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

Date	15 October 2022
Team ID	PNT2022TMID41505
Project Name	Real-Time Communication System Powered By AI For Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

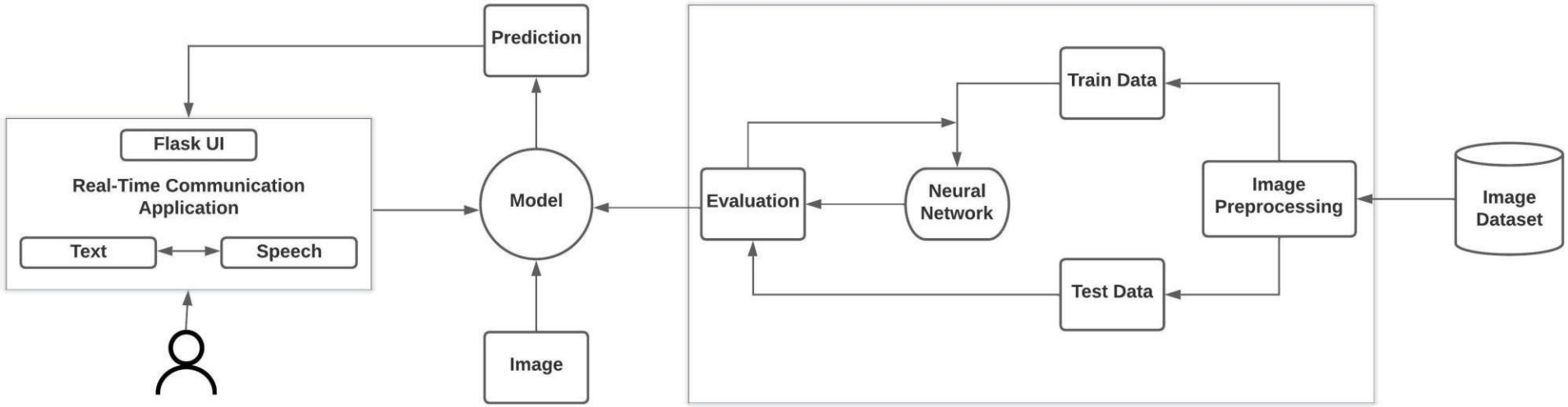

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI or Website	HTML, CSS
2.	Application Logic-1	Video capturing	Python Flask
3.	Application Logic-2	Audio Recording	Python Flask
4.	Image Recognition Model	To convert the sign language to text.	CNN
5.	External API-1	To convert text to speech.	IBM Watson
6.	Infrastructure (Server / Cloud)	Application Deployment on Local System and Cloud Server	IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks for Data pre-processing, web application and model training.	Tensorflow, Keras, OpenCV, Flask, matplotlib and scikit-learn
2.	Security Implementations	List of security / access controls implemented	Encryption, IBM Watson cloud security
3.	Scalable Architecture	IBM Cloud Bare metal servers help in achieving scalability whenever needed.	IBM Cloud

S.No	Characteristics	Description	Technology
4.	Availability	IBM Cloud uses global load balancing to ensure that a redundant, highly available platform is available to host the workloads and applications.	IBM Cloud
5.	Performance	By using IBM Cloud APM, data center, cloud infrastructure, and workloads are managed with cognitive intelligence. Outages and slowdowns can be reduced and prevented around the clock in a hybrid application world as Cloud APM assists in moving from identifying performance issues to isolating where the problem is occurring and diagnosing issues before the application is impacted.	IBM Cloud APM