**Weather Site**

1. **Problem Statement:**

* Build a simple weather site to display temperature, wind speed and rain forecast etc.
* Can be integrated with any open API that provides data.

e.g. <https://openweathermap.org/>

$apiKey = '0c8cfdb690e86ceff2d7e47cbe276080';

API Url for

Current weather : [http://api.openweathermap.org/data/2.5/weather?q={$city}&appid={$apiKey}](http://api.openweathermap.org/data/2.5/weather?q=%7b$city%7d&appid=%7b$apiKey%7d)

Forecast Weather:

[http://api.openweathermap.org/data/2.5/forecast?q={$city}&appid={$apiKey}](http://api.openweathermap.org/data/2.5/forecast?q=%7b$city%7d&appid=%7b$apiKey%7d)

Cities: Chennai, Mumbai, Delhi, Bangalore, Kolkata etc.

* Should have responsive UI to provide the Cities and display the results.
* Code coverage should be 80% or above

1. **Technology Stack:**

* **Any Programming language, DB or frameworks**

1. **Features/Requirements:**

|  |  |  |
| --- | --- | --- |
| Feature/requirement | Feature /Requirement Description with Business rules and design constraints | Expected Duration to complete |
| Responsive UI | Create responsive UI to display weather information by accepting cities as dropdown from DB  2 pages or sections: 1 for current weather and 1 for forecast  Current Weather info fields (min 3): Temperature, wind speed and rain forecast etc  Forecast weather: hourly or in a day, few hours break up of forecasting info with appropriate icons or images.  Validation of data should be done. | ~50 mins |
| API Integration | Integration with any open API for weather information and example also given.  Error/Exception handling, Validations should be available | ~20 mins |
| Weather Enquiry Auditing | Log all the weather & forecast enquiries in an audit table | ~ 30 mins |
| Code coverage | >= 80% | ~ 20 mins |

1. **Key Points to be followed:**

* Build an API to GET the City list from DB
* Build an API to POST enquiry details
* Build UI screens to accept city and show weather and forecast details
* Save enquiry details into audit table to the DB through API
* Build UI screen to have hourly forecast weather details

1. **Table Structure:**

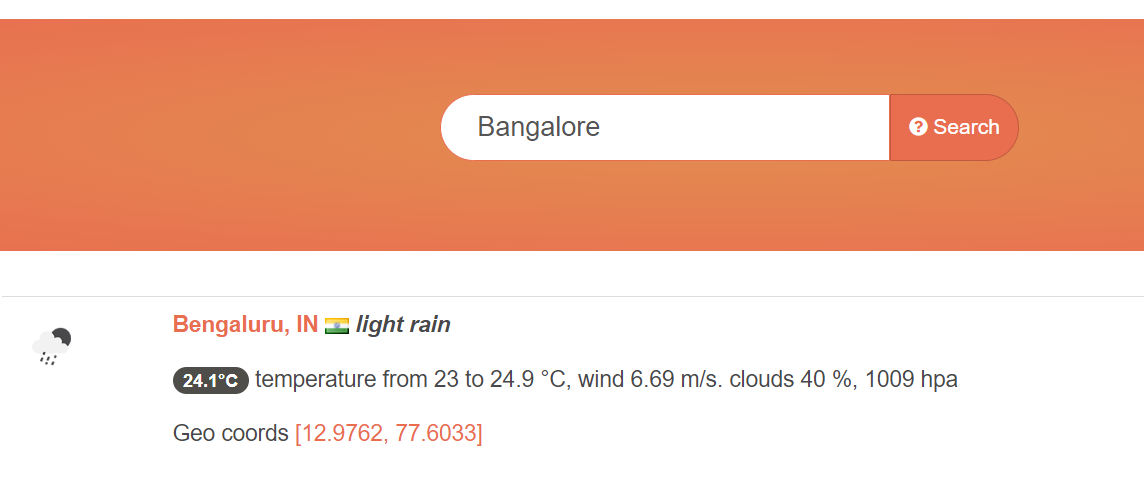
City Master table:

|  |  |
| --- | --- |
| **Columns** | **Purpose** |
| cty\_code | Primary key, unique identifier |
| cty\_description | description of the city and input to the weather API |
| created\_at | The date and time its created |
| updated\_at | Modified date and time |

Enquiry Audit table

|  |  |
| --- | --- |
| **Columns** | **Purpose** |
| Aud\_id | Primary key, unique identifier |
| Aud\_cty\_code | City code that’s been requested for weather/forecast |
| Aud\_enquiry\_type | Weather or forecast |
| Aud\_enquiry\_at | The date and time when the request is made for weather/forecast |

1. **Output to be generated using GitHub Copilot:**
   1. Copilot commands used in a text file.
   2. History of Copilot command and code generated in a Dev tool.
   3. Database scripts – Scripts to create tables
   4. Working code.
   5. Demo
   6. Unit test case
   7. Prompts used
   8. Code Documentation
   9. Screen shot of the UI screen showing the final output.
2. **UI Details with few sample snapshots for reference (just samples only)**



A screenshot of a weather forecast

Description automatically generated

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A screenshot of a weather forecast

Description automatically generated