

Weather forecasting platform

General weather forecast and data

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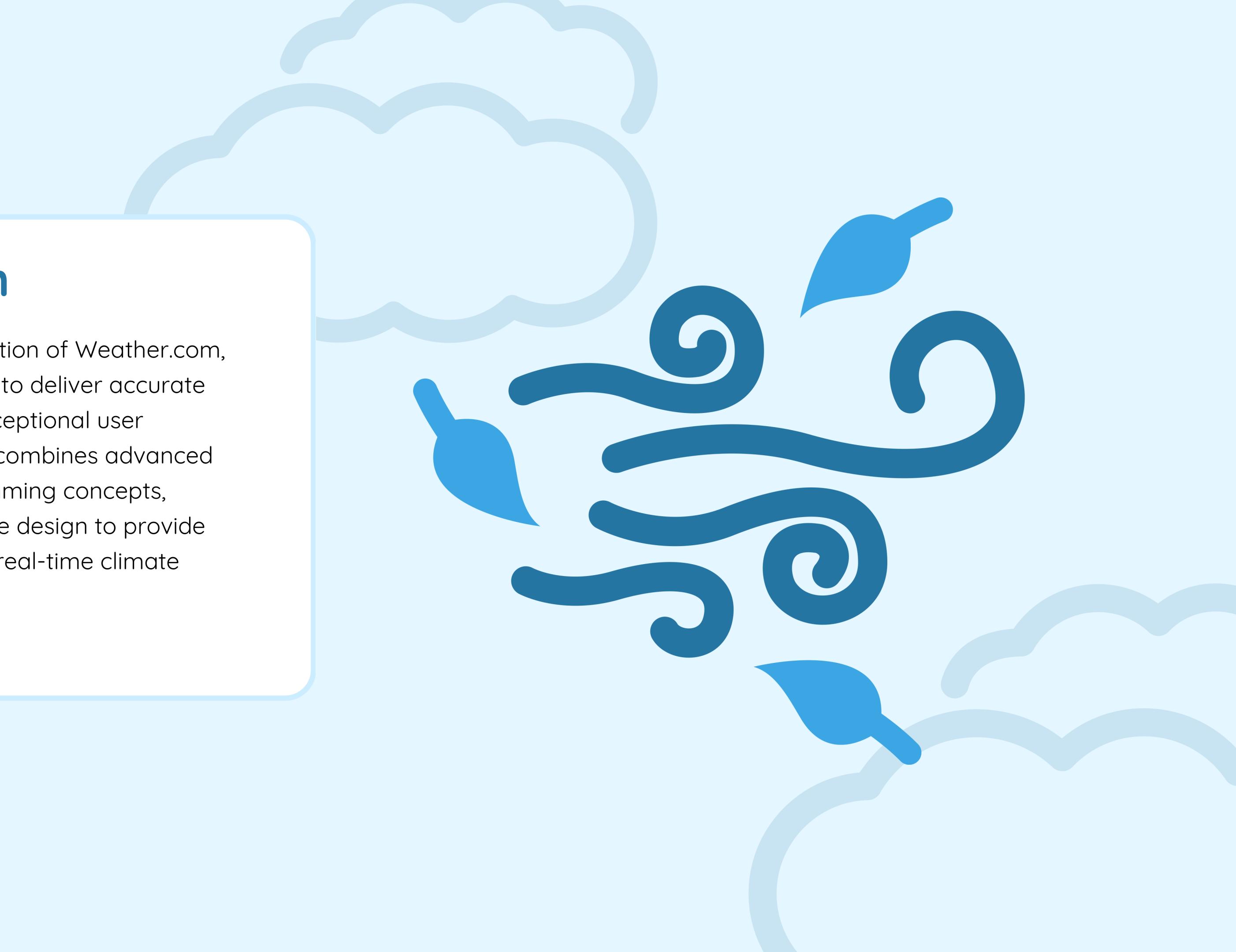
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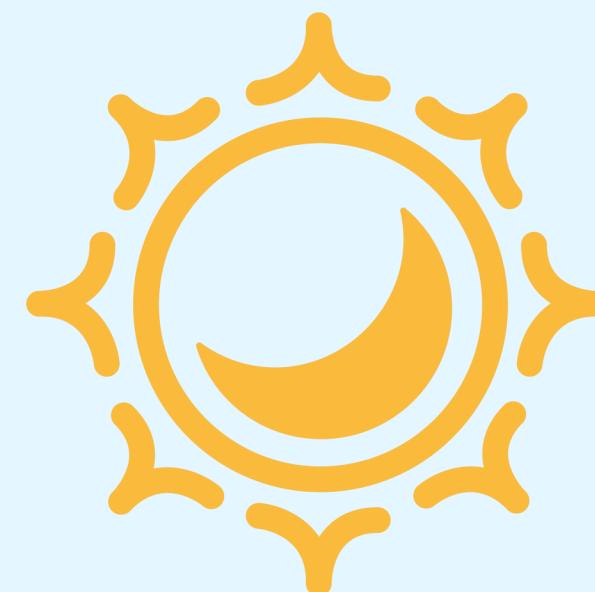
Introduction

Welcome to the introduction of Weather.com, a weather app designed to deliver accurate weather data and an exceptional user experience. This project combines advanced object-oriented programming concepts, RESTful APIs, and intuitive design to provide users with personalized, real-time climate information.

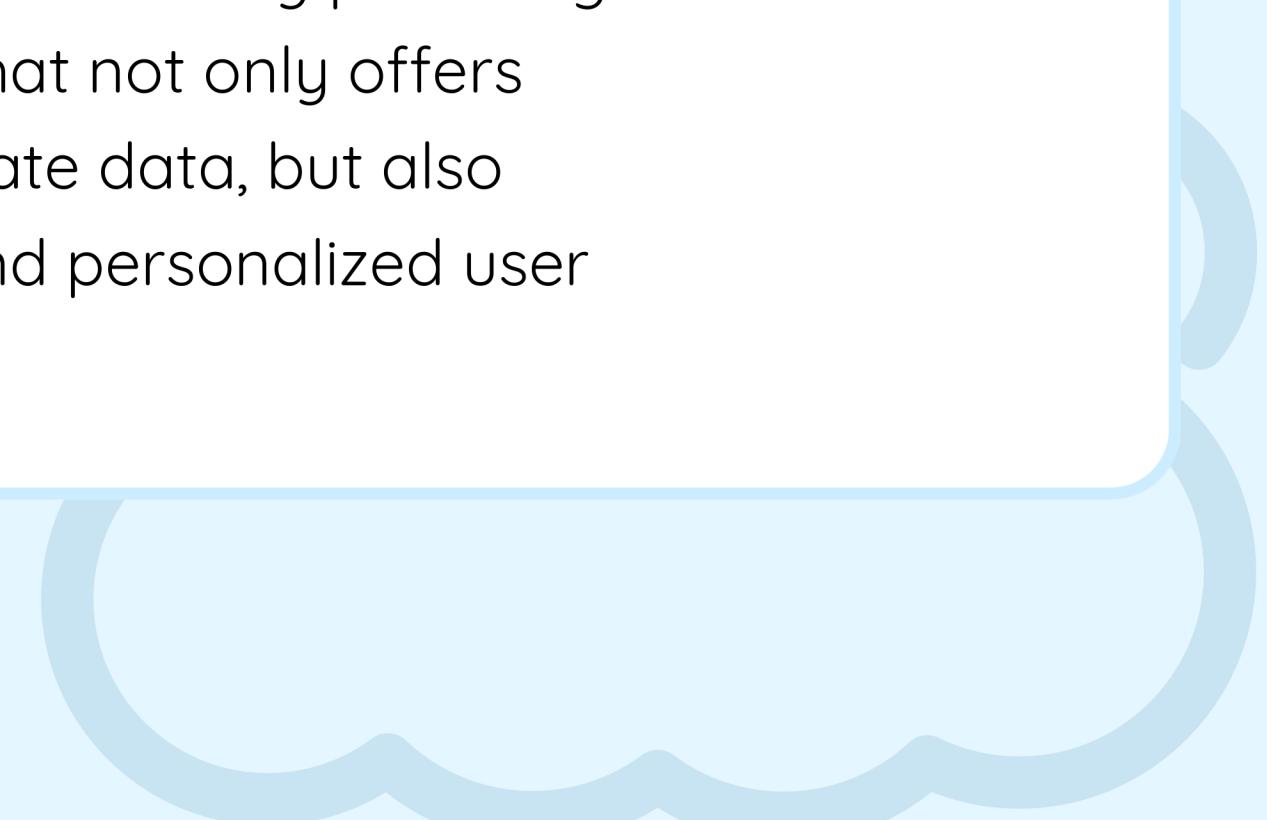




Problem to solve



There is growing demand for customized solutions that allow users to tailor information to their specific needs, such as selecting units of measurement and receiving notifications about significant climate changes. Our project seeks to address these issues by providing a weather application that not only offers accurate and up-to-date data, but also ensures an intuitive and personalized user experience.



Proposed solution



Weather.com provides accurate and up-to-date weather data

Access accurate, real-time weather information for any location in the world.



Intuitive and user-friendly interface:

Enjoy a visually appealing and easy-to-use experience, designed to maximize user comfort.



Additional Features: User Registration, Location Selection:

Customize your experience with account registration, multiple location selection

Key Features

1.

User Registration and Login

Access personalized features through a simple registration and login process.

2.

Viewing Current Weather and Forecast

Get current weather data and future forecasts for your location or any other location.

3.

User Management (Administrator)

Administrators can view and manage information for all registered users.

4.

Customization of Measurement Units

Adjust the units for temperature, wind speed and other measurements according to your preferences.

5.

Weather Notifications

Receive alerts about significant weather changes and adverse weather conditions.

Technical Implementation



FastAPI

FastAPI is a modern, high-performance web framework for building APIs with Python. We use FastAPI to manage all HTTP requests in our weather application, taking advantage of its ability to handle requests efficiently and quickly. FastAPI allows you to clearly and concisely define routes and endpoints, facilitating the integration of business logic and data validation.



OpenWeather

OpenWeatherMap

Integration with the OpenWeatherMap API is crucial to providing accurate and up-to-date weather data in our application. OpenWeatherMap offers a wide range of weather data, including temperature, humidity, weather conditions and future forecasts. Our application sends requests to OpenWeatherMap based on the user's location or manually selected locations.

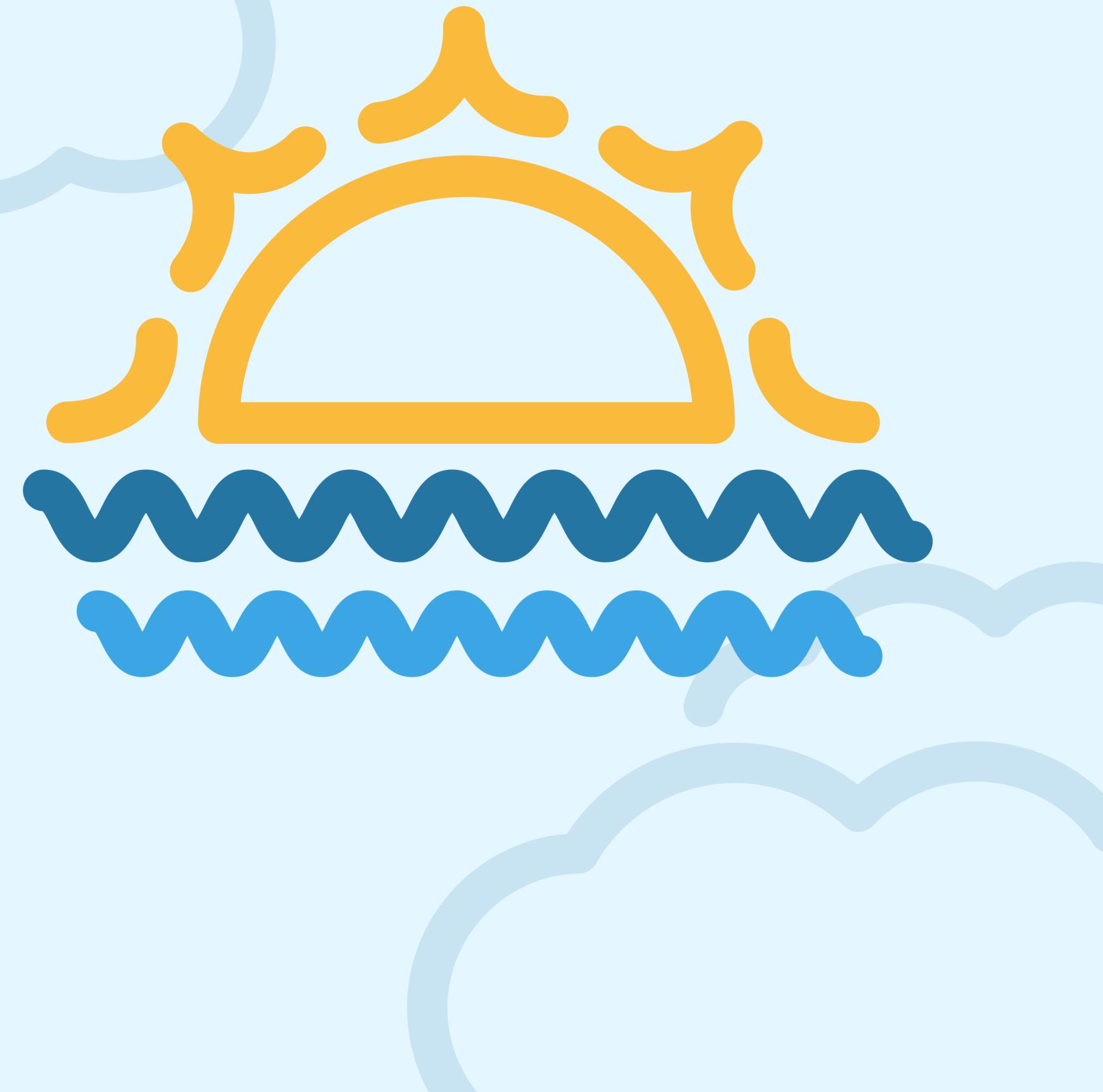


SQLalchemy and PostgreSQL

To manage and store user information and preferences, we use PostgreSQL as our main database, along with SQLAlchemy as ORM (Object-Relational Mapping) to interact with the database. PostgreSQL is a robust and scalable relational database that ensures data integrity and availability. SQLAlchemy makes it easy to map Python objects to database tables.

Conclusion

In conclusion, Weather.com is an innovative application that not only provides accurate and up-to-date weather data but also offers an intuitive and personalized user experience. By using advanced technologies such as FastAPI, PostgreSQL, SQLAlchemy and the OpenWeatherMap API, we have created a robust and efficient solution to meet the weather needs of users. Our focus on designing pleasant interfaces and customizing the user experience sets us apart from other weather apps. Weather.com is prepared to offer exceptional service, helping users plan their daily activities with reliable and accessible weather information. Thank you for your attention and we remain open to your questions and comments.





Thank you