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

Date	09 November 2022
Team ID	PNT2022TMID
Project Name	A Novel Method for Handwritten Digit Recognition System

Technical Architecture for Handwritten Digit Recognition System:

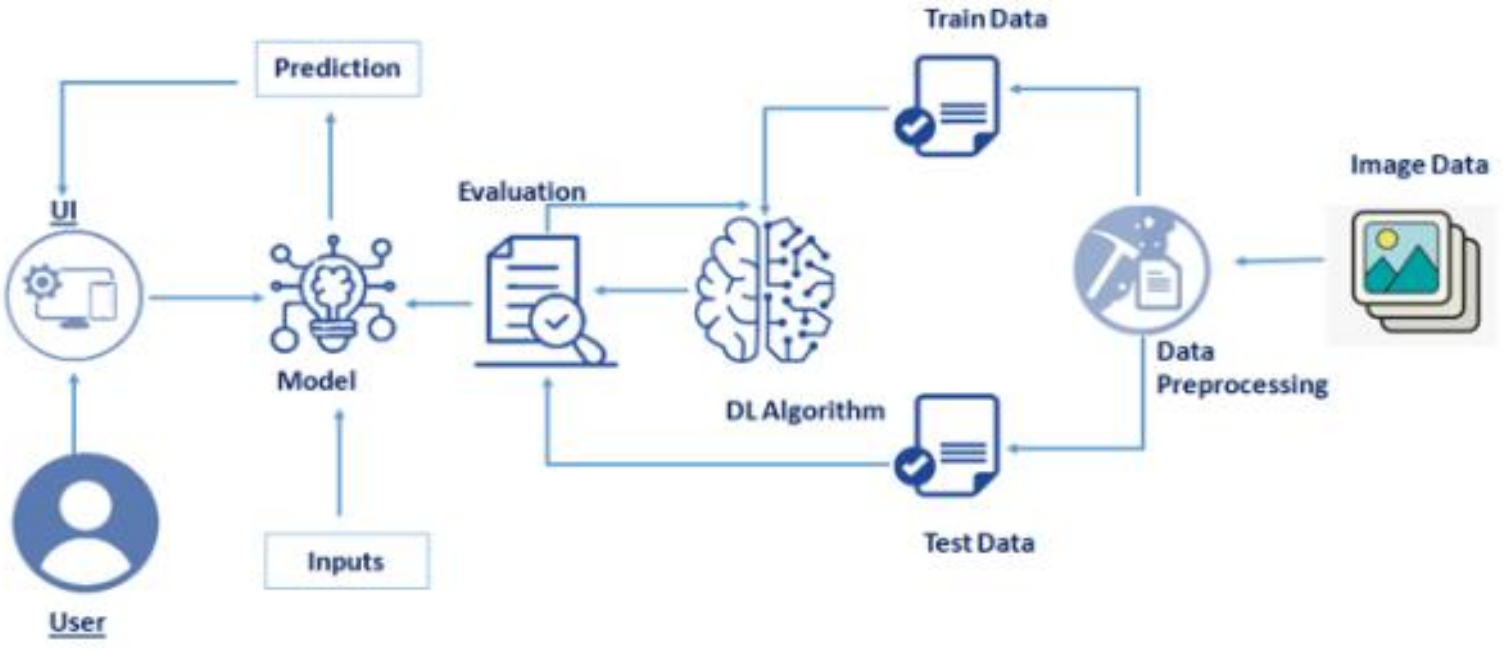

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with the application using **the** web **application**	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic	Login to access the application	Java / Python
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	Storage of user files of handwritten image	IBM Block Storage or Other Storage Service or Local Filesystem
10.	Machine Learning Model	Machine learning model is used to identify the handwritten image uploaded by users	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / AI Local Server Configuration AI Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Machine learning frameworks is used to train a predictive model	PyTorch, Open-cv
2.	Security Implementations	The system **will** automatically be able to authenticate all users with their unique username and password	Password based login, Authorization
3.	Scalable Architecture	The website traffic limit must be scalable enough to support 2 lakhs users at a time	3-tier
4.	Availability	The system functionality and services are available for use with all operations.	distributed servers
5.	Performance	The **app** can **respond** to requests within 5 **seconds.** It uses fewer features to train the neural network, **resulting** in faster convergence.	number of requests per sec