Weather Project - Cloud-based Web Application Proposal

The Weather Project is a cloud-based web application that allows users to view real-time weather information for cities around the world. The initial version of the application will provide the following core features:

- **Home Page**: Display current weather for 10 well-known cities using card components.
- **Weather Search**: Allow users to search for any city and view detailed weather information.
- **Weather Details**: Show daily temperature, min/max temperature, sunrise, sunset, humidity, pressure, “feels like” temperature, and a 7-day forecast.
- **User Authentication**: Enable user sign-up with avatar selection (from 10 built-in options), unique username, secure password, email verification, and Google reCAPTCHA. Login will support session persistence for 180 days.
- **Favorites System**: Users can favorite or unfavorite cities from the weather card or detail page, and view their favorite cities' weather after logging in.

The front-end will be developed using **Vue.js**, while the back-end will be built with **Python** using the **Django** framework. The application will expose over 10 **RESTful APIs**, including at least 3 **POST** endpoints, to manage user actions and retrieve data from external weather APIs.

For cloud infrastructure, we will use **Amazon Web Services (AWS)**:

- The application will be deployed on **AWS EC2**, ensuring high availability and scalability.
- User and weather data will be stored using **AWS RDS**.
- Static assets such as avatar images will be stored in **AWS S3**.

Development and collaboration will be managed through **GitHub**, enabling version control, issue tracking, and CI/CD pipelines. This setup ensures effective team collaboration, continuous deployment, and scalable cloud-native application delivery.