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

Date	14 October 2022
Team ID	PNT2022TMID01421
Project Name	Project – Real Time Communication System Powered by AI For Specially Abled.
Maximum Marks	4 Marks

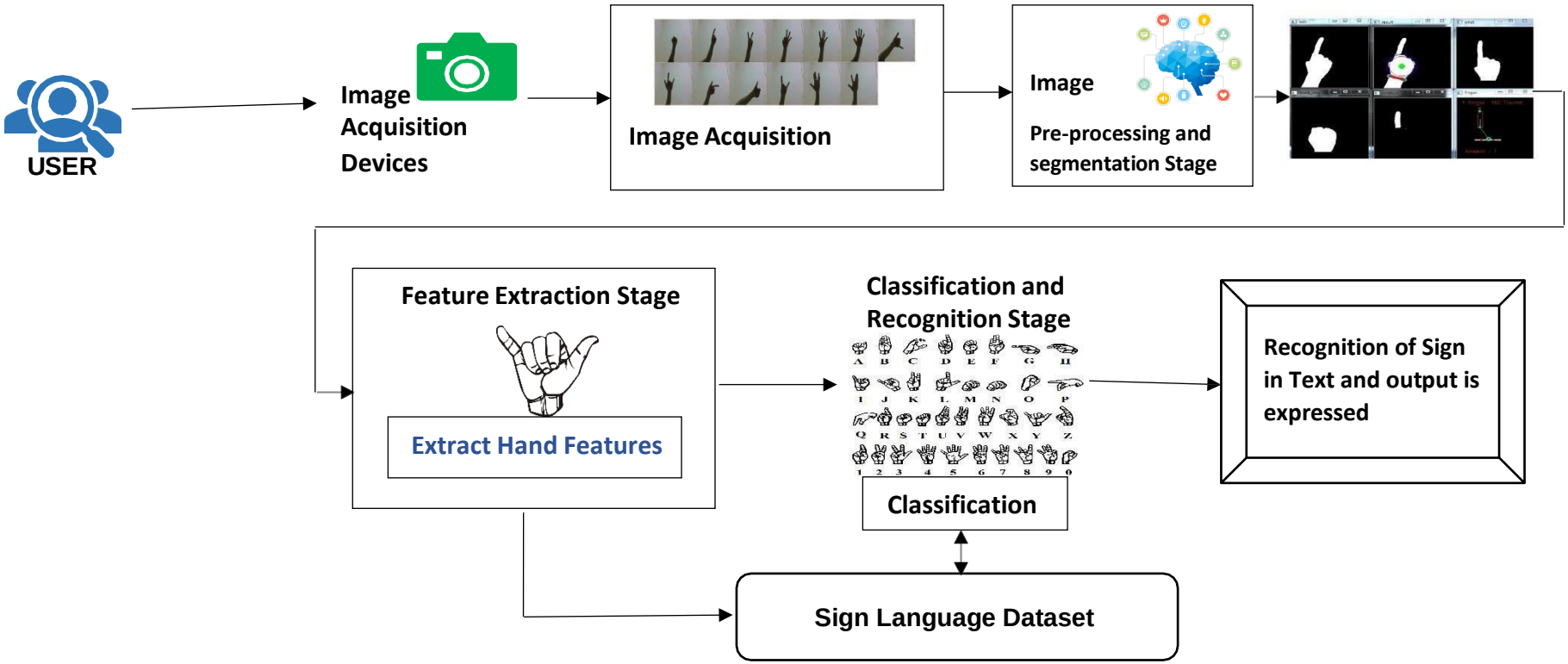

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Customers have to login through their respective mail Then the interaction will happen with the User interface.	JavaScript, CSS, HTML, Python
2.	Application Logic-1	It requires various types of libraries and frameworks todevelop the project	Python
3.	Application Logic-2	Helps to convert human gestures/actionsinto speech.	Machine learning
4.	Application Logic-3	Provides helpful, feasible answers after recognizing human gestures.	ANN, CNN
5.	Database	Data could be numbers or words.	
6.	Cloud Database	Providing customers to use host database without buying additional hardware.	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage could be fast, reliable and flexible.	IBM object storage
8.	External API-1	Used to access the information in the cloud	IBM cloud API
9.	External API-2	Used to access information for data drivendecision making.	IBM cloud API
10.	Machine Learning Model	Machine learning interacts with various algorithms that are required for implementation.	Image acquisition
11.	Infrastructure (Server / Cloud)	Application deployment on local system /local cloud server configuration. Install the windows version and execute theinstaller.	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The framework which is used.	Tensor flow, Keras, Py Torch
2.	Security Implementations	Security controls can be implemented by using firewalls.	Firewall and secure shell network communicatioon protocol
3.	Scalable Architecture	The architecture will be scalable (Micro services).	Data, models, speed and consistency.
4.	Availability	The availability of applications (use of loadbalancers, distributed servers, etc)	Image recognition, sign/gestures recognition, text recognition & real time captioning.
5.	Performance	Design aspects for the performance of application number of requests per second, use of cache, etc.,	Using Convolutional neural network, machine learning for conversation and improve the sensivity of the performance.