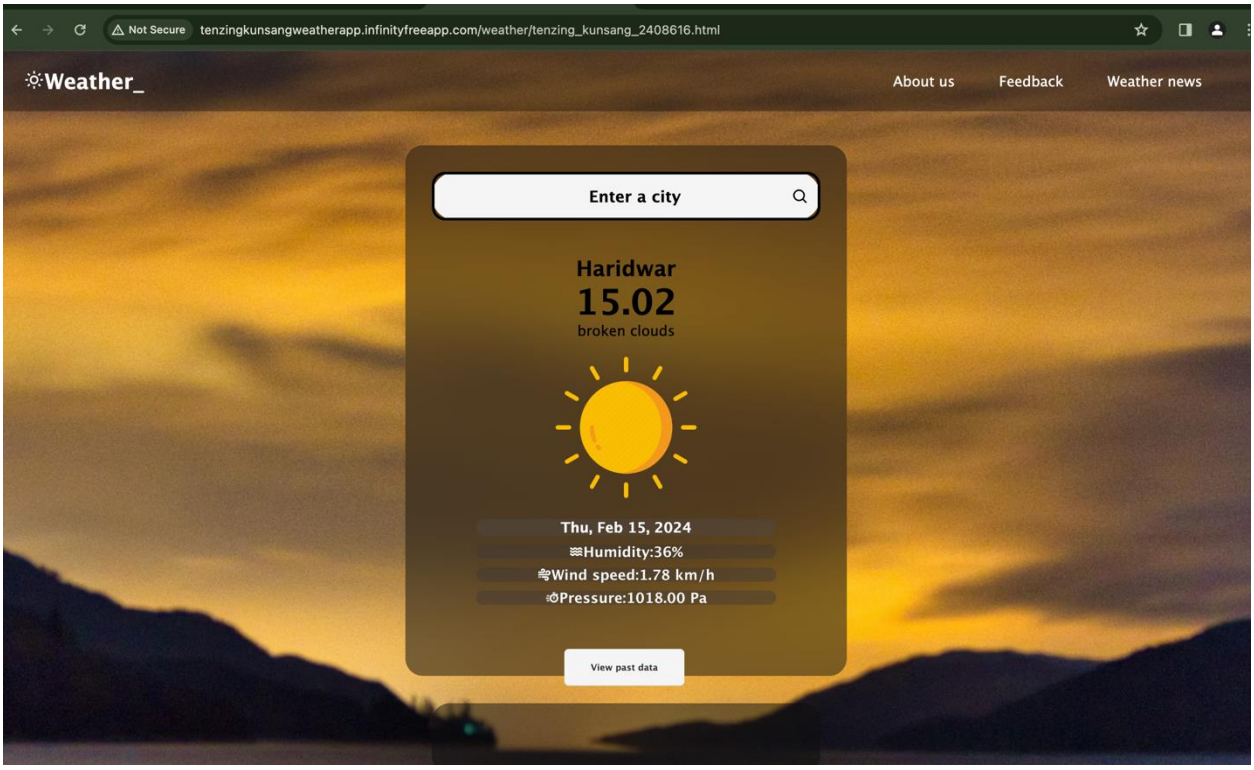
In prototype 3, the weather application retrieves data from the OpenWeatherAPI through PHP. It shows the past 7 days data to the user. In the third prototype it has a user-friendly interface, the user can easily access the weather data.in this prototype hosting is done through infinity free, with the domain link provided the infinity free the user can access the weather app through any medias and the data's that the user searches is saved in the MySQL database which is later provided to the user as the past weather data. In this prototype local storage is done so that the user can access the searched weather data even if there is no internet connection.

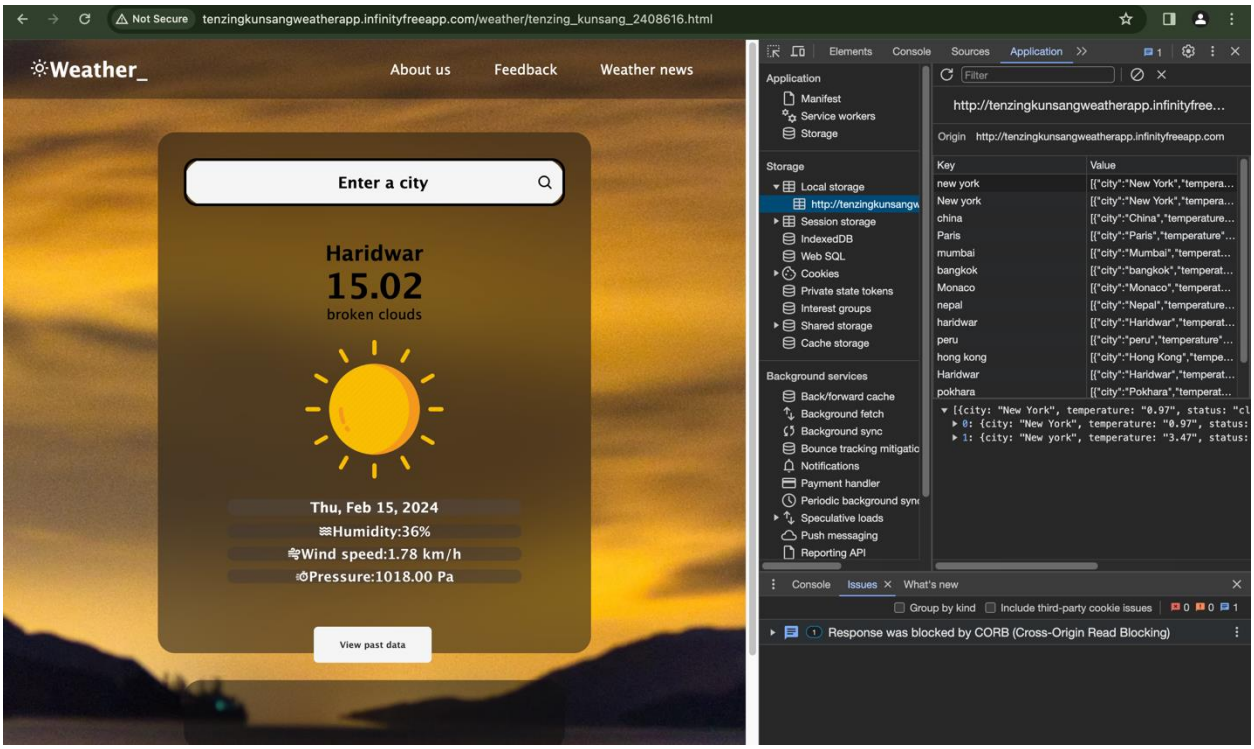
Strengths:

The weather app has a user-friendly interface where the user can easily access the past weather data and the current data. The user can access the data that has been already searched when there is no internet connection. The weather app has a responsive design which helps user to access the weather data even through mobile devices.

Weakness:

In this prototype 3 there are many things that needs should be done to make the weather app more user friendly. The weather app link provided by the link only works on my device through the hosting. Many problems occur from time to time because of the free hosting service. The error handling has been reduced because of many problems faced during hosting.





Learning Outcomes:

Through this Weather app project, I have gained my knowledge about web app development throughout the completion of this projection I got to learn about HTML, CSS, JavaScript, and PHP where I got to learn about various syntax, functions, events, how to style your website through the CSS and how we can make our website interactive to the user using the JavaScript. During the completion of this project, I got to learn about various error and how to handle the various errors that we face during the process. By learning about CSS, I got to learn about how to make the web page attractive for the end user to view and use. Through learning the JavaScript, I got to learn about how we can program various actions, how we can access objects fetched from the API through DOM manipulation and about how we can store data from the API to the local storage so that the user can have the access the data even there is no internet and through PHP and MySQL I got to learn how we can store the data in database and display it to the user as the past weather data and learned how we can make our page user accessible through hosting.

Conclusion:

In conclusion, the journey during making this weather app has gained my knowledge and skills throughout the weather app project I got to learn HTML, CSS, JavaScript and PHP and how we can design through CSS, how we can make our website interactive through JavaScript and how we can fetch data through and display it on the frontend through DOM manipulation and how we can store our data in database and display the databases data with the help of PHP . The challenge faced during the project has served as opportunities for learning outcomes. I look forward to making this kind of project gaining more knowledge.

UML diagrams:

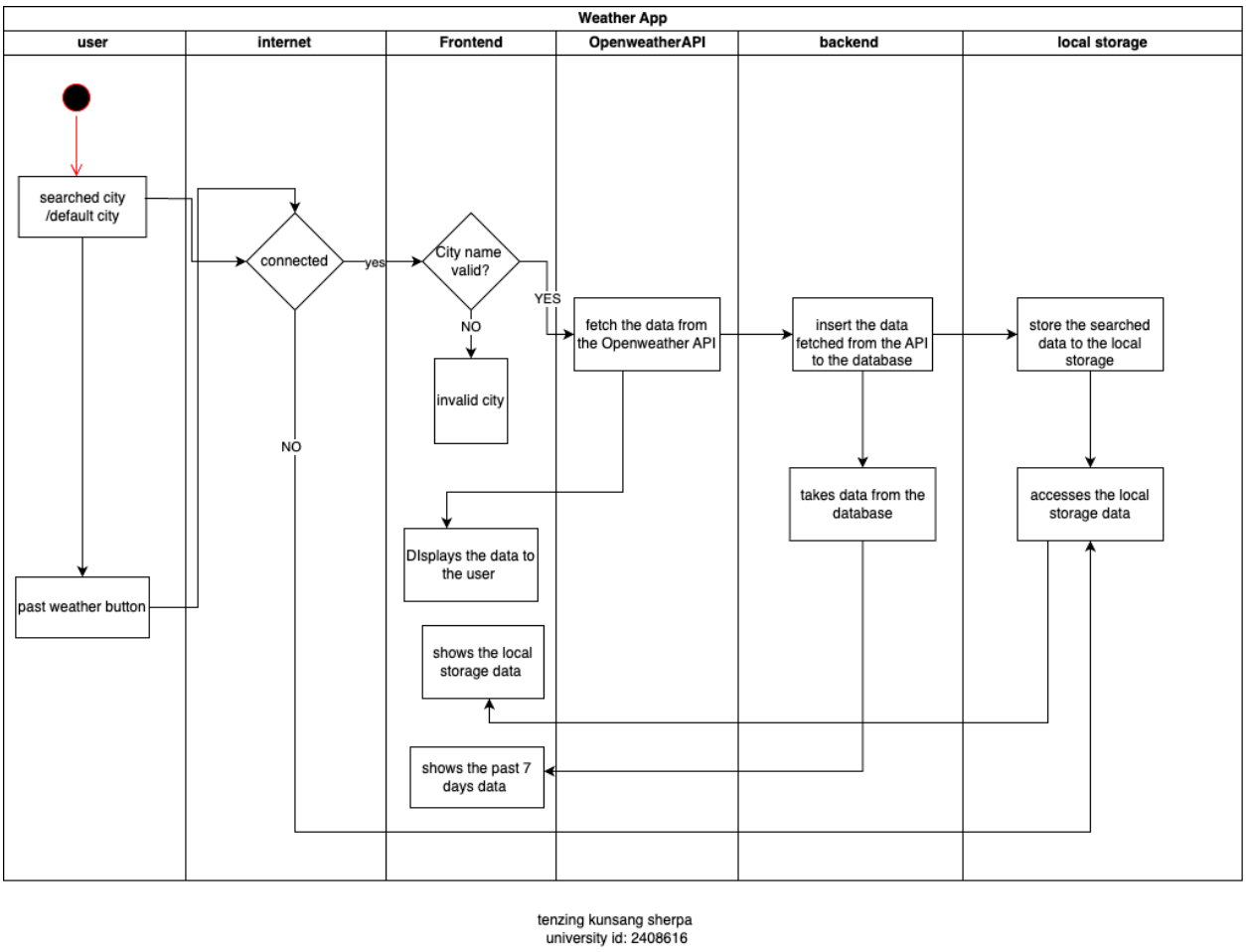


Figure 1Activity diagram

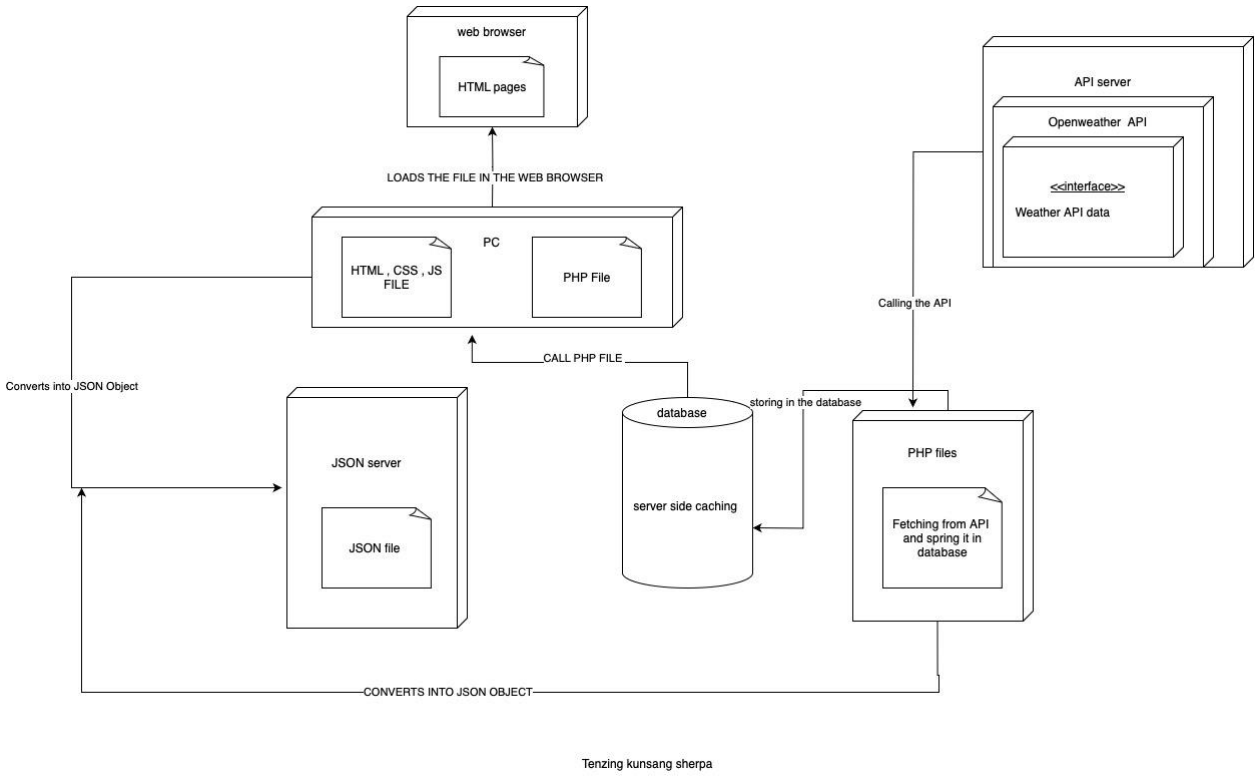


Figure 2 Deployment Diagram

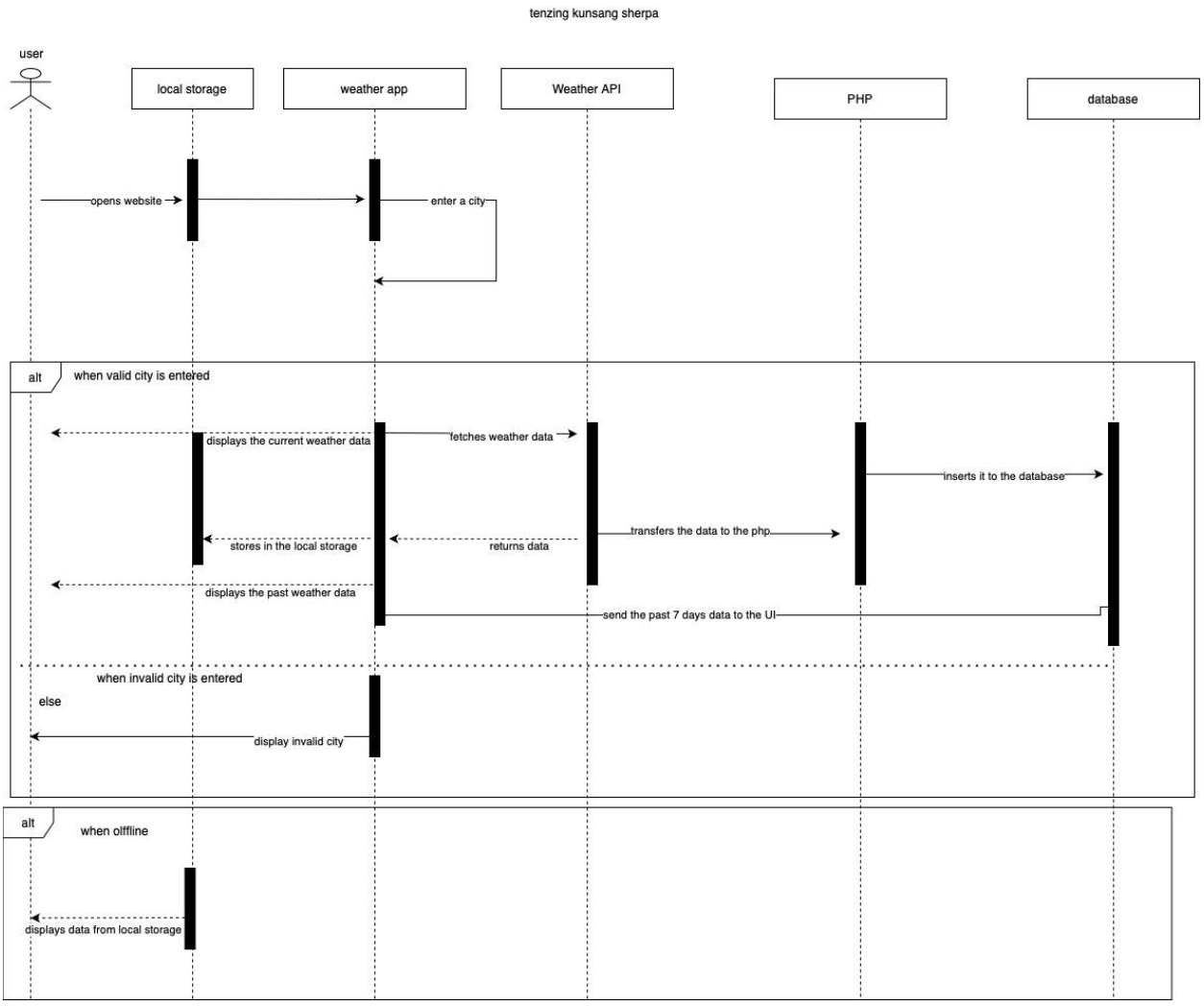


Figure 3 Sequence Diagram

[Link of the weather app]