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

Date	15 October 2022
Team ID	PNT2022TMID53272
Project Name	Project - A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

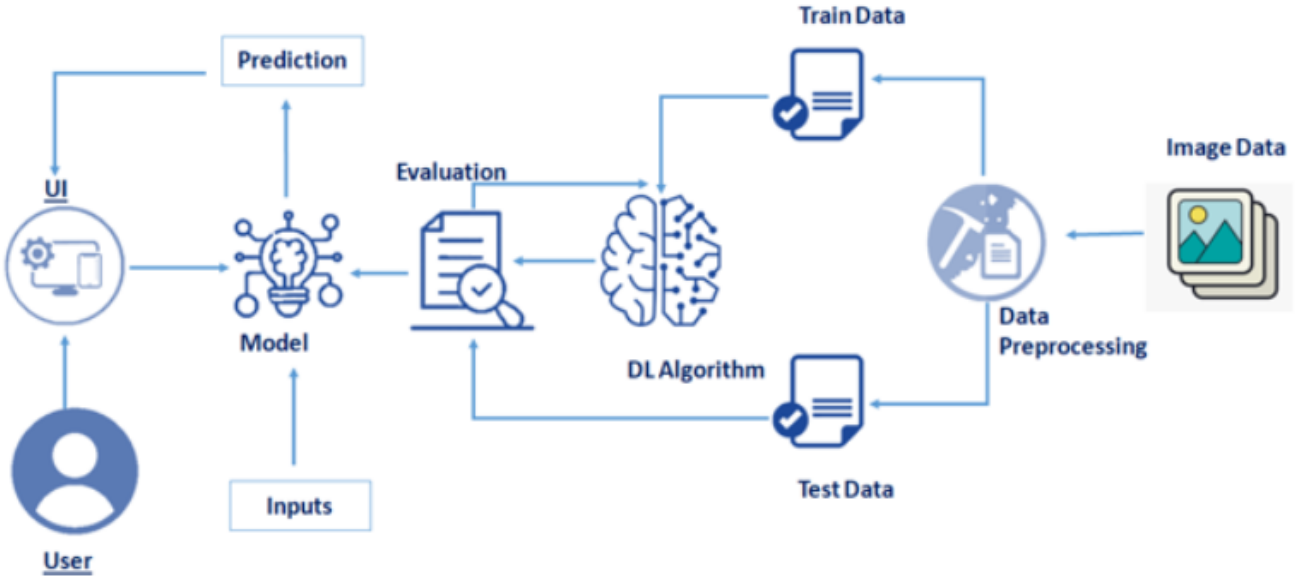

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Prediction page where we can choose the image and predict the output	HTML, Flask, Tensorflow
2.	Application Logic-1	Image is sent to the Flask backend for prediction	Flask, Tensorflow
3.	Application Logic-2	Image is processed using a CNN and a prediction is made	Flask, Tensorflow
4.	Application Logic-3	The prediction is sent back to the user and displayed	Flask, Tensorflow
5.	Cloud	Model is trained in IBM Cloud	IBM Cloud
6.	Machine Learning Model	Convolutional Neural Network	Tensorflow, Python
7.	Infrastructure (Server / Cloud)	Model is trained and application is hosted in IBM Cloud	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Tensorflow, Flask	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	Technology used

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