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

Date	18 October 2022
Team ID	PNT2022TMID18994
Project Name	Project - Real time communication system powered by AI for specially abled
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

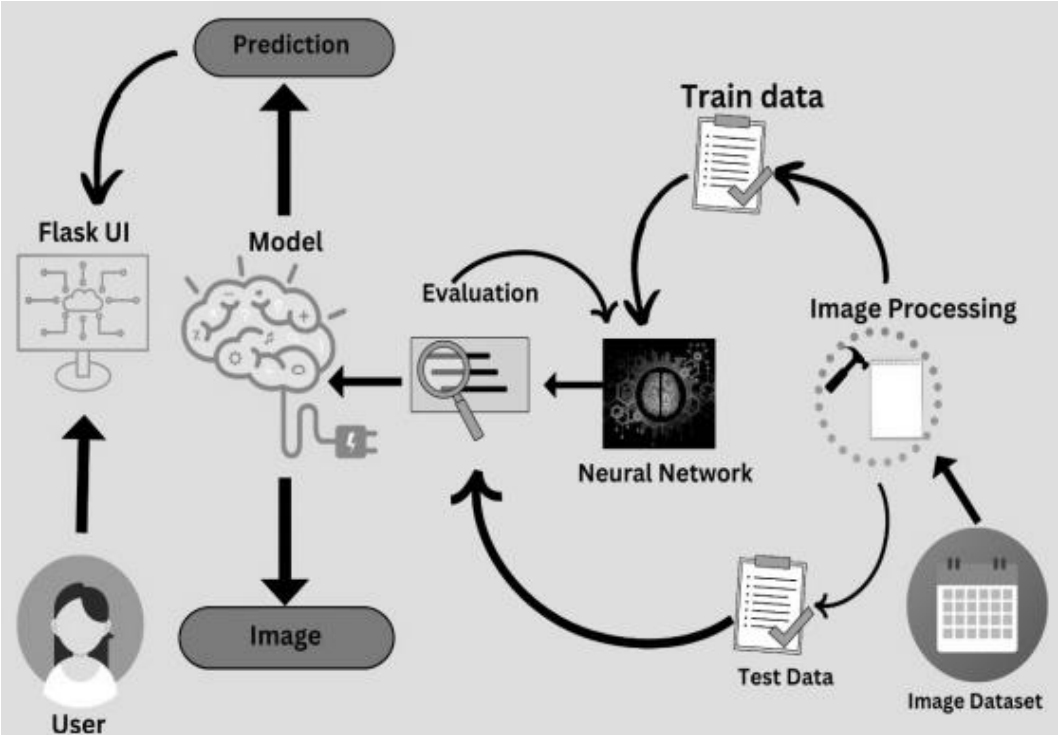

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Flask UI, Mobile App, image etc.	HTML, CSS, Javascript ,python etc.
2.	Application Logic-1	Logic for a process in the application	Python ,Jupyter,colab
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Dataset	Sample images etc.	Python,numpy,pandas etc.
6.	Model	Prediction of sample images	CNN model etc.
7.	File Storage	Storing the Predicted images	Google Colab
8.	External API-1	Purpose of External API used in the application	Tessract,Numpy
9.	External API-2	Purpose of External API used in the application	NN model
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure	Google Colab,Jupyter notebook,etc	Keras,Pytessract,Python, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open Source Notebook	Jupyter Notebook,Google colab,keras,Tessarct,etc	Image Reading,Image detection
2.	Security Implementations	Image willl be secure and not optimized	e.g. Pixels, color recongnization,etc
3.	Scalable Architecture	Reading the image and training and testing the moodel and predict the output	CNN model
4.	Availability	All applications are open sources available for free to use	Jupyter Notebbok,Keras,Google Colab
5.	Performance	The performance is good and can predict as much as fast by using the application.	Google colab

References:

https://scholar.google.com/scholar?as_q=Learning+IoT+in+Edge%3A+Deep+Learning+for+the+Internet+of+Things+with+Edge+Computing&as_occt=title&hl=en&as_sdt=0%2C31

https://scholar.google.com/scholar?as_q=When+Edge+Meets+Learning%3A+Adaptive+Control+for+Resource+Constrained+Distributed+Machine+Learning&as_occt=title&hl=en&as_sdt=0%2C31

https://scholar.google.com/scholar?as_q=Unified+Architecture+for+Machine+Learning+in+5G+and+Future+Networks&as_occt=title&hl=en&as_sdt=0%2C31