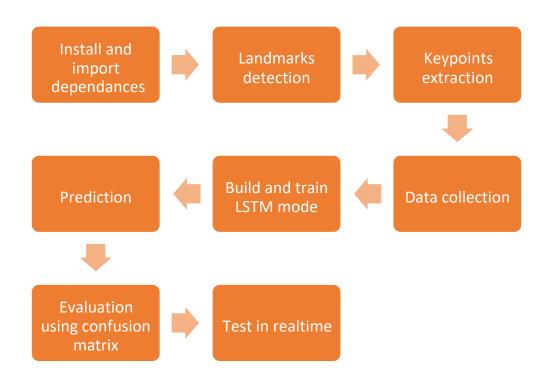
## Project Design Phase-II Data Flow Diagram & User Stories

| Date          | 15 October 2022  |  |
|---------------|--|--|
| Team ID       | PNT2022TMID04485   |  |
| Project Name  | Real-Time Communication System Powered by AI for Specially Abled |  |
| Maximum Marks | 4 Marks  |  |

## **Data Flow Diagram:**



## Flow:

- We start by collecting key points from media-pipe holistic and collect a bunch of data from key-points
- Save data in the form of numpy arrays.
- We then build a LSTM model and train with our 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.
- Once training is done, we can use this model for real time hand gesture detection and simultaneously convert the gesture to text using OpenCV.

## **User Stories**

| User Type              | Functional<br>Requirement<br>(Epic) | User<br>Story<br>Number | User Story / Task                                   | Acceptance criteria | Priority | Release   |
|------------------------|-------------------------------------|-------------------------|---|---------------------|----------|-----------|
| Developer              | Model Building                      | USN-1                   | Collect Dataset                                     |                     | High     | Sprint-1  |
|                        |                                     | USN-2                   | Collecting Key points using Media<br>Pipe Holisitic |                     | High     | Sprint-1  |
|                        |                                     | USN-3                   | Training a Model Using LSTM from key Points         |                     | High     | Sprint-2  |
|                        |                                     | USN-4                   | Convert text to Speech using google<br>Api          |                     | Medium   | Sprint-2  |
|                        |                                     | USN-5                   | Model is integrated in flask app                    |                     | High     | Sprint-3  |
| Customer<br>(Web user) | Communication                       | USN-1                   | Communicating in Front of camera                    |                     | High     | Sprint-1  |
|                        |                                     | USN-2                   | Text is delivered by web interface                  |                     | High     | Sprint -1 |