Literature Survey on Real-Time Communication Powered by AI for Specially Abled Person

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ABSTRACT

Speech Recognition enables the operating system to convert spoken words to written text which is achieved by Speech to Text method (STT). Speech synthesis enables the operating system to convert written text into spoken words which is achieved by Text to Speech (TTS). Speech recognition based on Acoustic model and Language model (Pronunciation Model). Usual Method used in Speech Recognition (SR) is Hidden Markov Model (HMM), Dynamic Time Warping (DTW) algorithm and Artificial Neural Network (ANNs). The widely used technique for Speech Recognition is HMM. These Speech Recognition and Speech Synthesis methods are especially very useful for Disabled persons like Hearing Disability and visually impaired, Speech impaired and Co-ordination or dexterity impairment.

LITERATURE REVIEW

S.no	Title	Proposed Work	Tool/ Algorithm	Technology	Advantages/ Disadvantages
1.	Roger Voice	Can understand voice calls. You get to pilot your own calls. The caller's voice is analysed by an algorithm and Automatically transforms into text.	Automated real-time captioning, Android studio	Artificial Intelligence	[+] Can Recognize your specific voice [-] Less efficient noisy environment
2.	Amazon Echo	• Control your other smart home devices including your TV. • Make phone calls. • Access information, news, weather, cooking tips, and basically anything else you want to know.	Natural Language Processing, java, python	Artificial Intelligence	[+] Easy to use all you got to do is speak to command it. [-] May not be safe as finger print and face recognition if it comes for safety.
3.	Otter voice meeting notes	It is a tool that converts voice conversations into smart notes by recording the audio and to provide machine generated transcription. These transcriptions/notes can be edited, shared, and easily searched.	Real time transcription meeting notes, Google colab	Artificial Intelligence	[+] Good Features to edit and highlight text, ability to search keywords [-] Editing words that are interpreted wrong is time consuming

4.	Google Assistant	It offers voice commands, voice searching, and voice activated device control, letting you complete a number of tasks after you've said the "OK Google" or "Hey Google" wake words. It is designed to give you conversational interactions.	Java Script, C++,Java	Artificial Intelligence	[+] Efficiently used [-] But the speaker should be loud otherwise it is hard to recognize their voice
5.	Wemoji	It was launched by Samsung for people with aphasia and other language disorders. A disorder that causes the loss of language capabilities. functions as a kind of translator between text and emojis. The application includes many phrases related to basic needs and emotional expressions.	Android studio, Python	Artificial Intelligence	[+] Easy to use, especially for people with aphasia [-] Sometimes it don’t fit the serious nature of brand and can look unprofessional.

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