Project Design Phase-II
Data Flow Diagram & User Stories

Date	15 February 2026
Team ID	LTVIP2026TMIDS50375
Project Name	Smart Sorting: Identifying Rotten Fruits and Vegetables Using Transfer Learning
Maximum Marks	4 Marks

Data Flow Diagrams:

Overview:

User Uploads Image: The user selects or drops a photo of produce (fruit/vegetable) into the Smart Sort interface.

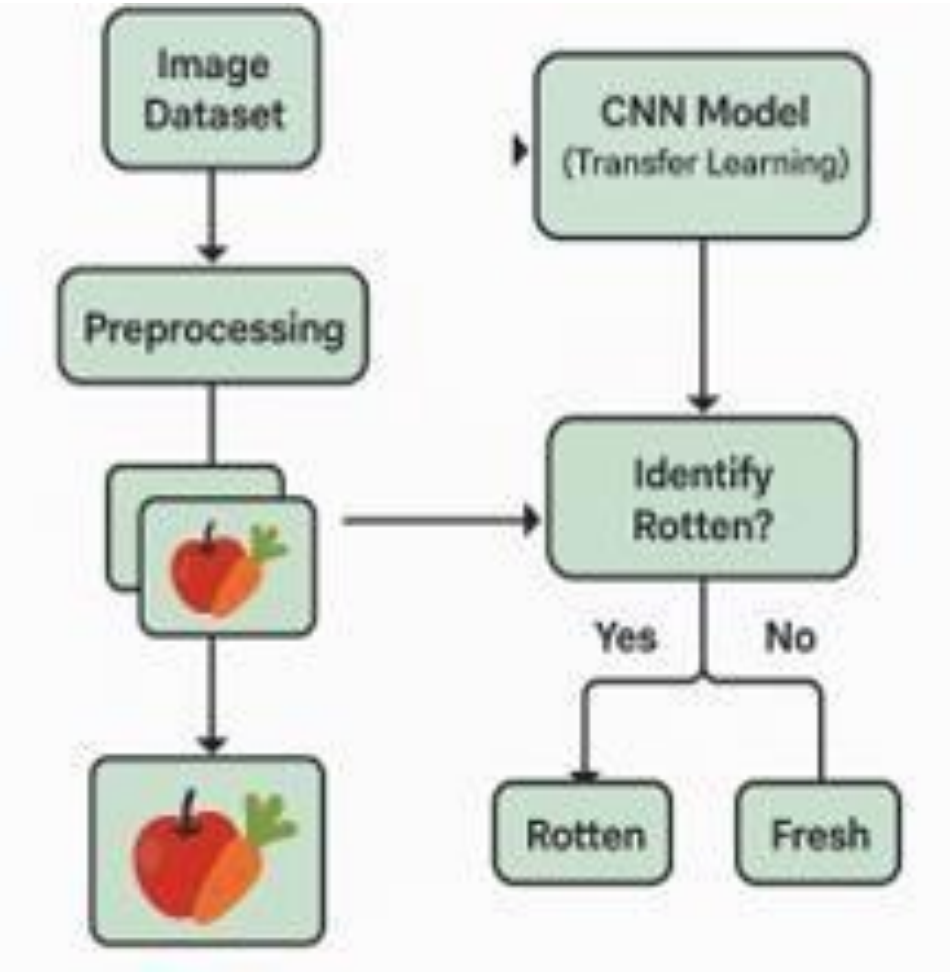
Image Preprocessing: The backend resizes the image to 224×224 pixels, normalizes pixel values, and prepares it for the MobileNetV2 model.

Model Inference: The processed image is fed into a transfer-learning model that outputs probabilities for 28 classes.

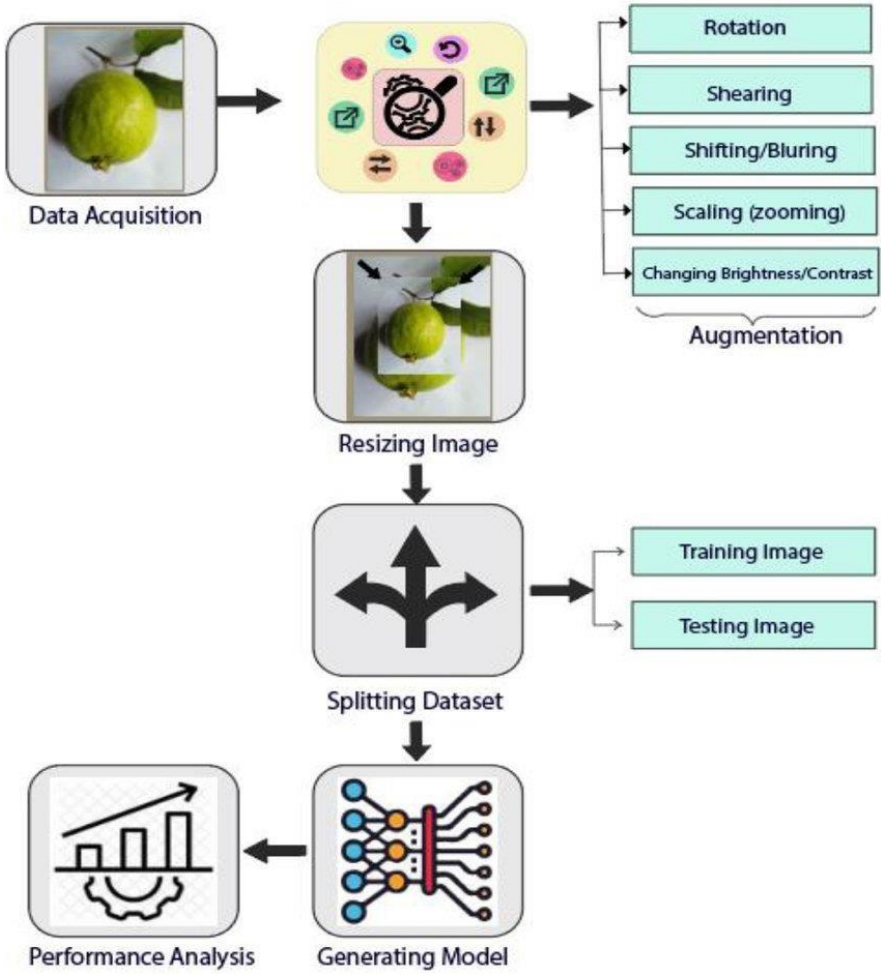
Result Interpretation: The class with the highest confidence is selected and formatted into a readable label (e.g., “FreshPotato”).

Prediction Display: The label and its confidence score are displayed instantly in the UI with visual feedback.

Flow Graphs:



User Interface Flow Graph



Model Flow Graph

User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Farmer / Vendor	Registration	SS-US-1	As a user, I can register with my email and password to access the smart sorting system.	I can log in to the system after registering with valid credentials.	High	Sprint1
Farmer / Vendor	Registration	SS-US-2	As a user, I receive a confirmation email after successful registration.	I receive an email with a confirmation link and can verify my account.	High	Sprint1

Farmer / Vendor	**Login**	**SS-US-3**	**As a user, I can log in with my registered email and password.**	**I can successfully log in and access the dashboard.**	**High**	**Sprint1**
Farmer / Vendor	**Image Upload**	**SS-US-4**	**As a user, I can upload or capture images of fruits/vegetables for sorting.**	**The system accepts image input and confirms receipt.**	**High**	**Sprint2**
Farmer / Vendor	**Prediction**	**SS-US-5**	**As a user, I can see whether the uploaded produce is “Fresh” or “Spoiled” based on AI detection.**	**The prediction is shown with a label and confidence score.**	**High**	**Sprint2**
Farmer / Vendor	**Feedback**	**SS-US-6**	**As a user, I can give feedback if the prediction seems incorrect.**	**A form or button allows me to report incorrect prediction.**	**Medium**	**Sprint3**

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Farmer / Vendor	View History	SS-US-7	As a user, I can view the history of my uploaded images and predictions.	I can see past records with timestamps and outcomes.	Medium	Sprint3
Admin	Manage Users	SS-US-8	As an admin, I can view, edit, or delete registered users.	Admin panel displays user list with action buttons.	Medium	Sprint2

Admin	Monitor Predictions	SS-US-9	As an admin, I can monitor AI prediction logs to ensure the system is performing accurately.	Admin sees dashboard with prediction counts, accuracy trends.	Medium	Sprint3
Admin	Model Feedback Loop	SS-US-10	As an admin, I can review user feedback and retrain the model with new data.	Admin has access to feedback repository and retraining workflow.	High	Sprint4
System	Transfer Learning Inference	SS-US-11	As a system, I apply a trained model to infer the condition of fruits/vegetables from uploaded images.	Model processes the input and returns result within acceptable time and accuracy.	High	Sprint2