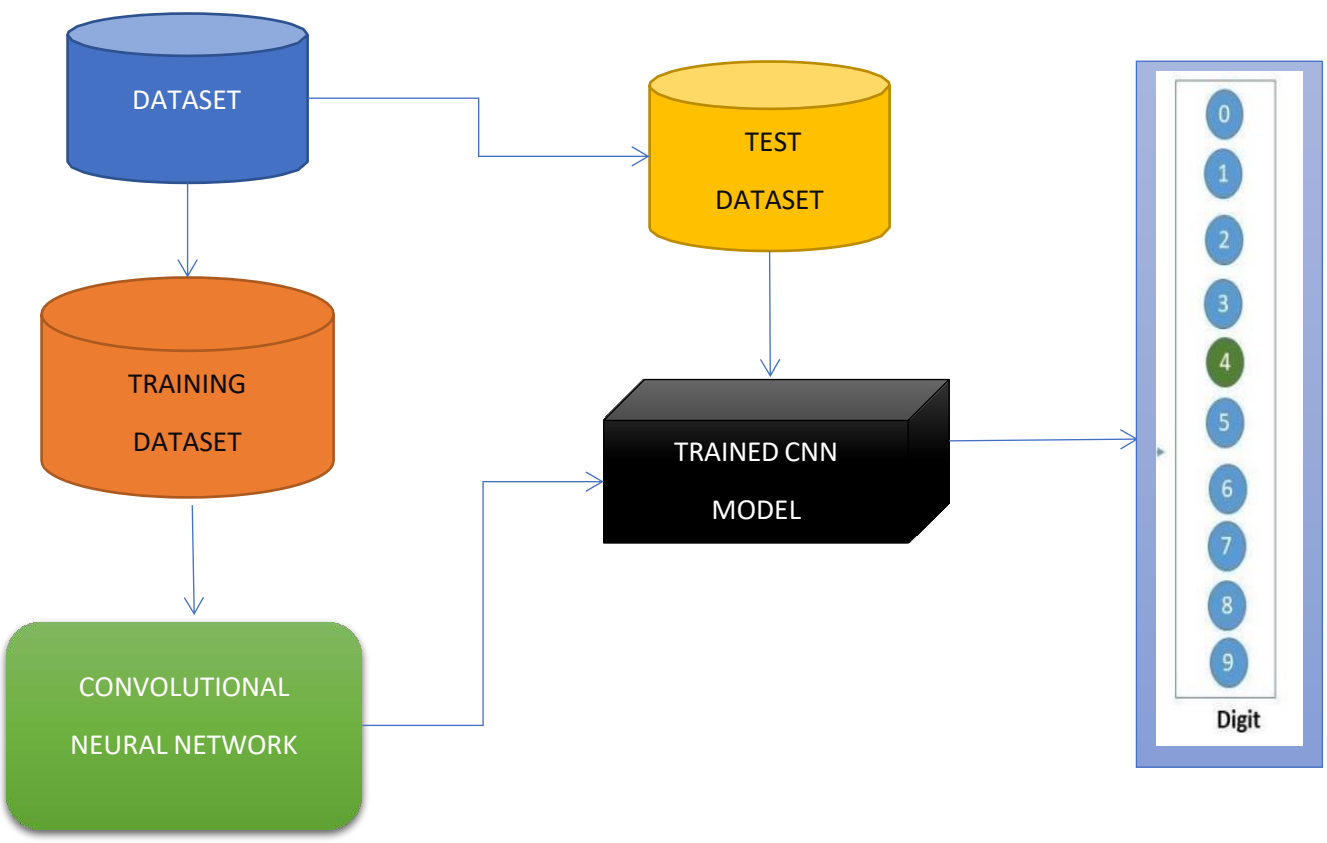
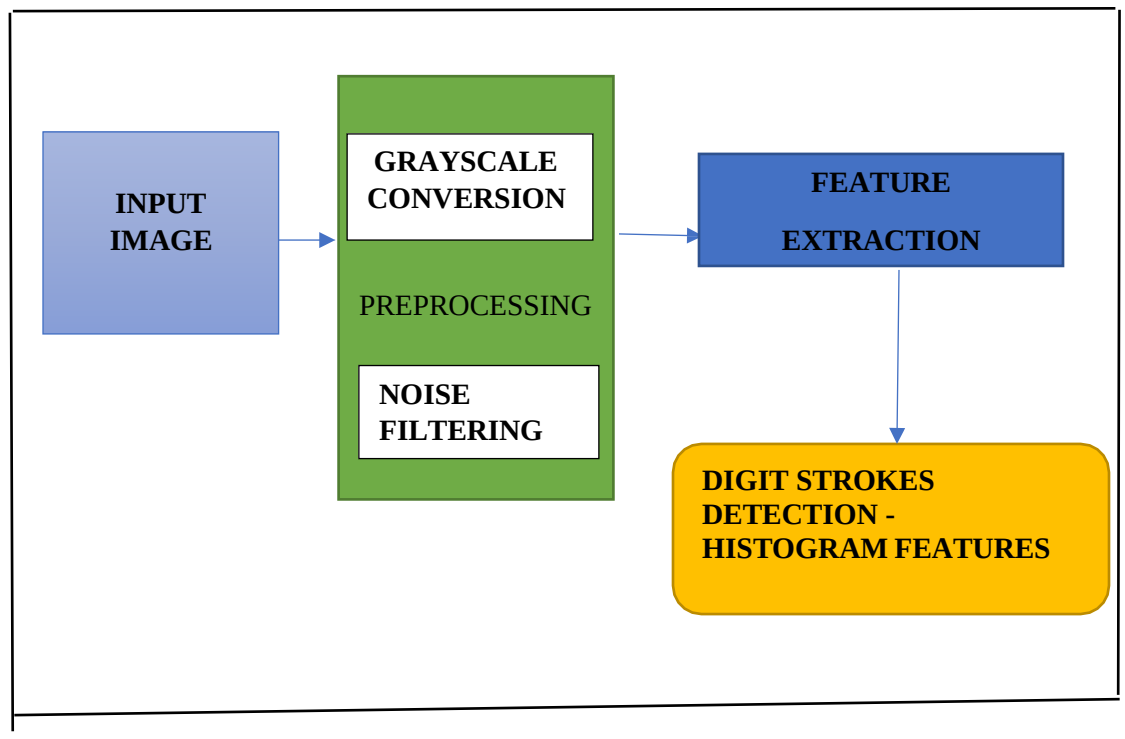
Project Design Phase-II
Technology Architecture

Date	15 October 2022
Team ID	PNT2022TMID53383
Project Name	Project - A Novel Handwritten Digit Recognition System
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram below and the information as per the table1 & 2. As an example, a popular dataset called MNIST was taken to make predictions of handwritten digits from 0 to 9. The dataset was cleaned, scaled, and shaped. Using TensorFlow, a CNN model was created and was eventually trained on the training dataset. Finally, predictions were made using the trained model.





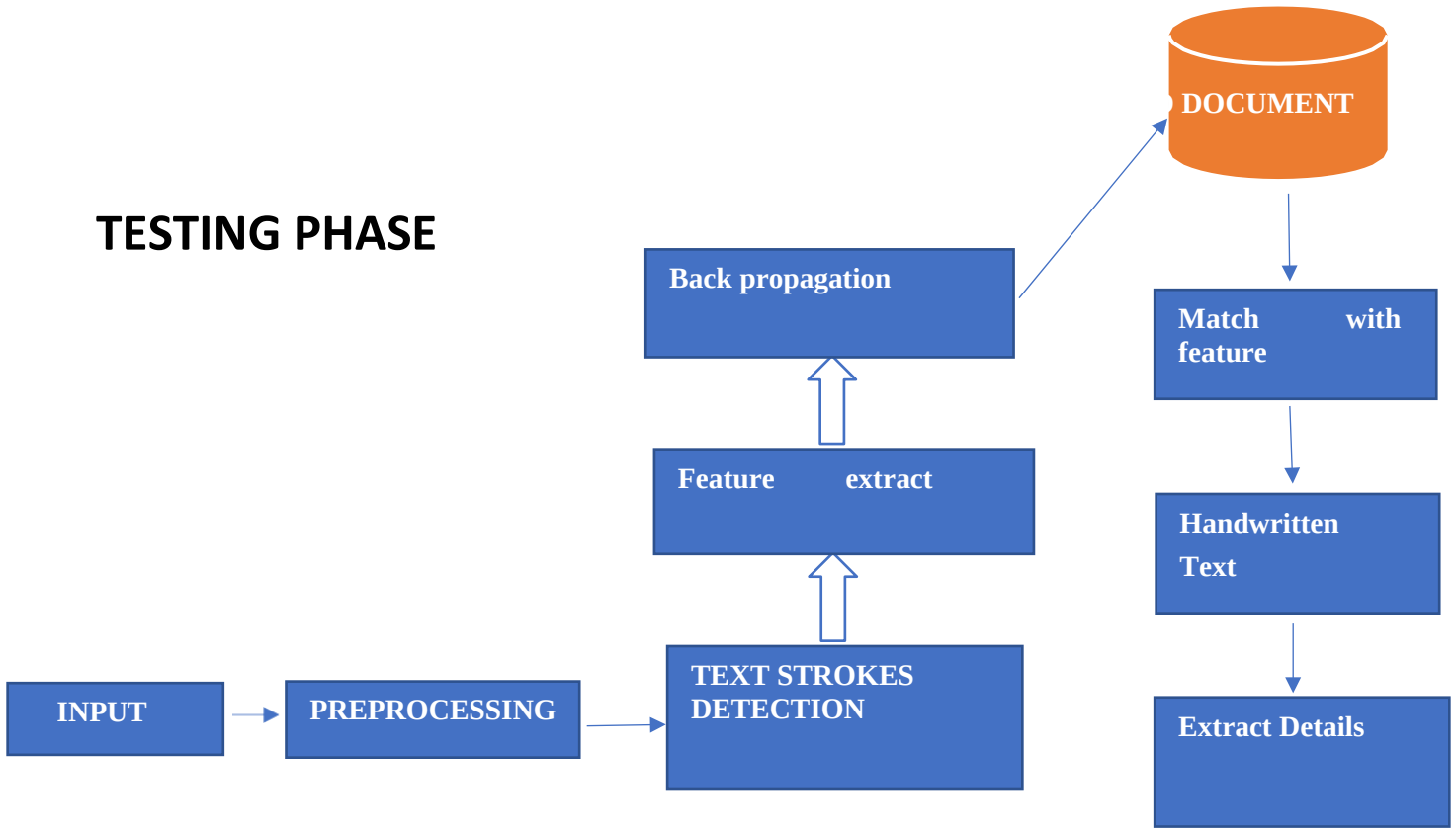


FIG .1. BLOCK DIAGRAM

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with the application e.g.Web UI, Mobile App, Chatbot, etc.	HTML, CSS, Js, python.
2.	Camera	Capture for processing	Mobile camera or web camera
3.	Application Logic-2	Conversion of the image into the text	IBM Watson STT service
4.	Application Logic-3	Image processing	IBM Watson ML services
5.	Database	MNIST dataset	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	API user's existing purpose of an application as our own	IBM Weather API, etc.
9.	Machine Learning Model	This is used to process the image and predict the output.	Convolutional Neural Network Model
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.