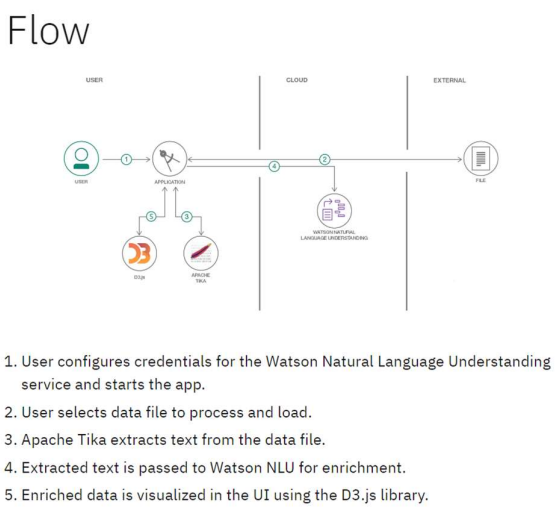
Project Design Phase-II
Data Flow Diagram & User Stories

Date	18 June 2025
Team ID	CQernmDY
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: (Simplified)



User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
User	Image data collection	USN-1	As a user, I want to collect and label different rice grain images for training the model.	Dataset of at least 500 labeled images for each rice type is ready for training.	High	Release 1
Developer	Data preprocessing	USN-2	As a developer, I want to preprocess the rice images (resize, normalization) to improve model accuracy.	Preprocessed image dataset with consistent size and normalization ready for model input.	High	Release 1
Data scientist	Model traning	USN-3	As a data scientist, I want to apply transfer learning on a pre-trained CNN model to classify rice types.	Trained model with at least 85% training accuracy and acceptable validation results.	high	Release 2
Developer	Model evaluation	USN-4	As a developer, I want to evaluate the model using accuracy, confusion matrix, and classification report.	Confusion matrix and classification report generated with at least 80% accuracy.	medium	Release 2
User	Ui development	USN-5	As a user, I want to upload a rice grain image through a simple web or mobile app and get classification results.	Working UI where user can upload an image and receive predicted rice type.	medium	Release 3
Developer	Deployment	USN-6	As a developer, I want to deploy the trained model and integrate it with the frontend for real-time use.	Model deployed and integrated successfully with frontend. App is accessible for end-users.	low	Release 3