

Meeting Minutes – Project Overview & Progress

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Project: Language-Based Geographic Reasoning System

Attendees: Whole group

1. Database Query Improvement System

- **Problem:** Direct use of large models for database queries often results in inaccuracy due to insufficient context.
- **Solution:** Implement a **three-level filtering structure**:
 - Level 1: Broad domain classification (e.g., population data)
 - Level 2: Subcategories (e.g., population growth rate, distribution)
 - Level 3: Specific table structure and key attributes
- **Process:** The system + GPT will progressively narrow down the relevant table.
- **Limitations:** If final match is wrong, process must be re-run.
- **Next step:** Initial testing with **5 single-table queries**.

2. Data Format Issue

- **Challenge:** Current data exists in **file format (QGIS exports)**, not database format, making structured extraction difficult.
- **Plan:** Export into **database format** for structured processing.

3. Circle Quality Annotation

- **Single-table queries:** Relatively simple to annotate.
- **Multi-table queries:** Require tracking relationships between tables → significantly more complex.
- **Status:** No optimal solution yet; identified as a **key deliverable**.

4. Error Correction for Large Models

- **Issue:** If results are incorrect, either data is missing from the database OR filtering is too strict.
- **Future plan:** Add **error detection & correction mechanisms** to improve robustness.
- **Goal:** Ensure the system can **self-correct model mistakes**.

5. Frontend Development Progress

- Framework setup has been completed.
- **Next week:** Begin development of core pages:
 - Home page
 - Authentication pages
 - Other essential application pages

6. Next Steps and Action Items

- Build and test **three-level structure** for 5 single-table queries.
- Continue work on **circle quality annotation** and **error correction solutions**.
- Develop additional **frontend pages** and **annotation examples**.

- Send progress report to the client via **Teams** for review and feedback.