Weather Site Proposal

The goal of this project is to provide users who visit the site with weather information either in their local area or anywhere around the world. The target audience of this site is the individual who wishes to obtain weather related information for their needs.

Ideally, I want the API to include data, but not limited to:

* hourly, daily, weekly, monthly weather data
* historical data for past weather
* weather hazard data for alerting users

The database schema for this project would include USERS, SEARCHES, and UPCOMING\_TRIPS table. The USERS table holds all user details that will be obtained during registration. The SEARCHES table holds each user’s searches which will be used to show them what they have searched for and/or use for search suggestions. Lastly, the UPCOMING\_TRIPS table holds the user's future trip destination which will be used to inform users about weather information closing to their trip’s date as well as recommendations on what to do and where to eat etc. The USERS and SEARCHES would have a one to many relationship where a single user can have multiple searches and each search belongs to a single user.

Below is the database schema:

|  |  |
| --- | --- |
| UPCOMING\_TRIPS | |
| PK | ID (INT) |
|  | CITY (VARCHAR(40)) |

|  |  |
| --- | --- |
| USERS | |
| PK | ID (INT) |
|  | FIRST\_NAME (VARCHAR(40)) |
|  | LAST\_NAME (VARCHAR(40)) |
|  | USERNAME (VARCHAR(40)) |
|  | EMAIL (VARCHAR(50)) |
|  | PASSWORD (VARCHAR(30)) |



|  |  |
| --- | --- |
| SEARCHES | |
| PK | ID (INT) |
|  | CITY (VARCHAR(40)) |
| FK | USER\_ID (INT) |

Some potential issues with the weather API that I could think of are, but lot limited to:

* It doesn’t have all the data needed
* Limited API calls per day with free tier version
* Reliability and support for free tier version
* It might be complex to get the needed data with many nested data
* Maybe the accuracy of data (but this is beyond the scope of the project to verify data)

The app will not ask for or store any sensitive data for any user. The app may have the following functionalities, but not limited to:

* Registration/Login
* Search weather by city, coordinates, full address
* Clear search history
* Display weather information
* Save upcoming trip
* Update upcoming trip
* Delete upcoming trip
* Alert users of weather hazard about their destination
* Recommending users about their destination

The user flow of this application would look something like this:

* For unregistered users
  + Display weather information base on user general location
  + They can search for weather information
* For registered users
  + Once signup will redirect them to main screen
  + Display weather information base on user general location
  + They can only search for weather information
  + Clear their search history
  + Save their upcoming trip
  + Update their upcoming trip
  + Delete their upcoming trip
  + Getting alert of potential weather hazard
  + Getting recommendations for their upcoming trip
  + They can logout

Some of the features that make this project more than a simple CRUD are:

1. Give users recommendations based on their saved destination
2. Geocoding lat/long to associate address
3. Alert user of potential weather hazard
   1. Alert via email and/or while they’re logged in