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

Date	14 October 2022
Team ID	PNT2022TMID29664
Project Name	Project –Real time communication using AI for specially abled
Maximum Marks	4 Marks

Technical Architecture:

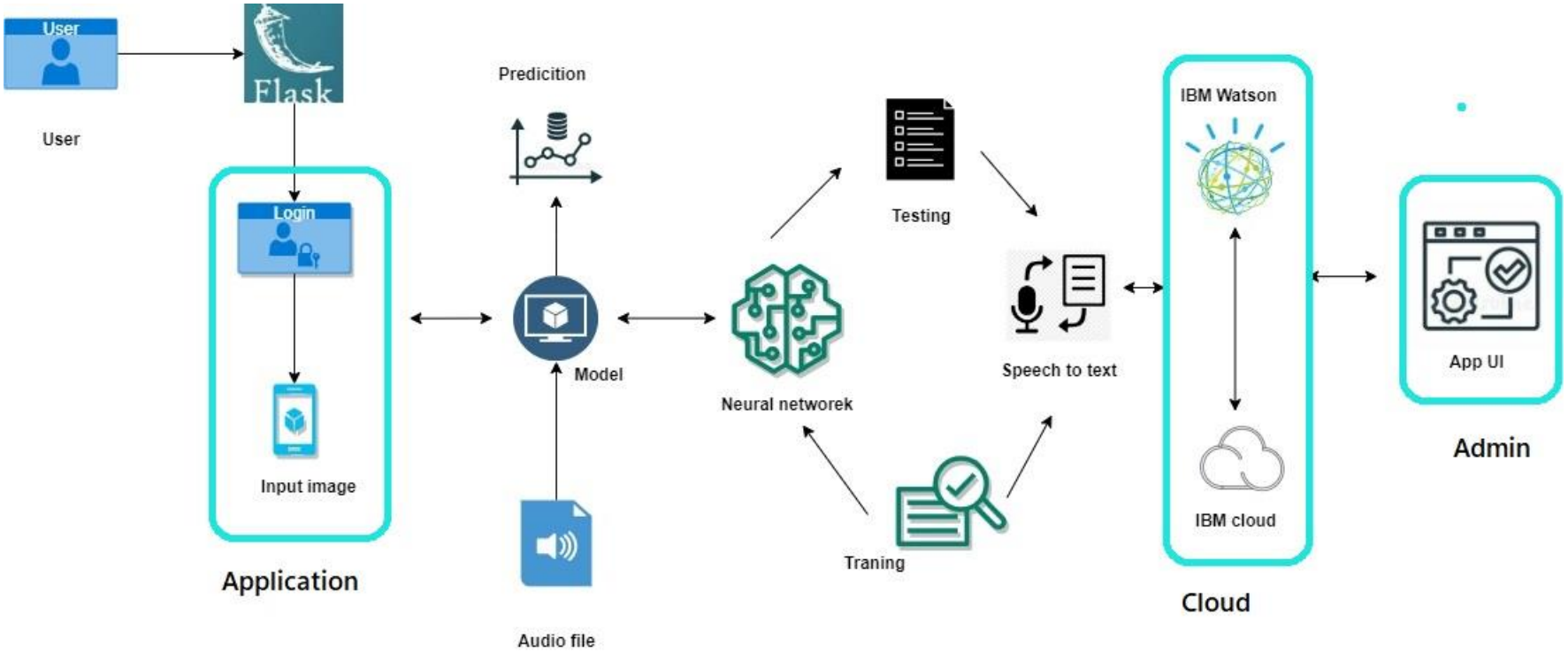

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The way user interacts with application e.g.Web UI, Mobile App, Chatbot 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	Java / Python
3.	Application Logic-2	Helps in converting hand signs into written Words and it is used to convert text to speech.	IBM Watson STT service
4.	Application Logic-3	Provides fast, consistent and accurate answersduring the execution phase of the project	IBM Watson Assistant
5.	Database	Images and user inputs are stored and it can be numerical, categorical or time-series data.	MySQL, NoSQL, etc.
6.	Cloud Database	Enables the user to use host database without buying the additional hardware	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage should be highly flexible, scalable andeffective	IBM Block Storage or Other StorageService or Local Filesystem
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 Model deals with various algorithms that are needed for the implementation	Real time communication using AI forspecially abled
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal Server Configuration: Install the windows version and execute theinstaller Select APPACHE to install web server Cloud Server configuration: This server deals with the additional storage	Python flask, Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The frameworks used are	Tensor flow, Theano, RNN, PyTorch, Opensource IBM Watson frameworks.
2.	Security Implementations	the security / access controls implemented, use offirewalls etc.	Certified Watson assistant for encrypted file. Identify, Prevent and Respond are followed.
3.	Scalable Architecture	the scalability of architecture (3 – tier, Micro- services)- Data, models, operate at size, speed and complexity	IBM Watson, python, MySQL
4.	Availability	the availability of application - Image and facial recognition, lip reading, text summarization, real time caption avalaible.	IBM Watson
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use ofCache, use of CDN's) etc.	IBM Watson assistant (Full and effective participation, equalityof opportunity, accessibility).