Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	20 October 2022
Team ID	PNT2022TMID40380
Project Name	Project - AI - based localization and classification of skin disease with erythema
Maximum Marks	4 Marks

Technical Architecture:

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

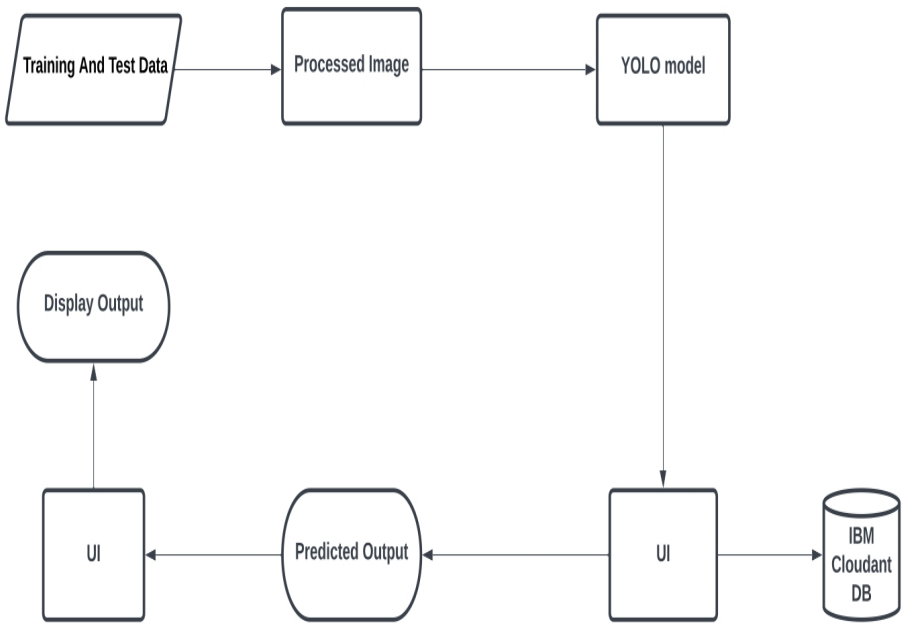

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App.	HTML, CSS, JavaScript
2.	Application Logic-1	The uploaded images and data of the users will be stored in the data base.	MySQL
3.	Application Logic-2	The Machine learning model should be trained.	YOLO in CNN
4.	Application Logic-3	The CNN Algorithm will classify the uploaded images of the user.	Python
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM Cloudant
7.	File Storage	File storage requirements	Local Filesystem
8.	Machine Learning Model	A Deep Learning Pytorch Object Detection Yolov5 Model is trained on the dataset with 10,000 images with 7 different classes.	YOLO Model.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Tensorflow and Keras designed to enable fast experimentation with deep neural networks, it focuses on being user-friendly, modular, and extensible	Tensorflow, Keras
2.	Security Implementations	Encryption is a mathematical tool that allows for encryption of data, ensuring privacy while at the same time, allowing computations to be performed on the encrypted data.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Performance will be good even with the higher user traffic	Django and flask
4.	Availability	With good scalable architecture, the application has less tendency to go down and performance efficient	IBM Cloud
5.	Performance	With greater accuracy, the performance is high	Incremental feature updating with alpha and regression testing methodologies.