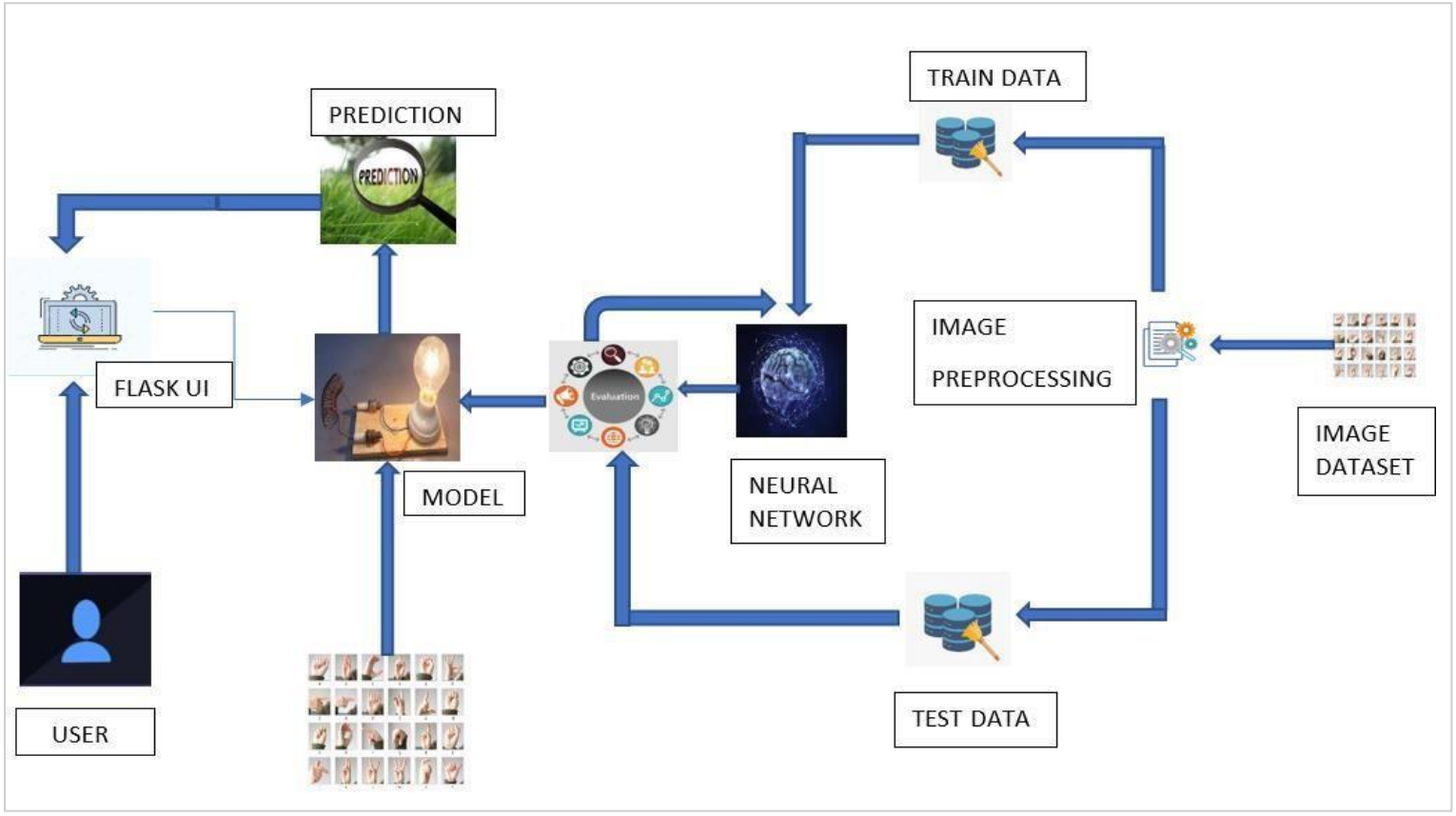
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID25445
Project Name	Project – Real time communication using AI for specially abled
Maximum Marks	4 Marks

Technical Architecture:

Technical Architecture (TA) is a technical blueprint with regard to the arrangement, interaction, and interdependence of all elements so that system-relevant requirements are met.



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Chat bot user interface	HTML, CSS, Python.
2.	Application Logic	Logic for a process in the application	Python
3.	Application Logic	Logic for a process in the application	IBM Watson STT service & TTS service
4.	Cloud Database	Database Service on Cloud	IBM Cloudant
5.	File Storage	File storage requirements	Local File system
6.	Machine Learning Model	Neural Networks –CNN model, ANN model	Object Recognition Model –CNN model
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Local, Cloud Foundry, Kubernetes.
8.	External Interfaces	Any interface that is transmitting information from the product to a third-party may contain information that is useful for an attack	Operating System - Windows, Mac, Linux; CPU & GPU (for training), WebCam, Scanners, Speakers and PC

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Numpy, Pandas , Keras, Tensorflow, NLTK, Sonnet.	Python framework
2.	Security Implementations	Security access controls ,Use of firewalls	SHA-256
3.	Scalable Architecture	Scalable AI	SEI Digital library
4.	Availability	Use of Cloud, Virtual assistant	IBM Cloud IBM Watson Assistant
5.	Performance	Image pre-processing and CNN	Python