Project Planning Phase
Milestone Activity List

Date	20 October 2022
Team ID	PNT2022TMID22447
Project Name	Real Time Communication System Powered By AI for specially abled

HOW THE APP WAS DEVELOPED?

- The system development refers to a set of activities dedicated to designing, deploying and supporting a computer program that conveys their information using signs which get converted to human-understandable language and speech is given as output.
- It may include different number of stages based on how complex the goals are..
- Below we conveyed detailed instruction on how to get started with this system development from the scratch to provide custom solution

HOW THE SIGN LANGUAGE CONVERTOR APP USES?

- A sign convertor app project is built using artificial intelligence algorithms that analyses the input forms like speech or signs.
- Voice conversion system with hand gesture recognition and translation will be very useful to have a proper communication between the normal people and disabled people
- The system converts sign language into a human hearing voice in the desired language to convey a message to normal people

- It converts speech into understandable sign language for the deaf and dumb
- This app enables deaf and dumb people to convey their information using signs which get converted to human-understandable language and speech is given as output
- The system uses the model that makes use of convolution neural network that is trained on different hand gestures

EVALUATION OF SIGN LANGUAGE CONVERTOR IN SOCIETY:

- In 1977, a finger-spelling hand project called RALPH (short for "Robotic Alphabet") created a robotic hand that can translate alphabets into finger-spellings
- These technologies translate signed languages into written or spoken language, and written or spoken language to sign language, without the use of a human interpreter.
- Later, the use of gloves with motion sensors became the mainstream, and some projects such as the Cyber Glove and VPL Data Glove were born
- The wearable hardware made it possible to capture the signers' hand shapes and movements with the help of the computer software.
- Sign languages possess different phonological features than spoken languages, which has created obstacles for developers.
- Later in 2001 development of computer vision, wearable devices were replaced by cameras due to their efficiency and fewer physical restrictions on signers
- we use computer vision and machine learning to recognize specific phonological parameters and epentheses unique to sign languages, and speech recognition and natural language processing allow interactive communication between hearing and deaf people.

- To process the data collected through the devices, researchers implemented neural networks such as the Convolution Neural Network Simulator for pattern recognition in projects such as the Cyber Glove. Researchers also use many other approaches for sign recognition
- Fusion of non-wearable technologies such as cameras and Leap Motion controllers have shown to increase the ability of automatic sign language recognition and translation software

WHAT MAKES A SIGN LANGUAGE CONVERTOR APP SUCCESSFUL?

- When you are using a sign language convertor app the quality of conversion should be the most important consideration.
- The system should adapt and get trained different characteristics such as hand gestures, facial expressions and signs to deliver high caliber conversions

TOP FEATURES TO ACHIEVE MILESTONE:

- Easily accessible user interface
- Including text summarization for the people with mental impairment could come in handy
- It uses movement, facial expressions and hand gestures to communicate and recognize
- It makes the users to feel comfortable while using the application
- Able to communicate efficiently without any hesitation or feeling of insecurity
- It converts the given information accurately
- Instant transcribing the conversation using a voice controller