Data Flow Diagram & User Stories

Date	03 October 2022
Team ID	PNT2022TMID48097
Project Name	Project - Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
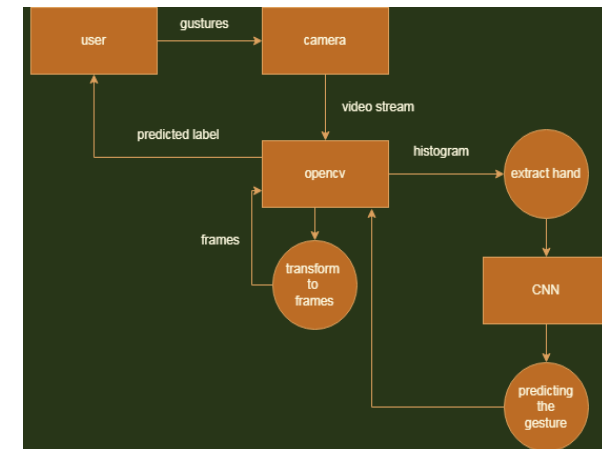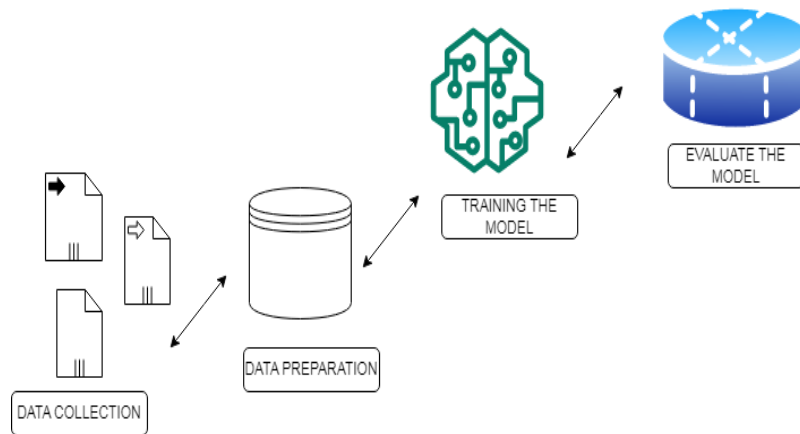
User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (web user)	Data collection and data augmentation	USN-1	To collect the dataset it was asked to four users to wear the vision system and perform every gesture for 10 seconds while both cameras were recording in a 640x480 pixel resolution.	Artificial Neural Network	High	Sprint-1
	Data augmentation	USN-2	To improve the generalization capability of the model it was artificially added more images with different backgrounds replacing the green backgrounds. This way it is obtained more data without investing too much time.	Convolution neural network	High	Sprint-1
	Creating data set	USN-3	To improve the generalization capability of the model it was artificially added more images with different backgrounds replacing the green backgrounds. This way it is obtained more data without investing too much time.	Using computer Vision OpenCv	Low	Sprint-1
	Threshold value	USN-4	Calculate the threshold value for every frame and determine the contours.	Using openCV	Medium	Sprint-2
	Training CNN	USN-5	Load the data using Image Data Generator of keras through which we can use the flow_from_directory function to load the train and test set data, and each of the names of the number folders will be the class names for the images loaded.	Using keras	High	Sprint-2
	Plot image function		Plotting images of data loaded.	Using Python and openCv	Low	Sprint-2
	Testing the model	USN-6	Train the model through various epochs.	It can be get through the computer vision (openCV) based on the deep learning concept	High	Sprint -3
	Visualizing the model.	USN-7	check if everything is working as we expect it to while detecting on the live cam feed.	Understanding the concept of ANN	Medium	Sprint-3

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
	Predict the Guesture	USN-8	check if everything is working as we expect it to while detecting on the live cam feed.	Learning the concept of deep learning	Medium	Sprint-3
	Calculate weight average	USN-9	Caution of average weight of preloaded data.	Learning the concepts of opencv	High	Sprint-4
	Segmenting the hands	USN-10	getting the max contours and the thresholded image of the hand detected.	Learning the concept of deep learning	High	Sprint-4
	Detection of hand	USN-11	Running the CNN model.	Learning the concept of CNN and open cv concepts	High	Sprint-4