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

Date	27 October 2022
Team ID	PNT2022TMID29575
Project Name	Project - Real-Time Communication System Powered By AI For Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

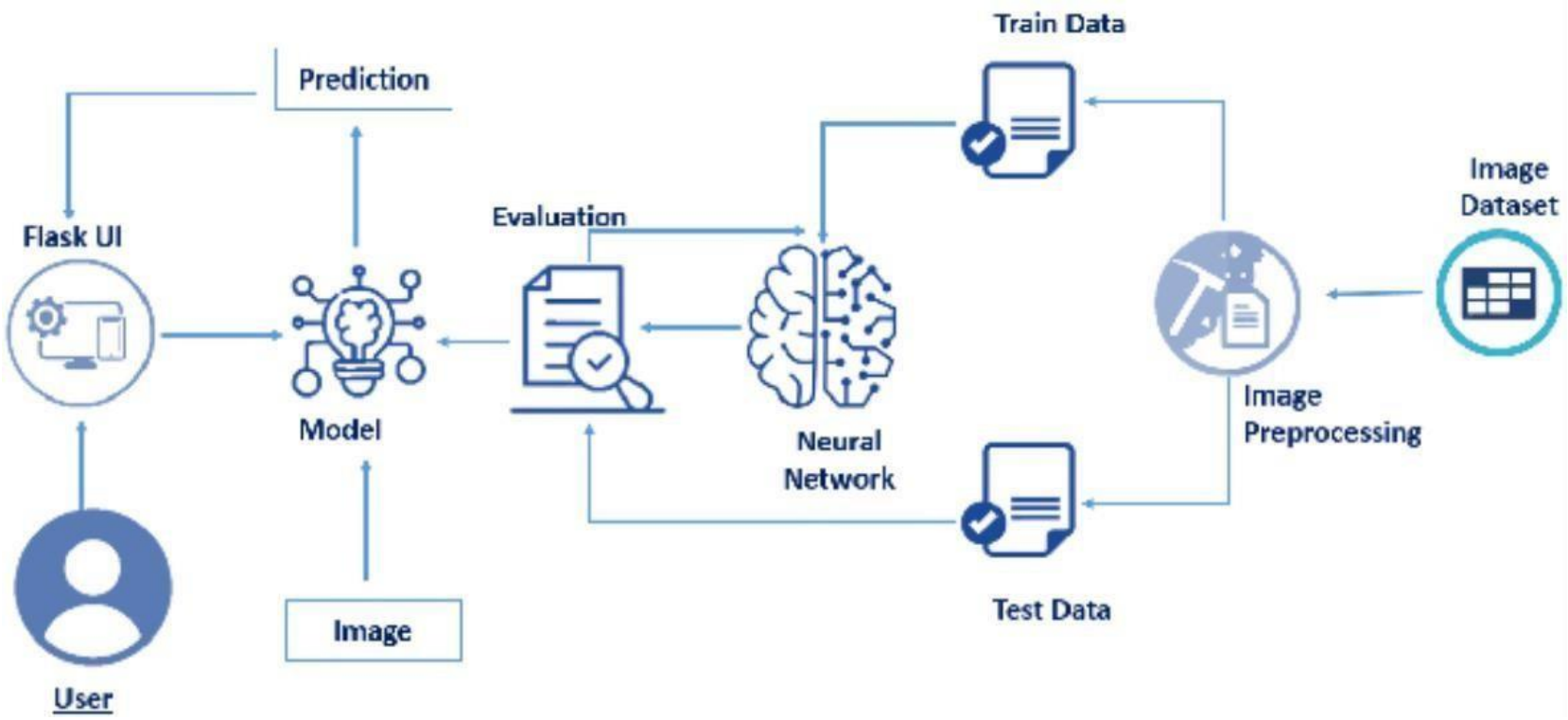

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI	HTML, CSS, JavaScript.
2.	Data Set	Collect the data set consist of hand sign gesture.	From online
3.	Application Logic-1	Import all the library files required for data pre-processing.	Python
4.	Application Logic-2	Build the CNN model.	Python
5.	Application Logic-3	Login into Jupyter notebook.	Online or application download
6.	Data storage	Load / store the dataset and code.	System storage.
7.	Cloud Database	Database Service on Cloud	IBM Cloud
8.	Infrastructure (Server / Cloud)	Train the dataset and model using IBM cloud	IBM Cloud
9.	Machine Learning Model	Used to analyze visual images, image processing, video capture and analysis including features like face detection and hand sign detection.	CNN, Anaconda

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Application development, data pre-processing.	Pycharm , anaconda navigator
2.	Security Implementations	Produces an translation output when an speech or sign language is given as an input.	Anaconda
3.	Scalable Architecture	Easy to use. Can be able to respond quickly. Able to produce absolute translation. Should consume less data. Requirement of internet speed.	Anaconda
4.	Availability	Nowadays Deaf Mute Communication Interpreter, Under Wearable communication method, there are Glove based system, Keypad method and Handicom Touchscreen.	Artificial Intelligence
5.	Performance	Rapid conversion from sign language to text or text to sign language.	CNN Model