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

Date	14 October 2022
Team ID	PNT2022TMID06610
Project Name	Project – Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

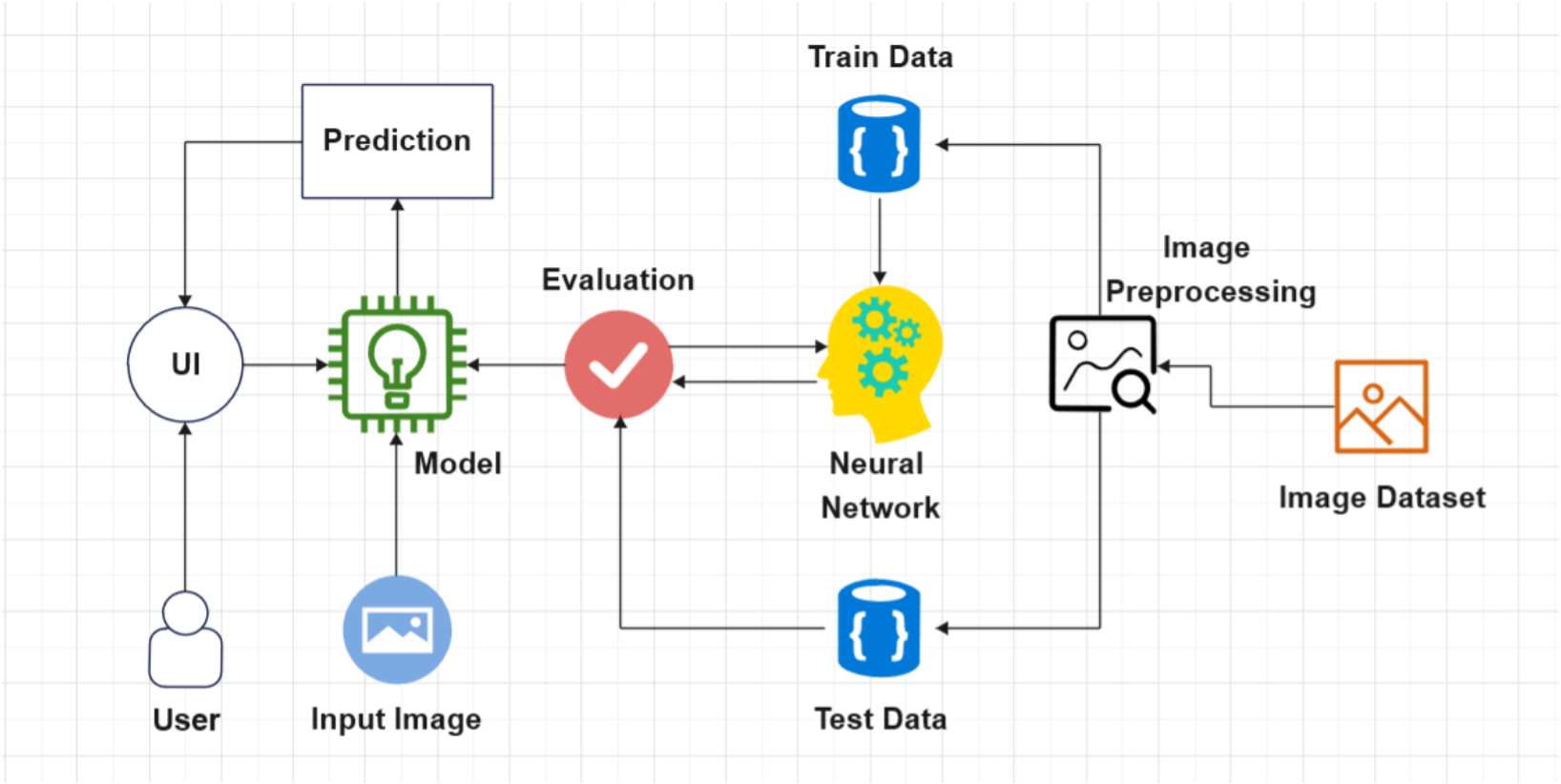

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User (Deaf-mute)	The deaf-mute user will benefit from the system which uses several technologies.	Cloud tech, OpenCV and AI tech like Machine Learning, Deep Learning, etc.
2.	User Interface	The user interface lets the user interact with the system which is hosted in the cloud.	Suitable UI Technology, Cloud Hosting
3.	Models	A machine learning model is used to classify our gesture image dataset.	Machine Learning
4.	Image Prediction	The image prediction is done with the help of deep learning which implements neural networks of various kinds to solve the problem.	ANN, CNN
5.	Image	Image processing is done on input image.	OpenCV
6.	Speech	The output of the system is speech (voice) to be heard for normal users.	Suitable Speech System

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Our system implements many open-source frameworks.	AI frameworks, OpenCV, Speech System, UI system, Python Language
2.	Security Implementations	Necessary security measures will be implemented in the system.	Necessary Security Technologies
3.	Scalable Architecture	The architecture is very much scalable to accommodate any future needs.	Scalable Technologies
4.	Availability	The system will be made ubiquitous so that it is available everywhere.	Necessary Technologies
5.	Performance	The model will be fine tuned to strike a balance between accuracy vs performance.	Optimization of code and trained model