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

Date	03 October 2022
Team ID	PNT2022TMID28204
Project Name	Project - A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical Architecture:

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

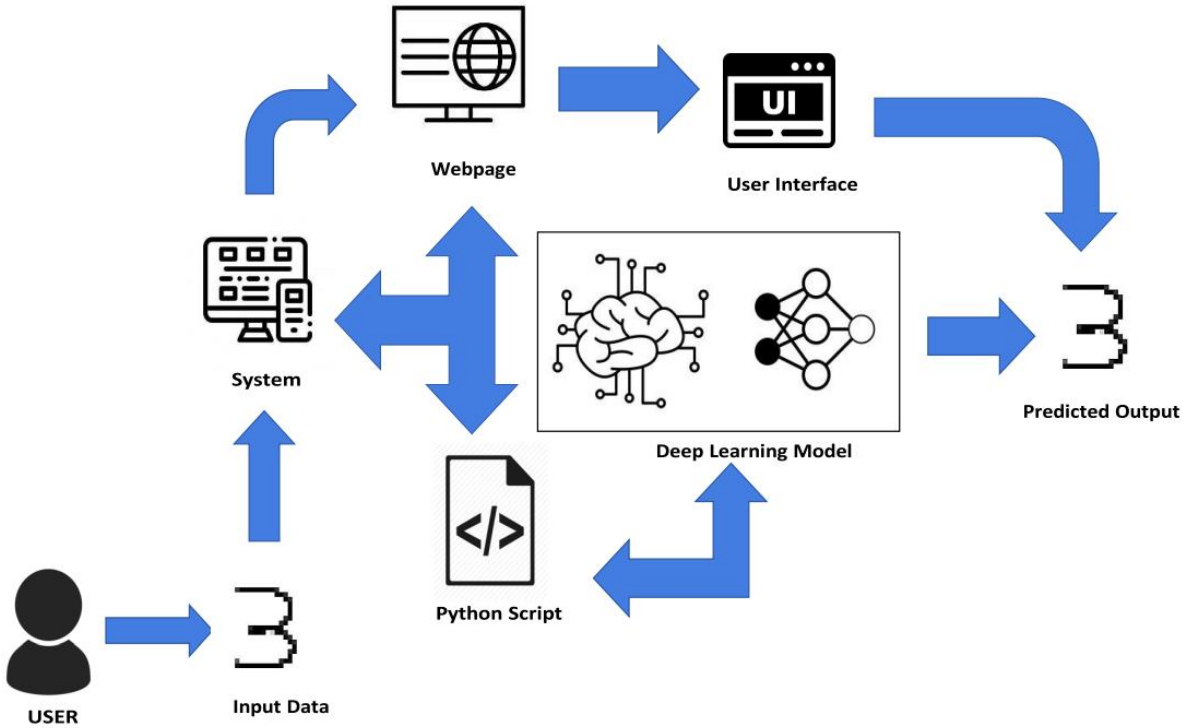

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Digit Prediction	Here the digit given as input is predicted.	Python
3.	Representation	Skeleton, counters, pixels or others.	Python (CNN)
4.	Segmentation	Task of clustering parts of an image together that belong to the same object class.	Python (CNN)
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Machine Learning Model	Purpose of Machine Learning Model is to train and test the outcome and improve accuracy.	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Enables developers to develop complex code and web application quickly	Open source-Jupyter anaconda navigator, flask/django famework.
2.	Security Implementations	The input images are stored in a secure server while being processed and then it gets deleted afterwards.	Encryptions
3.	Availability	This technology will be available for everyone to make use of.	Web servers.
4.	Performance	Work on the Python deep learning project to build a hand written recognition app using MNIST dataset convolutional neural network and a GUI.	Convolutional Neural Networks.