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

Date	08 November 2022
Team ID	PNT2022TMID06334
Project Name	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

Example: Real Time Communication System Powered by AI for Specially Abled for online mode

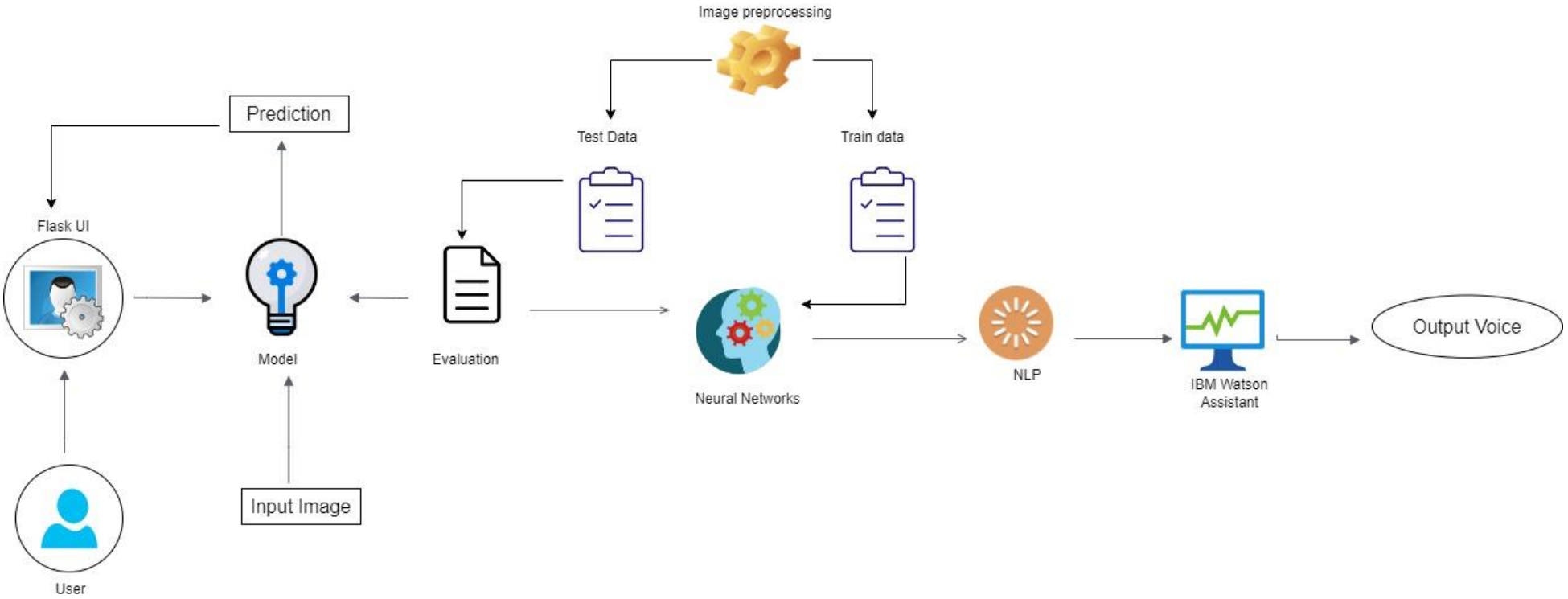
Image preprocessing
Prediction
Test Data
Train data
Flask UI
Model
Evaluation
Neural Networks
NLP
IBM Watson Assistant
Output Voice
Input Image
User

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chat bot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	It deals with variety of frameworks, libraries and supports required to develop the project	Python
3.	Application Logic-2	Helps in converting human voice into written words, In simple it is used to convert speech to text.	IBM Watson STT service
4.	Application Logic-3	Provides fast, consistent and accurate answers during the execution phase of the project	IBM Watson Assistant
5.	Database	It can be numerical, categorical or time-series data	MySQL etc.
6.	Cloud Database	Enables the user to use host database without buying the additional hardware	IBM DB2, IBM Cloud ant etc.
7.	File Storage	File storage should be highly flexible, scalable and effective	IBM Block Storage or Other Storage Service or Local File system
8.	External API-1	Used to access the information in the cloud	IBM Weather API, etc.
9.	External API-2	Used to access the information for data driven decision making	Aadhar API, etc.
10.	Machine Learning Model	Machine learning considered an application that used to increase computer ability. It can be defined as an algorithm that focuses on computer program development.	Real time communication using AI for specially abled

11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Install the windows version and execute the installer. Select APACHE to install web server	Local, Cloud Foundry etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The frameworks used are	TensorFlow,PyTorch,Scikit-learn,XGBoost, Apache MXNet,AI
2.	Security Implementations	the security / access controls implemented, use of firewalls etc.	Identify, Prevent and Respond using AI
3.	Scalable Architecture	the scalability of architecture (3 – tier, Micro- services)	Data , models, operate at size, speed and complexity
4.	Availability	the availability of application (e.g. use of load balancers, distributed servers etc.)	Image and facial recognition, lip reading, text summarization, real time captioning
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Full and effective participation , equality of opportunity, accessibility