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

Date	20 October 2022
Team ID	PNT2022TMID17749
Project Name	A novel method for handwritten digit recognition System
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below.

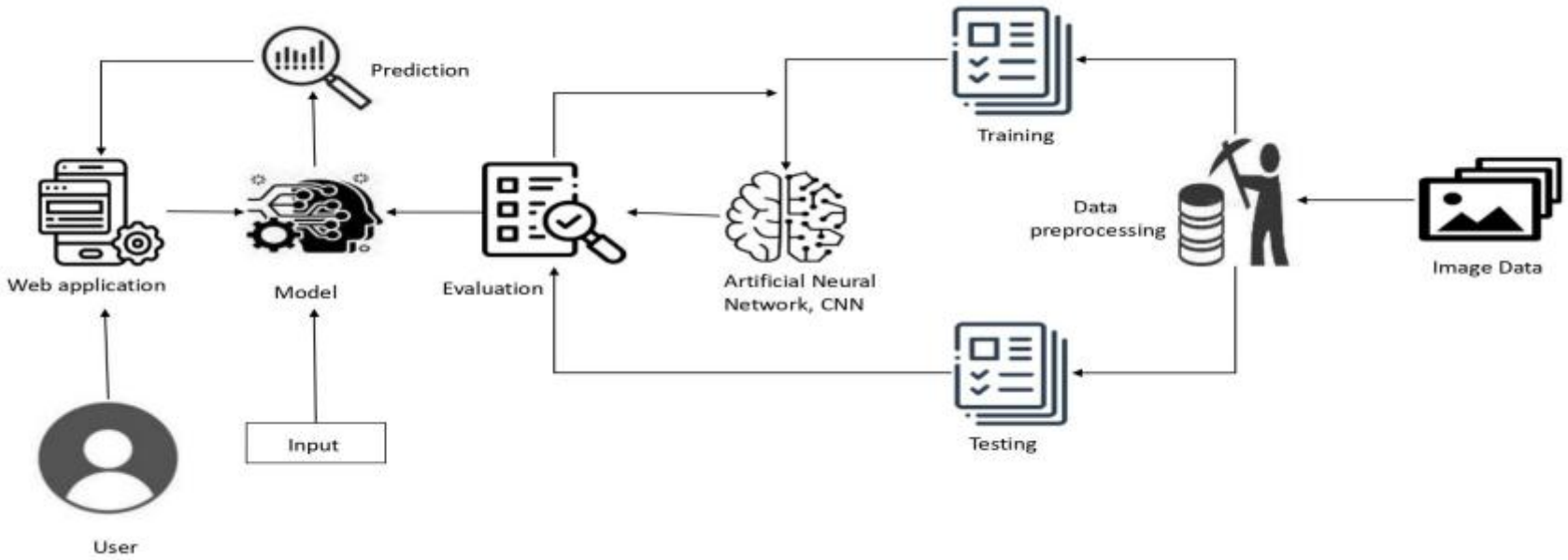

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with web application	HTML, CSS, JavaScript / React JS etc.
2.	Application Logic-1 Image processing	User uploads or process the data in our application	Python
3.	Application Logic-2 Create and train model	CNN model is created and trained.	Tensorflow, Keras
4.	Application Logic-3 Prediction	The image is predicted as digits by using CNN model.	Tensorflow, Keras, openCV (computer vision)
5.	Database	Digits dataset will be stored for training and testing the data to predict the output	MNIST dataset
6.	Cloud Database	Database service on cloud	IBM Watson cloud
7.	File Storage	User requirements will be processed through the file	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Machine Learning Model	To predict the given processed image	Image Classification Model CNN
9.	Infrastructure (Server / Cloud)	Cloud based web application	Cloud application

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	It is made freely available code for application notification and redistribution	Google colab
2.	Scalable Architecture	The behaviour of the application must be correct and predictable	HTML, CSS, JS, PYTHON, FLASK, IBM Cloud
3.	Availability	This app can be available to everyone through the cloud.	IBM cloud

4.	Performance	The application must be scalable enough to support 10,000 visits at the same time while maintaining optimal performance	IBM Cloud balancing