# Data Flow Diagram:

**Project Design Phase-II**

# Data Flow Diagram & User Stories

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| --- | --- |
| Date | 17 October 2022 |
| Team ID | PNT2022TMID54147 |
| Project Name | Real-Time Communication System Powered by AI for Specially Abled |
| Maximum Marks | 4 Marks |





Prediction



Build and train LSTM mode



Collecting data



Evaluation using confusion matrix



Test in realtime



Import the dependency



Location detection



Keypoints extraction

# Flow:

* Collecting the key points from media-pipe holistic and also collect a bunch of data from key-points
* Save the collected data in the form of numpy arrays.
* Then build a LSTM model and train with stored data.
* The number of epochs for the model is determined by us, if we increase the number of epochs the accuracy increases but time taken to run the model also increases and overfitting of model can happen, for gesture recognition.
* After completion of training, we can use this model for real time hand gesture detection and simultaneously convert the gesture to speech using OpenCV.

# 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** |
| Developer | Model Building | USN-1 | Collect Dataset |  | High | Sprint-1 |
|  |  | USN-2 | By use of Media Pipe Holisitic can collecting key points. |  | High | Sprint-1 |
|  |  | USN-3 | Training a Model Using LSTM  from key Points |  | High | Sprint-2 |
|  |  | USN-4 | Convertion of text to Speech using the googleApi |  | Medium | Sprint-2 |
|  |  | USN-5 | By using flask app model is integrated. |  | High | Sprint-3 |
|  |  |  |  |  |  |  |
| Customer  (Web user) | Communication | USN-1 | Communication can be done through in front of camera |  | High | Sprint-1 |
|  |  | USN-2 | Speech and text are delivered by web interface |  | High | Sprint -1 |