Cloud Web Application Development and Deployment Proposal – The Weather Project

The Weather Project is a web application deployed in the cloud. The application provides weather information for many cities around the world, and allows users to switch to view information from other cities. This project will focus on implementing the following core modules:

- **Dashboard**: Display the current weather of 10 well-known cities on the card
- **Weather Search**: Allows users to search for a city and view related weather forecast details
- **Weather Details**: Display the current city name, real-time temperature, min/max temperature, sunrise, sunset, humidity, pressure, "feels like" temperature, and a 7-day forecast
- **User Authentication**: Provide users with 10 built-in avatars to choose from, username, password, email verification, and Google reCAPTCHA
  logged-in support sessions are kept for 180 days
- **User Favorites**: Allow users to favorite or unfavorite cities from the weather card, and give priority to the weather conditions of already collected cities

The project adopts **Vue.js** for the front-end and **Python** with **Django** for the back-end.The system provides more than 10 **RESTful API** interfaces, including at least 3 **POST** interfaces, which are used to process user operations and obtain data from third-party weather services

The cloud infrastructure is built on **Amazon Web Services (AWS)**:

- The application will be deployed on **AWS EC2**
- User profiles and weather-related data will be stored in **AWS RDS**
- Static assets such as avatar images, will be stored in **AWS S3**

Team members collaborate on GitHub, and all code changes are automatically recorded.
The code repository provides a secure management environment, and Pull Request facilitates communication and resolution, which can improve team development efficiency.