Conversation Log - Lecture 14 Part 1

Date: 2025-12-09

Summary of Actions

Initial Setup:

- Created project folder structure.
- Created `inspect_data.py` to analyze the CWA API JSON structure.
- Identified key data fields: Location Name, Min Temp, Max Temp, Weather Description.

ETL Process Implementation:

Created `etl.py` to:
- Download JSON data from CWA API.
- Parse the JSON to extract weather forecasts.
- Create a SQLite database (`data.db`) with a `weather` table.
- Insert parsed data into the database.
- Ran `etl.py` to populate the initial database.

Streamlit App Development:

- Created `app.py` to visualize the data.
- Implemented a basic table and bar chart view.
- Created `requirements.txt` with dependencies (`streamlit`, `pandas`, `requests`).
- Created `README.md` with usage instructions.

Version Control (Git/GitHub):

- Initialized a local Git repository.
- Committed all files.
- Added remote origin: `https://github.com/XiaoYu0503/Lecture_14_Part1`.
- Pushed code to the `main` branch.

UI Improvements (Dashboard Style):

- Updated `app.py` to mimic the CWA website style.

- Added card-like layout for each region.

- Added weather icons (■■, ■■, ■■) based on descriptions.

- Pushed updates to GitHub.

Map Visualization:

- Investigated API for coordinates (found none).

- Updated `etl.py` to include hardcoded coordinates for Taiwan's regions.

- Updated database schema to include `lat` and `lon`.

- Re-ran `etl.py` to update `data.db`.

- Updated `app.py` to use `pydeck` for map visualization.

- Added `pydeck` to `requirements.txt`.

- Pushed updates to GitHub.

Bug Fix (Blank Map):

- Identified issue with Mapbox style requiring an API token.

- Updated `app.py` to remove the explicit `map_style` argument, reverting to the default Streamlit map style.

- Pushed the fix to GitHub.

Documentation:

- Created this log file (`conversation_log.md`) to record the session history.

- Uploading this log to GitHub.