This project is a weather forecast web APP developed using the Streamlit framework and the Open-meteo weather forecast API. The user can enter city name or zip code to get the weather information of the future. This APP provides users with efficient access to weather forecasts and presents them in various ways, such as charts and tables.

This APP sets usability goals for effectiveness, efficiency and learnability. The APP provides input boxes, selection boxes, radio buttons and checkboxes to enable users to obtain the required weather information and output the results in text, charts and tables to achieve effectiveness. In order to improve the efficiency, all input widget on the left sidebar, the primary area is the output. The input widget comes with text instructions, allowing users to know how to use this application without a user guide, thus achieving learnability.

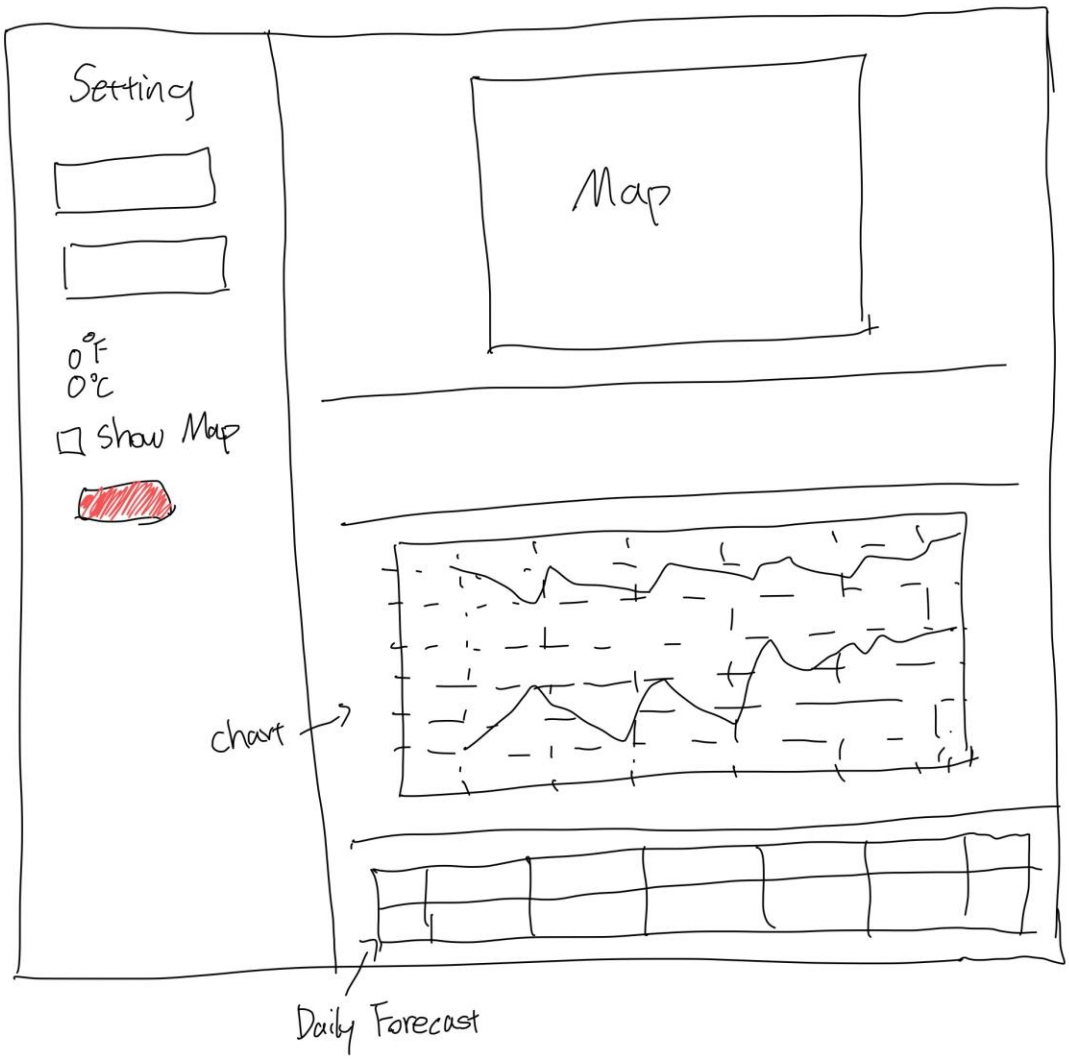
The web page is divided into two parts, the first part is the sidebar, and the second part is the main area. The sidebar is used for users to input location information, weather forecast days, temperature unit selection, and additional options such as whether to show a map. The main area displays the output results, such as location names, maps, current weather information, temperature trend charts, and tables of daily weather information, sorted and displayed from top to bottom.

The weather data is obtained by using the weather API of Open-meteo and then through HTTP requests, with the data returned in JSON format. The problem with using this API is that the location parameter can only be the latitude and longitude, not the city name entered by the user. To solve this problem, the Open-meteo geocoding API is used to get the latitude and longitude of the location entered by the user, and then the latitude and longitude are used to get the weather data.

Many interactive widgets are applied to this APP. st.text_input is used to input the name of the city or the zip code. st.selectbox is used to select the number of days for the weather forecast. st.radio is used to select the unit of temperature. st.checkbox is used for the map of whether to show the location or not. st.button is used to submit the input information to obtain weather information.

Interactive widgets are collected in the left sidebar with a short text description to ensure visibility. When fetching weather data successfully or entering incorrect information, success and error messages will be displayed immediately. The widgets and layout of this APP all adopt the default style of Streamlit, achieving overall consistency. Users can get weather information in a variety of ways, from city names to zip codes. The input options come with default settings to prevent users from causing errors.

In conclusion, this APP provides users with a quick way to get weather forecasts and real-time feedback on the data status. And there are still many improvements to be made, such as adding ICONS to enhance visual effects. In the future, it will also be possible to get weather in multiple cities at the same time, so that users can compare the weather in different cities.


Setting
°F
°C
Show Map
Map
chart
Daily Forecast