

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	14 November 2022
Team ID	PNT2022TMID23738
Project Name	Project - Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

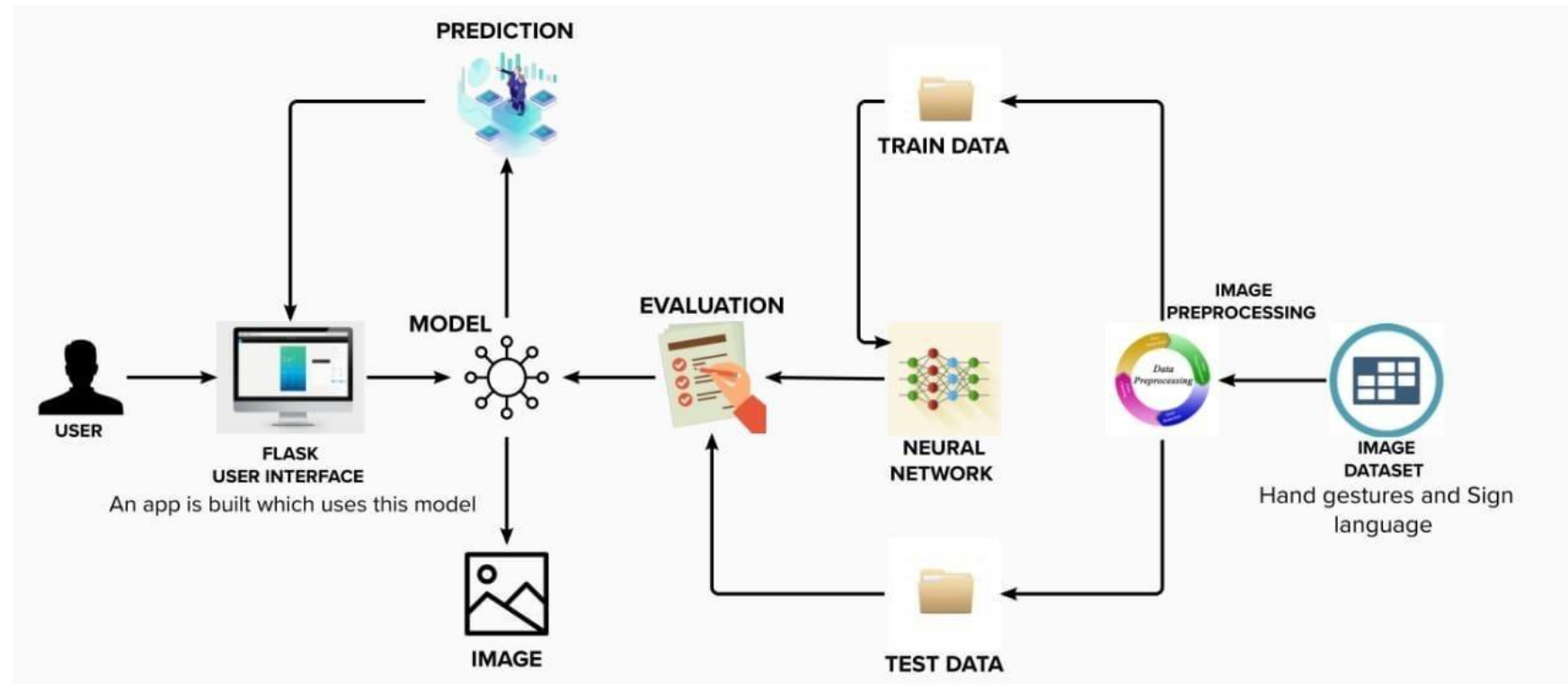


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user interface is the point of human computer interaction and communication in a device.	Python flask
2.	Flash UI	Flash User Interface components let you interact with the users that use your site and gather information.	It can be executed while using the cloud.
3.	Models	Support Vector Machine (SVM) is subsequently applied to classify our gesture image dataset.	Machine Learning
4.	Image Prediction	Gesture can be completely observable and viewing a gesture from another perspective makes the prediction.	Artificial Neural Network (ANN), Convolution Neural Network (CNN)
5.	Image	Image processing is used to made the image into signs by the neural network.	Artificial Neural Network (ANN), Convolution Neural Network (CNN), Open CV
6.	Speech	Speech translates the voice into image and sensitive neural play.	Artificial Intelligence and Machine Learning methods like deep learning and neural networks.
7.	Evaluate data	Aims to estimate the generalization accuracy of a model on future data.	Natural Language Processing (NLP)
8.	Unstructured data	Unstructured data is a conglomeration of many varied types of data that are stored in their native formats.	Natural Language Processing (NLP)
9.	Structured data	Typically categorized as quantitative data is highly organized and easily decipherable by machine learning algorithms.	Machine language and artificial intelligence tools.
10.	Machine Learning Model	Based on Training.	Object Recognition Model, etc.
11.	Dataset	First prototype of this system is was used a dataset of 24 static signs from the Panamanian Manual Alphabet.	AI technology

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Robots and other tools provide home-based care and other assistance, allowing people with disabilities to live independently.	Artificial Intelligence like robots and software systems.
2.	Security Implementations	Set the inclusion and exclusion criteria , Report the results in the survey.	Artificial Intelligence
3.	Scalable Architecture	The improvement in the specially abled persons interaction with the environments.	Artificial Intelligence
4.	Availability	Justify the availability of application.	Conferencing technology
5.	Performance	Enables people with disabilities to step into a world where their difficulties are understood and taken into account.	Natural Language Processing (NLP)