PROJECT DESIGN PHASE II

SOLUTION REQUIREMENTS

(FUNCTIONAL & NON FUNCTIONAL)

Date	*19 october2022*
Team ID	*PNT2022TMID47713*
Project Name	*Real time communication system powered by AI for specially abled*
Maximum marks	*4 marks*

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR NO	*Functional Requirements (Epic)*	*Sub Requirements (story)*
FR-1	*Application building*	○ *Build HTML page for login, registration , prediction ,log out* ○ *Computer vision can gain high understanding of images*
FR-2	*User interface*	○ *Gesture recognition uses computer sensor to detect and understand human gesture and movements.* ○ *With this device, gesture let users interact with screen elements using touch*
FR-3	*Database*	○ *It collects all the data required for recognizing signs* ○ *Data generated by sensors and other devices connected are stored*
FR-4	*Data server*	○ *It collects data from application to the cloud* ○ *Data server is run as a service and it deployed in IBM cloud*

Non-functional Requirements:

Following are the non-functional requirements of the proposed solutions.

FR NO	*Non functional requirements*	*Description*
NFR-1	*Usability*	❍ *It can be used by identified users to achieve defined goals , effectively , efficiently and satisfactorily ,in a specified usage context*
NFR-2	*Security*	❍ *Data collected from users may include sensitive or private information of their daily activities so security protection and privacy preserving are vital for the development of IOT* ❍ *The interaction data is produced only when the user's eye and fingertip are detected and the pointing direction is recognize the system can effectively avoid unauthorized access of illegal users which is more secure than the traditional point-touch devices.*
NFR-3	*Availability*	❍ *Naturalistic and intuitiveness of the hand gesture has been a great motivating factor for the researchers in the area of HCI to put their efforts to research and develop the more promising means of interaction between human and computers.* ❍ *This system uses image processing techniques for detection, segmentation , tracking and recognition of hand gestures for converting it to a meaningful command.*
NFR-4	*Scalability*	❍ *Support Vector Machine(SVM) classifier with grid search cross-validation was used for training to prove the concept of the model's prototype.* ❍ *The obtain results proved that with the upscaling of the system from the aspect of the numbers of users ,performance gets worse.*
NFR-5	*Reliability*	❍ *Easy to use* ❍ *Accuracy* ❍ *Less time consumption* ❍ *Low cost.*
NFR-6	*Performance*	❍ *Creating a model with an application can be very helpful to the people who are specially abled* ❍ *The trained model can give a accurate result and took less time when compare to reality*