

Write a python program to create live weather app

AIM:

To create a live weather app

Objective:

1. Real-Time Data Integration: Implement a robust system to fetch and integrate live weather data from reliable and up-to-date meteorological sources.

Ensure the application updates weather information in real-time to provide users with the latest and most accurate data.

2. User-Friendly Interface: Design an intuitive and visually appealing user interface that allows users to easily navigate and access weather information.

Include user-friendly features such as interactive maps, intuitive icons, and a clean layout for displaying current conditions and forecasts.

3. Location-Based Services: Incorporate geolocation services to automatically detect and display weather information based on the user's current location.

Allow users to manually search and save multiple locations for personalized weather updates.

4. Comprehensive Weather Information: Provide a comprehensive set of weather information, including current temperature, humidity, wind speed, and direction.

Include extended forecasts, hourly forecasts, and additional details such as sunrise/sunset times and visibility.

5.Alerts and Notifications: Implement a notification system to alert users about severe weather conditions, such as storms, hurricanes, or extreme temperature changes.

Allow users to customize notification settings based on their preferences.

6. Offline Functionality: Develop a caching mechanism to store and display previously fetched weather data, ensuring users can access basic information even when offline.

Implement a smart syncing system to update data when the device reconnects to the internet.

7.Cross-Platform Compatibility: Build the application to be compatible with multiple platforms, including iOS, Android, and web browsers, ensuring a broad user reach.

8.Data Visualization: Utilize graphs, charts, and other visual elements to present historical weather data trends and patterns, providing users with a more in-depth understanding of weather changes.

9.Feedback and Improvement Mechanism: Include a feedback system for users to report inaccuracies or provide suggestions, facilitating continuous improvement of the app's accuracy and user experience.

10.Compliance and Security: Ensure compliance with data protection regulations and implement security measures to protect user data and maintain the integrity of the application.

Program:

```
import requests
```

```
from tkinter import *
```

```
# OpenWeatherMap API key (replace with your own key)
```

```
API_KEY = 'df71abbd42517b11de330c7629c4a74'
```

```
def get_weather(city):
```

```

url =
f'http://api.openweathermap.org/data/2.5/weather?q={city}&appid={API_KEY}&units=metri
c'

response = requests.get(url)

data = response.json()

if data['cod'] == '404':
    return None # City not found
else:
    city_name = data['name']
    country = data['sys']['country']
    temperature = data['main']['temp']
    weather_description = data['weather'][0]['description']

    return f'{city_name}, {country}\nTemperature: {temperature}°C\nWeather:
{weather_description}'

def search():
    city = city_entry.get()
    weather_info = get_weather(city)

    if weather_info:
        result_label.config(text=weather_info)
    else:
        result_label.config(text='City not found. Please try again.')

# GUI setup
app = Tk()
app.title('Weather App')

# Widgets

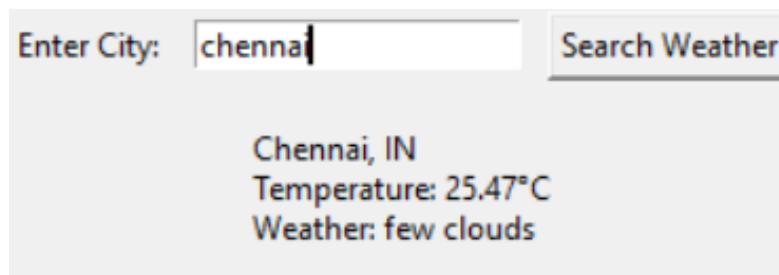
```

```
city_label = Label(app, text='Enter City:')
city_entry = Entry(app)
search_button = Button(app, text='Search Weather', command=search)
result_label = Label(app, text='Weather Information Will Appear Here', wraplength=300,
justify='left')

# Layout
city_label.grid(row=0, column=0, padx=5, pady=5)
city_entry.grid(row=0, column=1, padx=5, pady=5)
search_button.grid(row=0, column=2, padx=5, pady=5)
result_label.grid(row=1, column=0, columnspan=3, padx=10, pady=10)

# Run the application
app.mainloop()
```

output:



conclusion:

I have created a live weather app using python and it executed successfully.

Github link:

<https://github.com/eswaruzumaki/project-bca.git>