

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

Date	15 October 2022
Team ID	PNT2022TMID53257
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

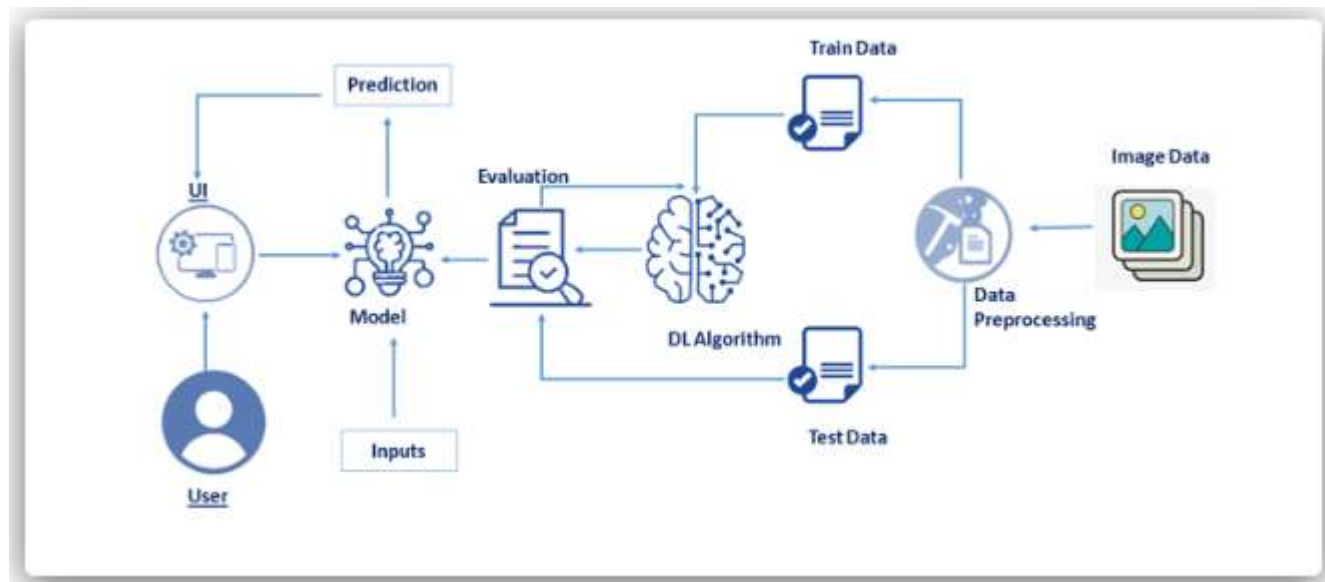


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web App	HTML, CSS, AngularJs, Flask, Python -, libraries: keras, tensor flow, Numpy
2.	Data Collection	Input sample sets to train model	MNIST, Kaggle, Python - libraries: keras, tensor flow
3.	Cloud access	Storing and retrieving results	IBM Watson STT service, IBM Watson Assistant
4.	Database	Data Type, Configurations etc.	NoSQL - MongoDB
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service 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

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Keras TensorFlow Numpy :libraries installed in python	Technology of Opensource 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

S.No	Characteristics	Description	Technology
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