

4.1 System Architecture

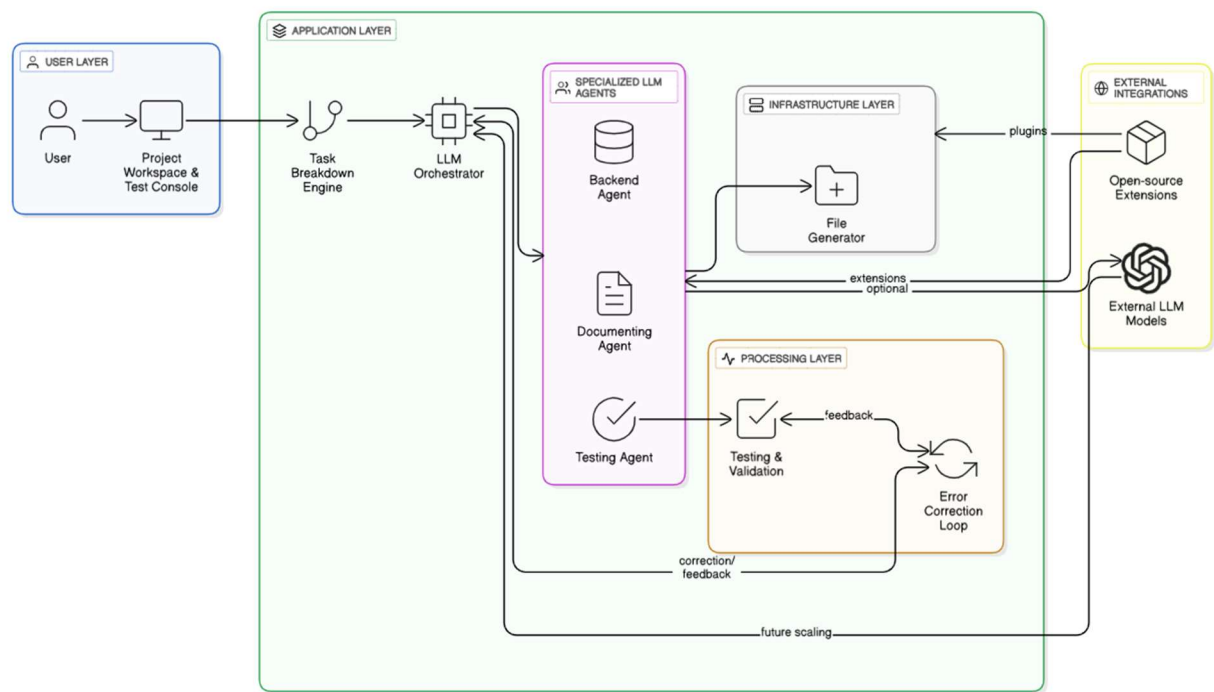


FIGURE 2: System Architecture Diagram

System Architecture Explanation

The architecture of the proposed system follows a layered and modular design, where each component has a well-defined role in the generation and validation of the project. The diagram illustrates the flow of data and control between these layers, highlighting both the sequential processes and the feedback loops that ensure quality.

1. User Layer

The process begins at the **User Interface / Project Workspace**, where the developer provides project specifications, preferences, and constraints. The interface also displays outputs such as generated code, documentation, and test results, while offering options to re-run modules or accept fixes. This ensures a human-in-the-loop mechanism for monitoring and refining results.