

Project Design Phase-II

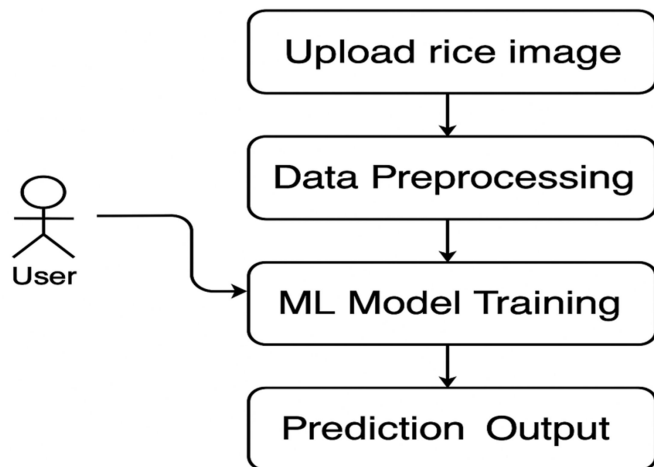
Data Flow Diagram & User Stories

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| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID41438 |
| Project Name | GrainPalette – A Deep Learning Odyssey in Rice Type Classification Through Transfer Learning |
| Maximum Marks | 4 Marks |

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: GrainPalette



User Stories

List of all the user stories for the product.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance Criteria | Priority | Release |
|------------------|-------------------------------|-------------------|--|---|----------|----------|
| User (Farmer) | Upload Data | USN-1 | As a user, I can upload an image of a rice grain to the system | File successfully loaded into the tool | High | Sprint-1 |
| User (Scientist) | Train Model | USN-2 | As a user, I can train the machine learning models using the uploaded data | Model is trained using MobileNetv4 with reported accuracy | High | Sprint-1 |
| User (General) | Predict Rice Type | USN-3 | As a user, I can receive a rice type prediction after uploading an image | Prediction is displayed clearly on-screen after submission | High | Sprint-1 |
| User (Scientist) | Evaluate Model | USN-4 | As a user, I can view evaluation metrics like Accuracy, F1-Score, Confusion Matrix | All metrics are printed after evaluation | Medium | Sprint-2 |
| Admin | Web Deployment | USN-5 | As an admin, I can deploy the system with a web interface for public access | Web UI available using Streamlit/Flask and accessible via browser | Low | Sprint-3 |