**Project Flow**

The functionality of the Gemini Pro Financial Decoder can be broken down into a pipeline of user interaction, data processing, AI summarization, and result rendering. Each step has been carefully crafted to ensure a smooth, intuitive experience while leveraging powerful AI behind the scenes.

1. **User Engagement:**
   * The user accesses a sleek and minimalistic Streamlit-based web interface.
   * Files—balance sheets, income statements, or cash flow statements in CSV or XLSX format—can be uploaded using an st.file\_uploader() widget.
   * Once uploaded, the system provides immediate feedback by displaying the file name, and a preview of the contents (e.g., first 5 rows of the DataFrame).
2. **Data Ingestion & Preparation:**
   * Uploaded documents are automatically checked for file format compatibility.
   * Files are parsed into Pandas DataFrames with schema validation.
   * The system checks for required columns and appropriate data types. If issues arise, an error message explains what’s missing or incorrect.
   * This feedback loop ensures the user can quickly re-upload corrected files without consulting documentation.
3. **Intelligent Analysis:**
   * Once validated, financial data is mapped into prompt templates.
   * These templates are context-specific and designed to elicit structured, insightful summaries from the Google Gemini 1.5 Pro model.
   * For example, a P&L template might ask: “Summarize revenue trends, cost changes, and net profit evolution.”
   * The AI then returns a summary emphasizing metrics such as gross margin, operating expense trends, and significant deviations.
4. **Insight Delivery:**
   * The AI-generated summaries are cleanly rendered under structured headings (e.g., “Balance Sheet Insights”).
   * Data is also visualized using Streamlit’s built-in charting tools (st.line\_chart()), showing trends like revenue over quarters or net cash flow over time.
   * This combination of text and visual context helps users quickly interpret trends without extensive financial background.

**Example Use Cases:**

* Sarah sees a revenue dip over Q2 via chart and reads a bullet-point explanation.
* Rajesh gets an immediate picture of company solvency.
* Mark generates quotable insights for his article.

This end-to-end flow—from upload to summary and charting—is designed for flexibility, scalability, and accessibility.