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

Date	03 October 2022
Team ID	PNT2022TMID48367
Project Name	A Novel method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical Architecture:

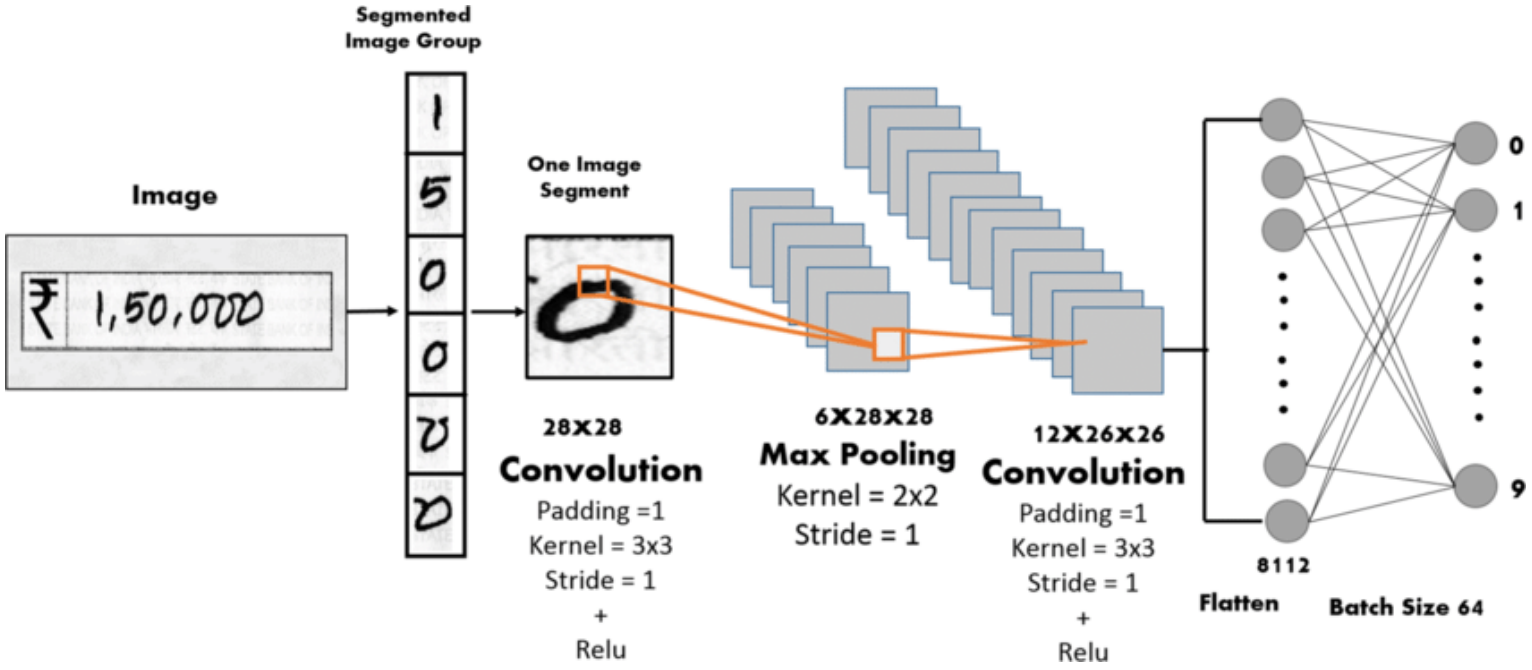

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
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 etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	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	The open-source frameworks used are listed.	The technology of Opensource framework
2.	Security Implementations	Listing all the security / access controls implemented, use of firewalls etc.	SHA-256, Encryptions, IAM Controls, OWASP

3.	Scalable Architecture	To justify the scalability of architecture used in system. User friendly and highly flexible.	3 – tier, Micro-services
4.	Availability	Figures and abstract. The capabilities for recognizing handwritten digits have been implemented. These characteristics extract slope or slant information from the digit image based on shape analysis. They are successful in achieving high recognition accuracy.	Distributed servers, IBM cloud
5.	Performance	The handwritten digits are accurately classified with an accuracy of (98-99) percent using the typical neural network implementations.	number of requests per sec, use of Cache, use of CDN's