PROJECT DESIGN PHASE - II

AI BASED LOCALISATION OF SKIN DISEASE WITH ERYTHEMA

TECHNOLOGY STACK

Technical Architecture :
The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
Example: AI-based localization and classification of skin disease with erythema

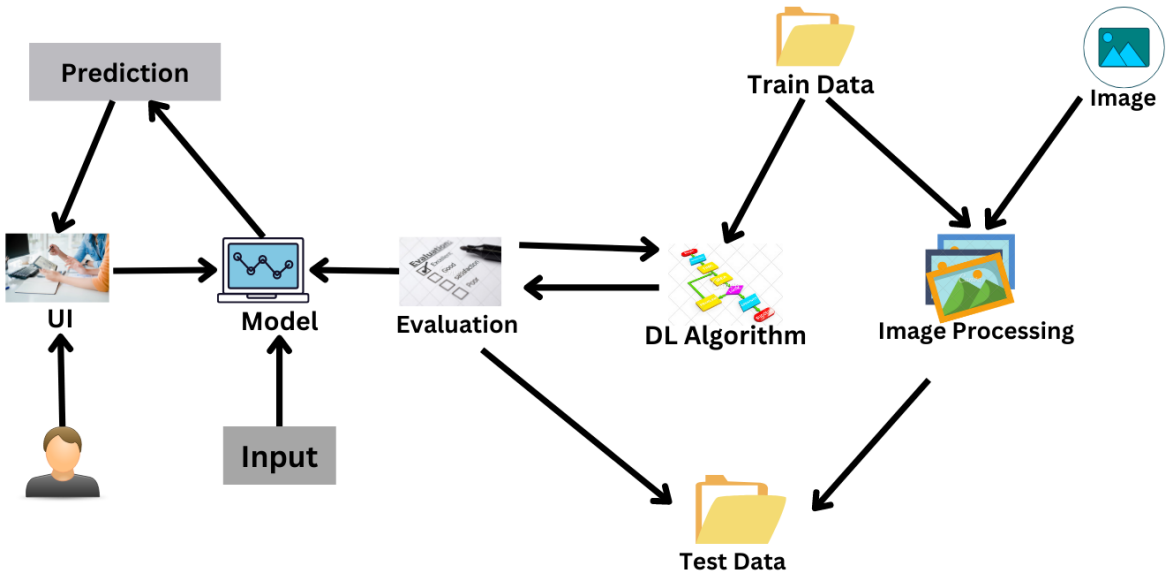

Table-1
Components & Technologies :

S.NO	Component	Description	Technology
1.	User Interface	User interacts with the application using a website	Python Flask
2.	Image Pre-processing	Image of the diseased spot is uploaded through the website and the image is pre-processed using machine learning algorithms.	Python
3.	Disease Prediction	Machine learning model to predict the diseases from the images of the diseases uploaded through the web app.	Python
4.	Mitigation	After predicting the disease, identification and mitigation that particular disease is suggested.	Python, IBM Watson Assistant
5.	Database	Images are stored in the database	MySQL, NoSQL, etc.
6.	Cloud Database	The above-described model is deployed in the IBM cloud.	IBM DB2, IBM Cloudant etc.
7.	File Storage	Files are been stored in cloud	IBM Block Storage or Other Storage Service or Local File system
8.	External API-1	API is used for the verification of aadhar to authenticate the user.	Aadhar API, etc.
9.	Machine Learning Model	Machine learning models are used for image preprocessing, disease prediction and mitigation steps	Image pre-processing model, Disease Prediction mode
10.	Infrastructure (Server / Cloud)	Application Deployment on Cloud Cloud Server Configuration : Default	IBM cloud

Table-2
Application Characteristics:

S.NO	CHARACTERISTICS	DESCRIPTION	TECHNOLOGY
1.	Open-Source Frameworks	Google Collaboratory, Jupyter Notebook, Google drive, Python Flask.	Technology of Open Source framework
2.	Security Implementations	Some kind of encryption will be done, as this is a web app the owasp will be taken into consideration	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	The scalability architecture used is 2-tier architecture. The client is the user and the server is the IBM cloud server where the model will be deployed.	Python Flask, IBM cloud
4.	Availability	The website will be deployed in the IBM cloud and will be available for all the users to use irrespective of the organization or the institution they belong to.	IBM Cloud
5.	Performance	As the models and the web applications are deployed in the IBM cloud remote server the website can handle maximum number of requests and can be scaled at ease.	IBM Cloud