Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	LTVIP2025TMID59872
Project Name	Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

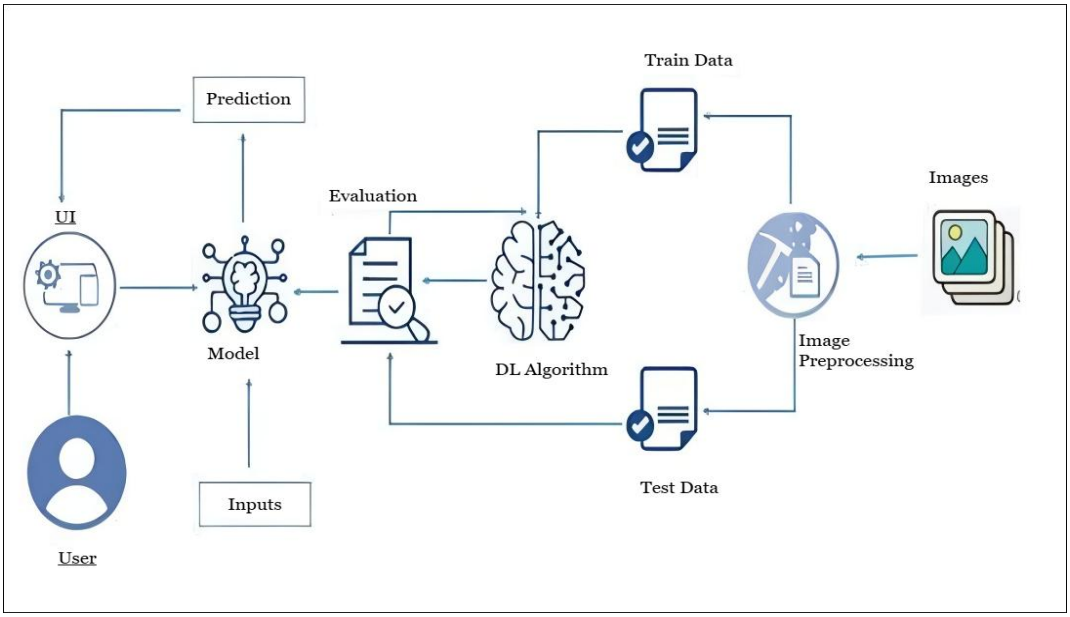

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application (Web Page)	HTML, CSS, Bootstrap, Flask (Python)
2.	Application Logic	Logic for a process in the application	Python
3.	File Storage	File storage requirements	Stores predicted images in Local Filesystem
4.	Machine Learning Model	Purpose of Machine Learning Model	VGG16
5.	Data	Data used to train the model	Dataset from Kaggle

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	User-Friendly Interface	Simple, intuitive web interface for image upload and result visualization.	HTML, CSS, Bootstrap, Flask (Python)
2.	Real-Time Prediction	Immediate classification of produce as healthy or rotten.	Flask backend, TensorFlow model
3.	Extendable Dataset Support	New produce types can be added by updating the dataset and retraining.	ImageDataGenerator, Keras, TensorFlow
4.	Efficient Processing	Optimized VGG16 model ensures fast and reliable predictions.	Pre-trained VGG16, Numpy

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d