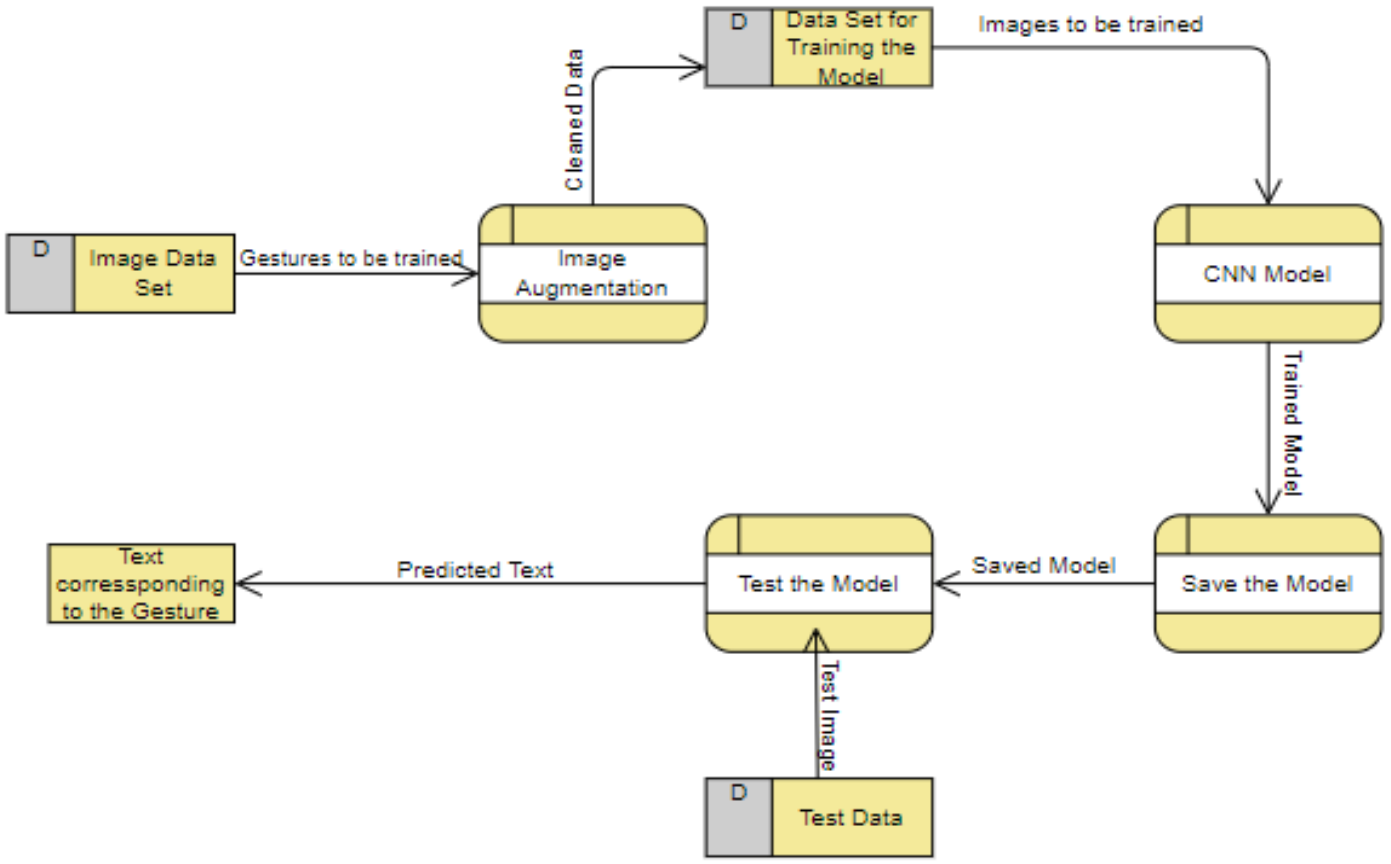
Project Design Phase-II
Data Flow Diagram & User Stories

Date	10 October 2022
Team ID	PNT2022TMID01280
Project Name	Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

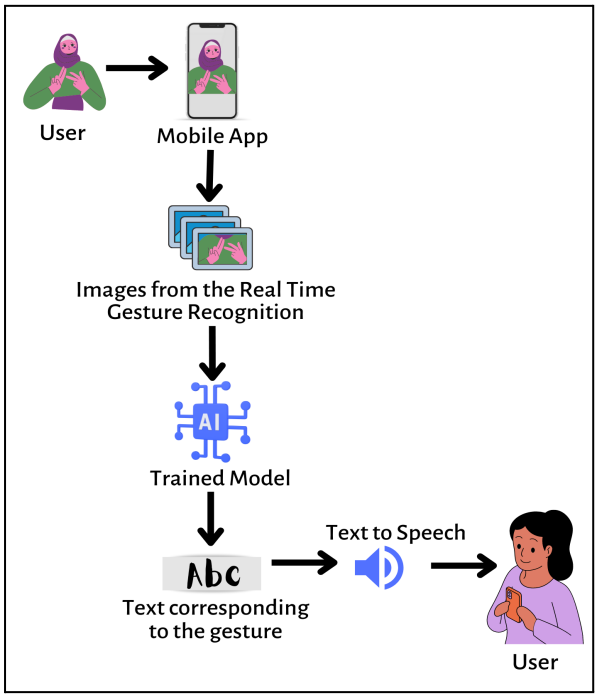
Data Flow Diagrams:

Level - 0 DFD:

Level - 1 DFD:


D
Data Set for Training the Model
Images to be trained
Cleaned Data
D
Image Data Set
Gestures to be trained
Image Augmentation
CNN Model
Trained Model
Text corressponding to the Gesture
Predicted Text
Test the Model
Saved Model
Save the Model
Test Image
D
Test Data

Simplified Flow Diagram:



1. User (specially abled) can open the App and start recording their sign language.
2. The App will take images from the real time video footage and passes it to the trained AI model
3. The model classifies the gesture and returns the corresponding text.
4. The text is then converted into speech for the normal people to hear.

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user - People who cannot hear)	Model building	USN-1	As a user, I am able to interact within the model effortlessly	I can communicate with normal people effectively	High	Sprint-1
Customer (Mobile user - People who cannot hear)	Dataset collection	USN-2	As a user,i am able to upload the image	I can upload pre-defined gestures for fast access	High	Sprint-1
Customer (Mobile user - People who cannot hear)	Uploading the image	USN-3	As a user, I can assure that the images are uploaded correctly.	I can control what is being uploaded	High	Sprint-1
Customer (Mobile user - People who can hear)	Display the image	USN-4	As a user,i can view the output of the image uploaded	I can get the actual text of the gesture	High	Sprint-1
Customer	Training the model	USN-1	Model trained to produce accuracy for prediction.	I can understand the mode of communication of specially-abled people effectively	High	Sprint-2
Customer	Upload the dataset for training	USN-2	As a user, I am able to get the result without delay	I can convey my message to them effectively	High	Sprint-2

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Developer	Layers to predict the model	USN-3	As a user,I can use the model with ease to capture my gestures	I can give best experience to the app users	High	Sprint-2
Tester	Testing the model	USN-4	As a user, I can assure that there is accuracy in the predictions of the gestures.	I can get the correct predictions all the time	High	Sprint-2
Customer	HTML page design navigation	USN-1	As a user, the website navigation is simple and user-friendly.	I can easily navigate through the websites	Low	Sprint-3
Customer	Buttons and features	USN-2	It contains options for prediction	I can use different features easily	Low	Sprint-3
Customer	Additional content design	USN-3	It displays additional information on sign languages and other useful resources.	I can get more information about the context	Low	Sprint-3
Application Developer	Building Flask application	USN-1	As a user, I am able to interact with the application easily	I can use the app effortlessly	Medium	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Developer	Connecting Python in backend	USN-2	As a user, I can feel that the response time of the application is high	I can get fast response	Medium	Sprint-4
Developer	Interface with the model	USN-3	As a user, I am able to upload the image easily	I can access the predictions easily	Medium	Sprint-4
Tester	Test the flask application	USN-4	As a user, I am able to view the contents very clearly	I can get the correct results everytime	Medium	Sprint-4