This is an ambitious and exciting project, Ryan. A LoRa mesh-based environmental monitoring system requires careful planning and organization, so structuring your files early will save you headaches down the road. Here’s a recommended Google Drive folder structure along with the purpose of each category:

### \*\*Top-Level Folder: Environmental Monitoring System\*\*

This is your main directory where everything will be neatly organized.

#### \*\*1. Project Planning & Documentation\*\*

- `Project Overview.docx` → High-level description, goals, challenges, expected outcomes.

- `Timeline & Milestones.xlsx` → Track project phases, deadlines, and progress.

- `Bill of Materials.xlsx` → List of all components, quantities, costs, suppliers.

- `Stakeholder Notes.docx` → Any discussions or meeting notes with collaborators.

#### \*\*2. Circuit Design & PCB Files\*\*

- `Schematics/` → Electronic circuit diagrams, ESP32 wiring connections.

- `PCB Designs/` → Files for PCB layout, Gerber files for fabrication.

- `Component Datasheets/` → Technical specs for sensors, ESP32, communication modules.

#### \*\*3. Enclosure & 3D Printing\*\*

- `CAD Designs/` → STL/STEP files for project boxes.

- `Material Selection.docx` → Notes on enclosure durability, waterproofing, ventilation.

- `Print Service Details/` → Files & details for 3D printing service submissions.

#### \*\*4. Firmware & Software\*\*

- `Firmware/` → ESP32 code for sensor data collection & LoRa communication.

- `Dashboard Code/` → Frontend & backend for the data visualization.

- `Testing Scripts/` → Any diagnostic scripts to check sensor functionality.

#### \*\*5. Deployment & Testing\*\*

- `Installation Guides/` → Step-by-step setup instructions for sensors and nodes.

- `Testing Logs/` → Data logs & observations during field tests.

- `Calibration Notes.docx` → Adjustments made to sensors for accuracy.

#### \*\*6. Research & References\*\*

- `LoRa Mesh Resources/` → Any whitepapers, tutorials, or related documentation.

- `Previous Projects/` → Inspiration from similar implementations.

Starting with this structure will help you logically separate each piece of the project and keep everything accessible as it grows. If you need help detailing specific sections further, let me know—I’m happy to refine things more. You've got a great initiative here!