

Light House an Intelligent Editor

There is nothing more beautiful than someone who goes out of their way to make life beautiful for others.

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Abstract — An application that will provide a ray of light to the disable people to help them document in an editor with the help of Speech connected with a Virtual Keyboard. This will help them to gain some confidence in this discouraging world. It will support them to get some opportunities for employment too. Organization sector where documentation and reports are preferred, disabled individuals can apply and work easily with the technology of voice recognition.

Index Terms — Speech Recognition, Function Command, Virtual Keyboard, Editor, Human Computer Interaction, User Speaker, Scanning, conversion and Processing

1. INTRODUCTION

H ANDICAPPED and disabled people usually find themselves jobless in an organization where documentation is preferred. Secondly documentation that are above 50 pages, typing them down is the monotonous process and takes a long time to complete. Lighthouse is an editor specially designed for disabled people. People with disabilities meet barriers of all types. However, technology is helping to lower many of these barriers. By using computing technology for tasks such as reading and writing documents, communicating with others, and searching for information on the Internet, students and employees with disabilities are capable of managing a wider variety of activities without help.

The basic purpose of this project is to provide Job opportunities for disabled/handicapped people, so they are employed easily with complete solution. It will provide ease in report writing or documentation with proper security. The disabled employee will feel more confident, it will help him overcome his weakness. In

addition, if you feel tired while typing a long report it will limit the use of hand. Disabled people will feel more confident and will find themselves more capable of achieving a target like a normal human being. Furthermore, if there is a long report to write, using speech recognition there will be minimum number of mistakes.

1.1. Speech to text:

Using our own speech processing system and machine learning we are able to recognize speech. It contains certain algorithms that is required to convert English speech into text. Machine learning is done so that the machine can recognized words spoken under different accent. Machine learning is possible by asking different users to speak and

using certain algorithms storing the understood words in the database. Our speech recognition system will only convey speech contents. It will not figure out the speaker's identity. Speech input provides another option for users. Speech recognition system allows users to use function commands to access menu such as New, Save, Save As, copy, paste etc. The database is online that recognizes the word and selects the best word before converting it into text. Our project contains a range of different modes to write a speech. To write a long document use microphone with long dictation mode. For a short phrase or paragraph use microphone with short dictation mode.

1.2. Virtual Keyboard:

A virtual keyboard is a software component that allows a user to enter characters. A virtual keyboard can usually be operated with multiple input devices. We have used Virtual keyboard in our editor that contains different languages such as English, Arabic, French, German, Russian, Spanish and Tamil. In addition, it will also help to provide personal data interception. It provides Ease in report writing with proper security. It will help disabled people to overcome their weakness. This is perhaps the virtual keyboard's most important use, for many rigorous mobility impairments, using a keyboard is simply not possible. We have applied speech function in our virtual keyboard where user can write anything letter by letter. Speaking English letters, user can also write anything in other languages provided.

2. LITERATURE REVIEW

During the early 90's, speech recognition was considered as a science fiction. Human computer interaction was something nobody can think off as there was no such hardware that could connect a human voice with a machine. However, in recent years with the massive increase in technology speech processing system has taken growth to a higher level. Many models are now developed that aim to create a human computer interaction and apply speech feature in many software. One such model is HMM (Hidden Markov Model)

which has shown some promise for large vocabulary speech recognitions system. Google has now the most efficient speech recognition system working primarily on android phones. Speech Recognition is now available in many languages and will soon be widely available and very easy to use.

3. PROBLEMS

Disabled handicapped people find themselves jobless because the organization's feel that without hands they will fail to complete any assigned work even if they are well educated. Secondly, they are projects in which long reports are preferred. Typing down a long report can be tiresome. Typing these long reports increases the probability of making more mistakes. Furthermore, using a normal keyboard for writing confidential information can prove to be costly as it increases chances of confidential data being intercepted.

4. SOLUTIONS

We are creating an EDITOR that will provide jobs to handicapped/disabled people. With the help of our software, organizations will feel more comfortable hiring disabled educated students for documentation purposes. Our editor will in decreasing the number of mistakes occurred while typing. Using the virtual keyboard will avoid the chances of data being intercepted.

A complete solution for disabled or handicap people to be employed. Ease in report writing or documentation with proper security. The disabled people will feel more confident. It will help them overcome their weakness.

4.1. Requirements

To use this application, a laptop or PC is required, it is desktop application that requires internet access having a speed greater than 1Mb. require a mic to convert speech into text. Operating system must be 8.1/10.

4.2. Limitations

Speech recognition will fail if internet connection is unavailable or slow. It is highly dependent on .Net Framework. If framework is less than version IV the program will not run. Operating system must be windows 7/8/10. Windows XP is not supported. Only available on windows. There is no MAC or OS version of our software yet.

5. METHODOLOGY

The methodology used in development of this application is agile. This process involves breach down each project into prioritized necessities and deliver each individually within an iterative cycle. An iteration is the schedule of developing

small segment of a project at an instant. Each iteration is evaluated and reviewed by the development team. The impending increase from the evaluation are used to determine the next step in development. Detailed objective are set in each iteration gathering such as; predictable changes, time estimation, precedence and financial plan. Traditional models of project management would not discover deficiency in the early hours for the reason that they do not test as often. Usually fault that are not revealed at different stages can find their way into the final product. This can result in increased operating cost and client frustration.

6. PROJECT LIFECYCLE

The figure given below illustrates the overall functioning of our project. It contains few steps to recognize text; these Steps are shown in the diagram.

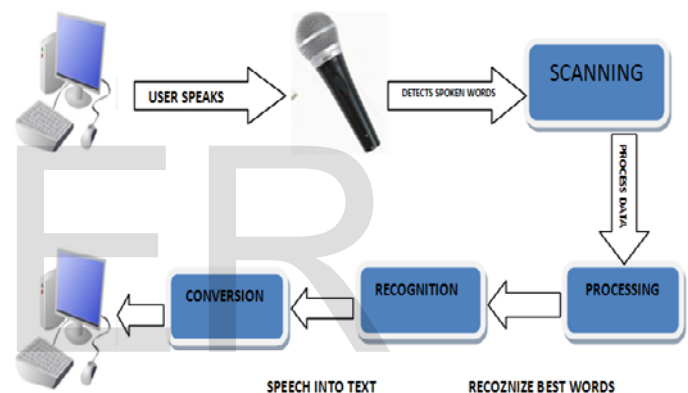


Figure 1

User Speaks: User speaks with the help of mic

Scanning: It detects the spoken word

Processing: Process the data to the database

Recognition: This step recognizes the best words from the database

Conversion: Convert speech into text and displays on screen.

7. END SECTION

7.1. Conclusion

We have created a Text Editor that with the help of speech recognition will convert speech into text only in English language. It will help users especially disabled/handicap to do documentation with ease. Lighthouse is an editor specially designed for disabled people; People with disabilities meet barriers of all types. However, technology is

helping to lower many of these barriers. By using computing technology for tasks such as reading and writing documents, communicating with others, and searching for information on the Internet, students and employees with disabilities are capable of managing a wider variety of activities without help.

With the additional feature of speech recognition, the user can try different languages and can manage to write a report letter by letter. Any word that user wants to use that is not in English and is not recognized by speech engine, he can write it down with the help of virtual keyboard.

7.2. Project Images

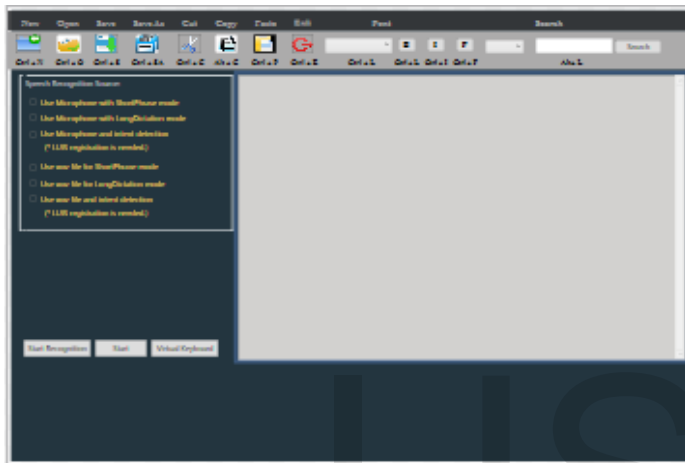


Figure 2

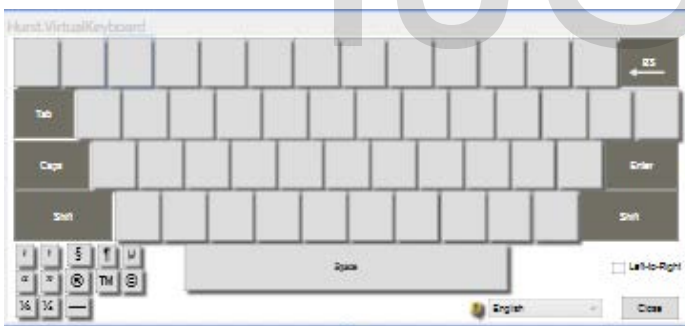


Figure 3

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