Project Design Phase - II
Technology Architecture

Date	Week 3&4
Project Name	A Novel method for handwritten digit recognition system
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Technical Architecture:

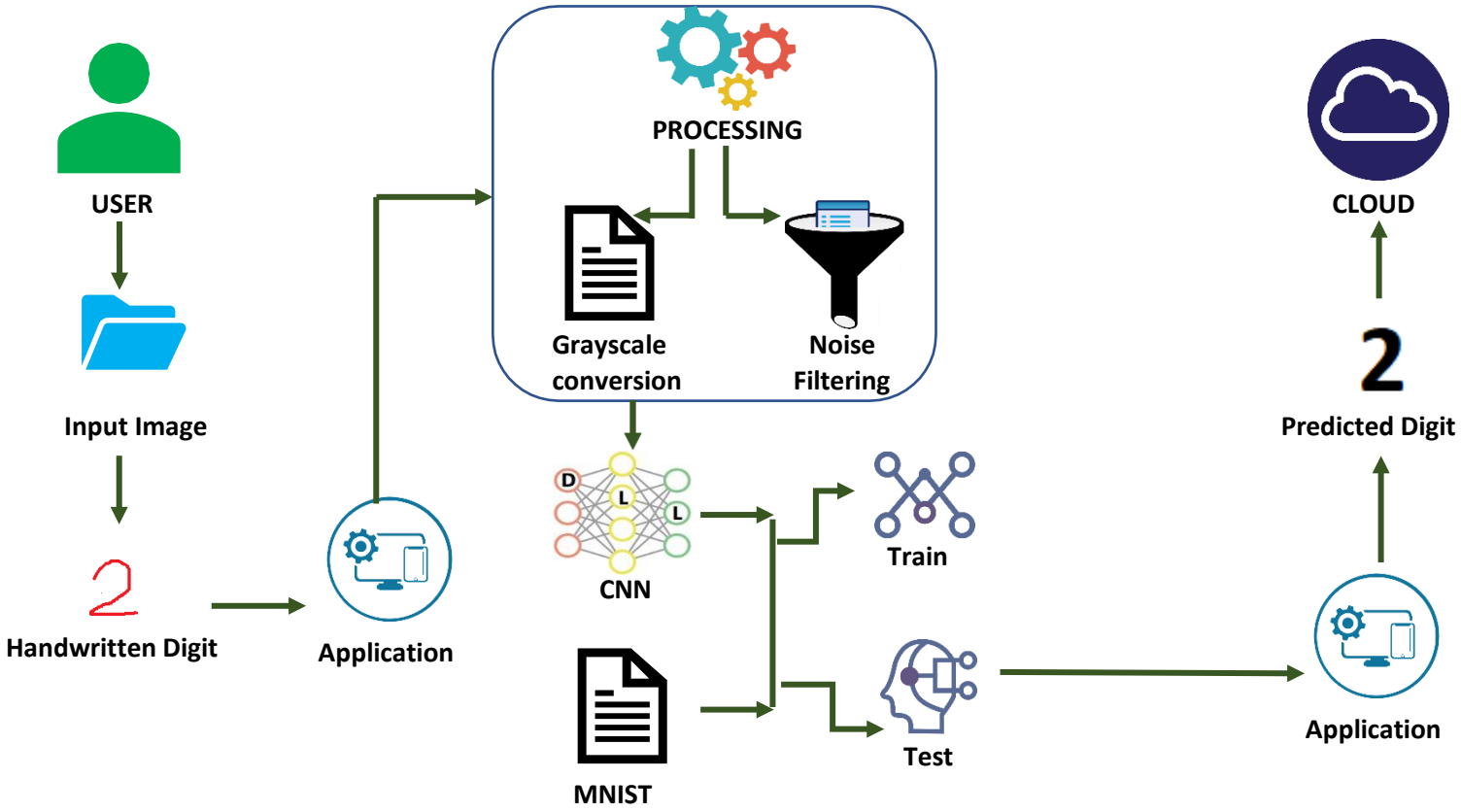

Table 1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App, Desktop Application	HTML, CSS, JavaScript
2.	Application Logic-1	Make GUI Interface	HTML, CSS
3.	Application Logic-2	Importing library and Code for Digit recognition	Python, Flask
4.	Application Logic-3	Train the model on IBM	Flask
5.	Prediction	Digit prediction on the image	Keras, CNN
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.	Machine Learning Model	Purpose of Machine Learning Model is to train and test the data and predict the user input.	Object Recognition Model, etc.
9.	Neural network	Automatically infer rules for recognizing handwritten digits	Convolutional neural network

Table 2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Enables developers to develop complex code and web application quickly.	Jupyter, anaconda navigator, flask framework.
2.	Security Implementations	After predicting the data, we don't store any data so we can't manipulate it in future.	Encryption
3.	Scalable Architecture	The scalability of architecture (3 – tier, Micro-services)	Browser, Web server (Database)
4.	Availability	Speed of Digit Detection with any handwritten	Convolutional Neural Networks
5.	Performance	Neural networks achieve an accuracy of 98-99 percent in correctly classifying the handwritten digits	Convolutional Neural Networks