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

Date	03 October 2022
Team ID	PNT2022TMID037246
Project Name	Project - A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical Architecture:

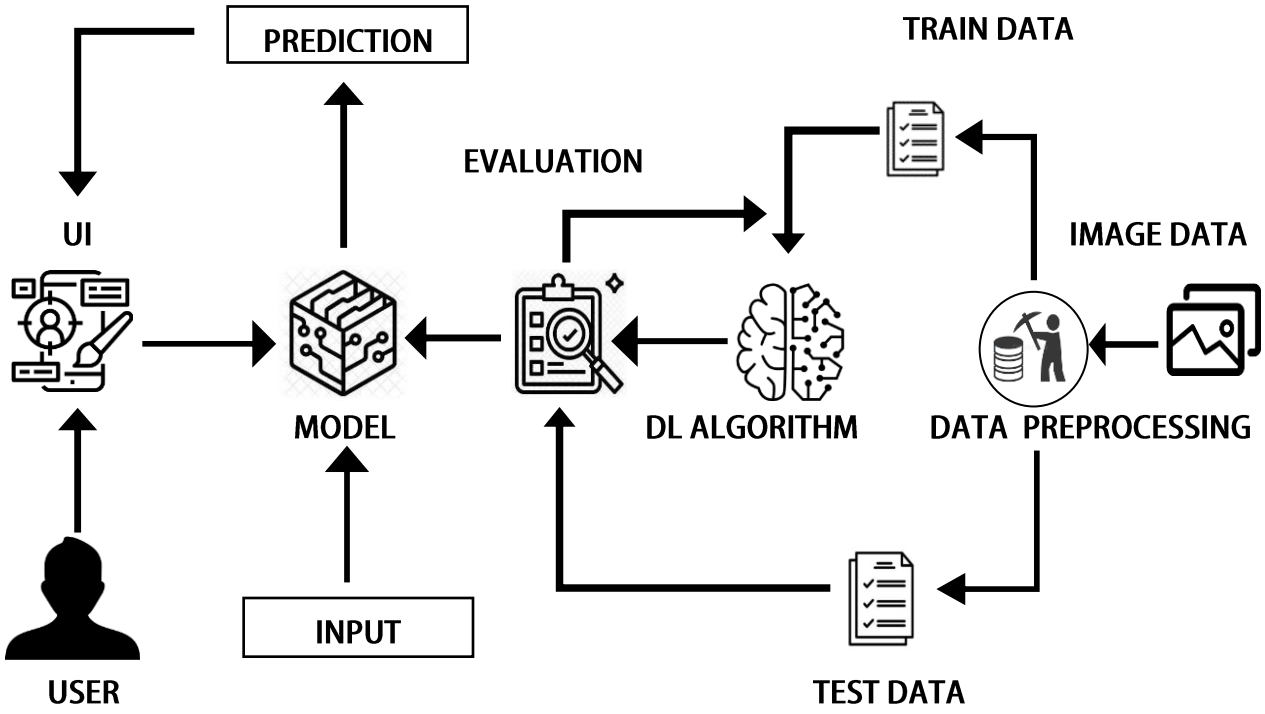

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	web App	HTML, CSS, Angular Js,Flask,Python-libraies:keras,tensor flow.
2.	Data collection	Inputting of simple data sets to train mode	MNIST,Kaggle,Python-libraies: Keras,tensor flow.
3.	Cloud access	Storing and retrieving results	IBM Watson STT service,IBM Watson Assistant
4.	Database	Data Type, configuration etc.	No SQL-MongoDB
5.	Cloud Database	Database service on Cloud	IBM DB2,IBM Cloud ant etc.
6.	File Storage	File Storage requirements	IBM Block storage or other storage sevice or Local Filesystem
7.	Machine Learning Model	Purpose of Machine learning model	Object Recognition Model,(CNN)
8.	Infrastructure (Server/Cloud	Application Deployment on Local System / Cloud Local Server Configuration ; Cloud Server Configuration;	Local, Cloud Foundry, Kubernetes, etc.

Table-2:Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-source Frameworks	Keras TensorFlow Numpy Libraries installed in python	Technology of Open Source Framework
2.	Security Implementations	Security/ access controls Implemented ,Firewalls used.	SHA-256, Encryptions, IAM Controls , OWASP
3.	Scalable Architecture	Architecture that organizes applications into three logical and physical computing tiers: The presentation tier, or user interface	3-Tier
4.	Availability	High availability with the use of load balancers & distributed servers.	SLB (Server Load Balancing)
5.	performance	Automation to improve business Performance-automated testing	Testim