Project Design Phase-2

Technology Stack (Architecture & Stack)

Date	06 November 2022
Team ID	PNT2022TMID50743
Project Name	Project – Real Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

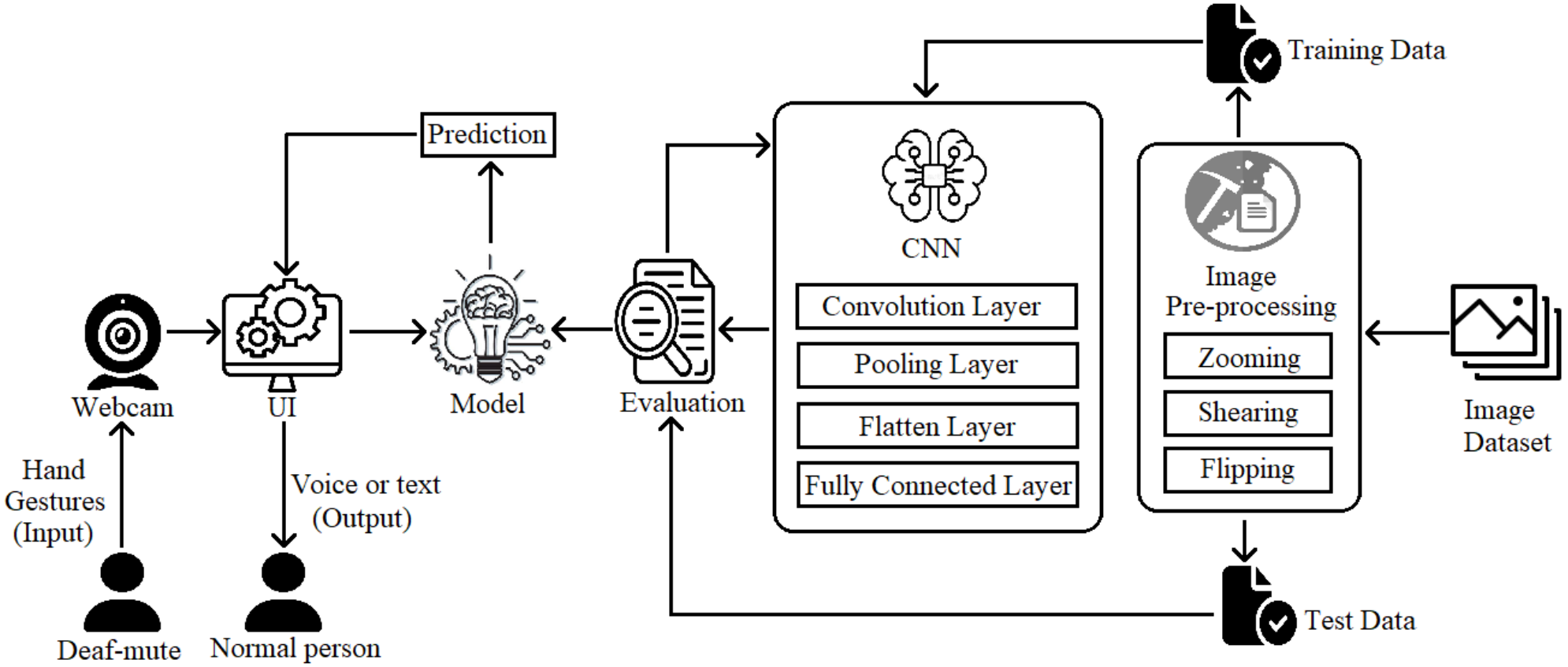

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User can interact with the application using User Interface. User interface should be nice and simple.	HTML, CSS, Javascript, Angular Js/ React JS.
2.	Application Logic-1	It deals with variety of frameworks and libraries required for this project.	Java/ Python.
3.	Application Logic-2	It deals with converting hand gestures into text.	Keras, Tensorflow, Numpy, OpenCV.
4.	Application Logic-3	It deals with converting hand gestures into human understandable voice.	Keras, Tensorflow, OpenCV.
5.	Database	Data required for this project are basically image with hand gestures.	MySQL/ NoSQL.
6.	Cloud Database	Enables the user to access resources from cloud.	IBM DB2, IBM Cloudant etc.
7.	File Storage	It should be highly flexible and scalable.	IBM Block Storage or other storage Service or Local FileSystem.
8.	Machine Learninng Model	It converts the sign language into voice or text.	CNN(Convolutional Neural Network).
9.	Infrastructure	This application can be deployed in local system or cloud.	Local, Cloud Foundary, Kubernetes, etc.

Table-2 Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List of open source frameworks used in this project.	Tensorflow, Keras, Numpy, OpenCV.
2.	Security Implementations	List of all security/ access controls implemented, use of firewalls etc.	SHA-256, MD5, IAM controls.
3.	Scalable Architecture	Scalability of the architecture.	Voice to Sign language conversion.
4.	Availability	Availability of the application.	Services should be available seamlessly.
5.	Performance	Design consideration and performance.	Use of cache, CDN links, etc.