Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	**25/10/2022**
Team ID	**PNT2022TMID30139**
Project Name	**Project - A Novel Method for Handwritten Digit Recognition System**
Maximum Marks	**4 Marks**

Technical Architecture :

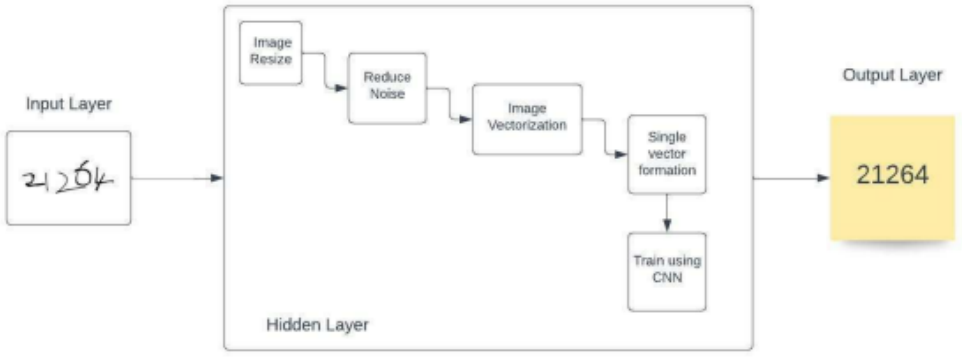

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Weather API
9.	External API-2	Purpose of External API used in the application	Aadhar API
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration Cloud Server Configuration	Local, Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	There is a list of the open-source frameworks utilised.	The technology of Opensource framework
2.	Security Implementations	a list of all the security and access controls,firewalls, etc.,that have been used.	SHA-256, Encryptions, IAM Controls, OWASP
3.	Scalable Architecture	to support the system's architecture's ability to scale.Easy to use and very adaptable	3 – tier, Micro-services
4.	Availability	Abstract and figures. The ability to recognise handwritten digits has been put into practise.Based on shape analysis, these characteristics extract slope or slant information from the digit picture.They succeed in getting excellent recognition accuracy.	Distributed servers, IBM cloud
5.	Performance	Using common neural network implementations,the handwritten digits are correctly categorised with an accuracy of (98–99) percent.	number of requests per sec, use of Cache, use of CDN’s