Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	07 November 2022
Team ID	PNT2022TMID27699
Project Name	Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technology Architecture

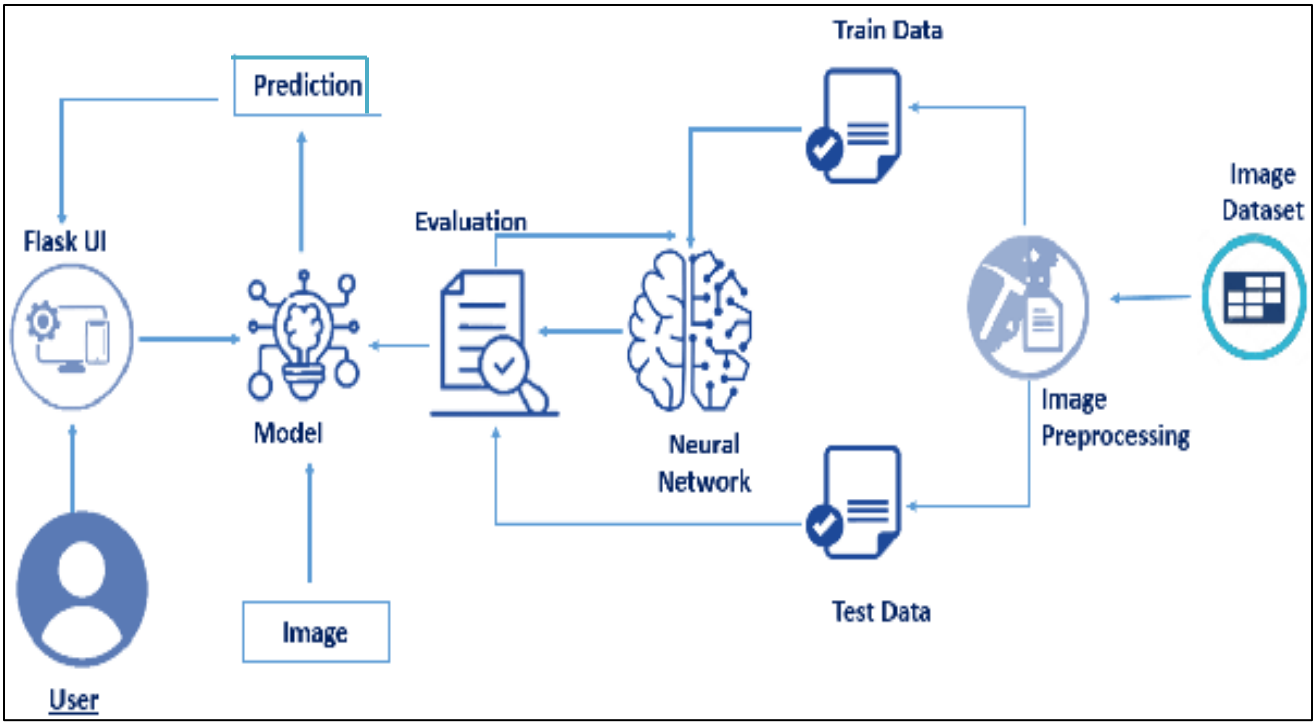

Table-1: Components & Technologies

S.No	Components	Description	Technology
1.	**User Interface**	The customer must log in using the appropriate website or phone number. The user interface will then be used in interaction.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	**Application Logic-1**	To develop the project, many sorts of libraries and frameworks are needed.	Java / Python
3.	**Application Logic-2**	Aids in translating verbal expression from human gestures and actions.	Deep Learning
4.	**Application Logic-3**	Recognizes the human gestures and then offers useful, realistic solutions.	ANN,CNN
5.	**Database**	Data could consist of words or numbers.	MySQL, Rational database
6.	**Cloud Database**	Giving customers access to host databases without requiring them to purchase additional hardware.	Deep learning and neural networks
7.	**File Storage**	Fast, dependable, and adaptable file storage are all possible.	Local file system
8.	**External API-1**	Used to access cloud-based information.	Weather API
9.	**External API-2**	Used to get information so you may make data-driven decisions.	Aadhar API
10.	**Machine Learning Model**	A variety of algorithms that are necessary for implementation interact with machine learning.	Image acquisation
11.	**Infrastructure (Server / Cloud)**	Implementing an application on a local system or setting up a local cloud server. Run the installer after installing the Windows version.	Local, Cloud Foundry, etc.

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	**Open-Source Frameworks**	The framework that is employed.	Tensor flow, RNN, PyTorch
2.	**Security Implementations**	Security measures that a firewall can implement.	Firewall and some security related softwares.
3.	**Scalable Architecture**	The design will be expandable (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**	Design considerations for an application's performance (the number of requests made per second, the utilisation of caching, etc.)	Convolutional neural network, maching learning for conversation and improve the sensivity of the performance.