Project Design Phase-II
Technology Architecture

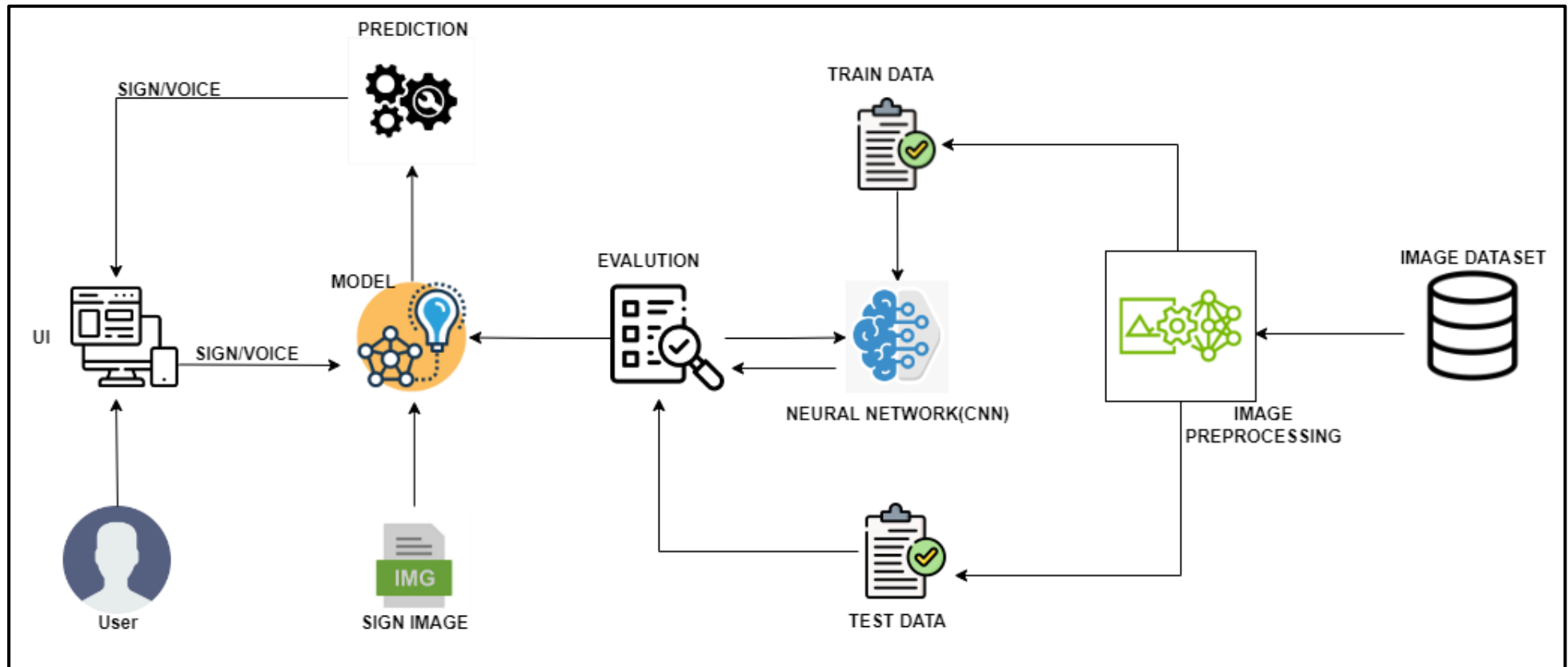| Date	16 October 2022
Team ID	PNT2022TMID27182
Project Name	Real-Time Communication System Powered by AI for Specially Abled

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Using the right website or phone number, the customer must log in. The interaction will then make use of the user interface.	Javascript, CSS,HTML
2.	Application Logic-1	A variety of libraries and frameworks are required to construct the project.	Python
3.	Application Logic-2	Helps translate human motions and actions into spoken speech.	Machine learning
4.	Application Logic-3	Recognises human gestures and then provides practical, sensible responses.	ANN,CNN
5.	Database	Data may be expressed as words or numbers.	MySQL, Rational database
6.	Cloud Database	Giving clients access to host databases without needing them to buy more hardware	Deep learning and neural networks
7.	File Storage	File storage that is quick, dependable, and flexible is achievable.	Local file system
8.	External API-1	Used to access information stored in the cloud.	Weather API
9.	External API-2	Used to gather data so you may make informed judgments.	Aadhar API
10.	Machine Learning Model	Machine learning interacts with a range of implementation-related methods.	Image acquisation
11.	Infrastructure (Server / Cloud)	Creating a local cloud server or implementing an application on a local machine. After installing the Windows version, launch the installer.	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The framework that is employed.	Tensor flow, Theano, RNN, PyTorch
2.	Security Implementations	Implementations in Security The security precautions a firewall can put in place.	Firewall and some security related software.
3.	Scalable Architecture	The structure will be scalable (Micro services).	Data, models, speed and consistency..
4.	Availability	The application's accessibility (use of load balancers, distributed servers etc...)	Image recognition, sign/gestures recognition, text recognition & real time captioning..
5.	Performance	The reachability of the application (use of load balancers, distributed servers etc..)	Using Convolutional neural network, machine learning for conversation and improve the sensivity of the performance.