User Stories

Hands position

As an user who can´t talk

I want theprogram can recognize the position of my hands

To calibrate the subsequent motion recognition

Identify moviments

As an user who can´t talk

I want the program can identify the moviments of my hand

To that it can search for patterns in the motion that match Mexican Sign Language positions.

Transcription text

As an user who can´t talk

I want the system to write a text with the transcription of the user's sign language.

To that a person who doesn't know sign language can understand what I'm trying to communicate.

Visual or text indicators

As an user who is using the program

I want the system provides visual or text indicators about the current state of the system.

To that I can know what process the program is performing and whether I need to interact at any point

Training

As an user who is configuring

I want the system to be capable of training new sign language recognition models

to enhance accuracy and the ability to recognize different sign language gestures.

Different Sign Language Recognition Models

As an user who is using the program

I want the system to have the ability to use different Sign Language Recognition Models that have been previously trained

to enhance the system's sign language recognition capabilities.t

Acceptance criteria

Hands position

- The hand position recognition is done through the camera
- The motion recognition system should be accurate and consistent after calibration, so that the user can effectively control the connected program or device.
- Provide clear and easy-to-understand documentation explaining how to perform calibration and how to use the motion recognition system once calibrated.
- Conduct usability tests with non-speaking users to ensure that the calibration process is intuitive and effective.

Identify moviments

- The program should allow the user to search for specific signs in Mexican Sign Language and provide information about their meanings and usage.
- Machine Learning (Optional): If machine learning is used, the program should be capable of improving its ability to identify signs as it is provided with more examples.
- The program should be adaptable to the nuances and variations in Mexican Sign Language movements, as they can vary between different individuals and regions(Optional).

Transcription text

- There is a space where the transcribed text will appear.
- The program recognized all or enough of the movements to form a result.

Feedback

- The program displays a visual or text notification when it correctly recognizes a movement or gesture.
- The correct recognition notification is displayed in real-time or with a brief delay so that the user is aware of recognitions while using the program.
- If a complication arises in the transcription process, the program must inform the user clearly and provide details about the issue.

Training

- The system must allow users with appropriate permissions to access the functionality for training sign language recognition models.
- There should be an intuitive user interface that guides users through the process of training a new model.
- Users should be able to upload and label sign language datasets for model training.
- During the training process, the system should display real-time information on progress, such as loss and model accuracy.

Different Sign Language Recognition Models

- The selected pre-trained model should seamlessly integrate with the camera feed and decode sign language gestures accurately and in real-time.
- The system should provide clear documentation or guidance on the available pre-trained models and their suitability for real-time decoding.