A PROJECT REPORT

ON

"Virtual Assistance For Visually Impaired"

Submitted in partial fulfillment of the requirements of project report presentation for

MINI PROJECT

(TE Computer Engineering)

By

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Under guidance of

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CERTIFICATE

This is to certify that project entitled

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This work is carried out under the guidance of

Ms. Mangale S. R.

Project Coordinator	Project Guide	HOD
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ACKNOWLEDGEMENT

It is opportunity of immense pleasure for us to present the project "**Virtual Assistance For Visually Impaired**" expressing our gratitude to all those who have generously offered their valuable suggestions towards the completion of the project.

It's rightly said that we are built on the shoulders of others for all our achievements. The credit goes to our project guide **Ms. Mangale S. R.**whose positive attitude, moral support and encouragement led to success of the project and valuable suggestions, important to us from time to time.

We are also thankful to our principal **Dr. Bhagwat M.M.** for being very generous with his advice and encouragement.

ABSTRACT

Project entitled "**Virtual Assistance For Visually Impaired**" is web portal aimed to improve the mobility of both blind and visually impaired people. Vision is a beautiful gift to human beings by GOD. Vision allows people to perceive and understand the surrounding world. Till date blind people struggle a lot to live their miserable life. In the presented work, a simple, cheap, friendly user, virtual speech recognition assistant is designed.

We as students of computer engineering are making the project so as to help visually impaired people to get easy access to notes. This project is coded in HTML, CSS, Javascript to make it is user friendly. That means this web portal is easy to operate.

The system is cheap, fast, and easy to use and an innovative affordable solution to blind and visually impaired people in third world countries.Virtual Assistant will be available on online web portal. .

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INTRODUCTION

Blindness is a state of lacking visual perception due to physiological or neurological factors. Many people suffer from serious visual impairments resulting in lack of knowledge and limited accessibility to information. One of these techniques is orientation, which helps the visually impaired and blind people in accessing data independently and safely depending on their other remaining senses.

The proposed system is a web portal where user can easily access his/her saved data. With the help of our speech to text recognition the user can modify, edit, delete the data/notes . To overcome the above-mentioned limitations, this work offers a simple, efficient, configurable virtual for the blind.

AIM AND OBJECTIVES

Aim:

To provide a web service portal for visually impaired where they can write, read, modify, edit and access information hassle-free on a digital/online system. Develop an effective web application, which is fast, accurate, consistent, reliable and flexible enough so that it can accommodate any further expansion.

OBJECTIVES:

- Access website independently.
- Write, read, delete notes effortlessly.
- Greater access to information.
- Reduce paperwork.
- Less time consuming.
- Cost effective
- Less Resources required.

LITERATURE SURVEY

SR.No.	Title	Author	Contribution of author
1	Education for the visually impaired students	MD. Didarul Islam	Technology as an alternative vision for the blind learners in low and middle income countries
2	Aiding visually impaired students	Ifan Shepherd	Providing learning support for blind and visually impaired students

PROBLEM STATEMENT

Visually impaired people have limited access to knowledge and information as compared to a normal functioning human.

Without **vision** it can be challenging for a **visually impaired** person to make notes, read them as well as maintain records physically.

Visually impaired individuals will face many difficulties and one of the most common difficulties is maintaining and accessing information.

REQUIREMENT ANALYSIS

Hardware requirements:

- Processor-Intel Pentium 4 higher
- Hardware-Minimum 20GB
- RAM-Minimum 2GB

Software requirements:

- Operating System- Windows 7 and higher, Mac OS X 10.8 higher, Linux
- Browser-Browser (JavaScript Enabled)

Technology Stack:

- Front End: HTML,CSS,JavaScript

Version Control: GitHub

PROPOSED SYSTEM

The proposed system is to build a customized website application for visually impaired people. This platform acts as a voice assistant which helps the visually impaired to access information using speech to text. A statistical modelling system is used to convert the speech input into text input. The text generated can be saved. Using speech synthesis, the text output saved in the system is converted to synthesized speech.

PROJECT DESIGN

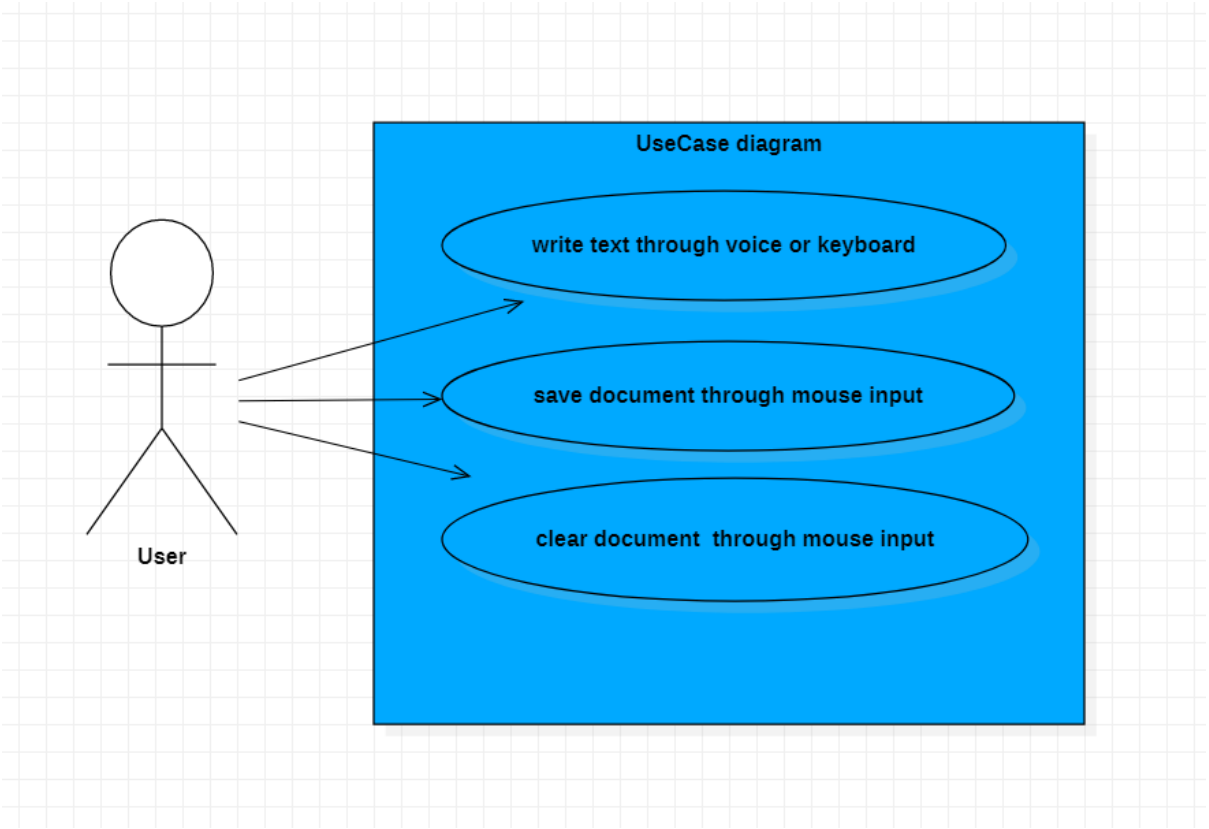
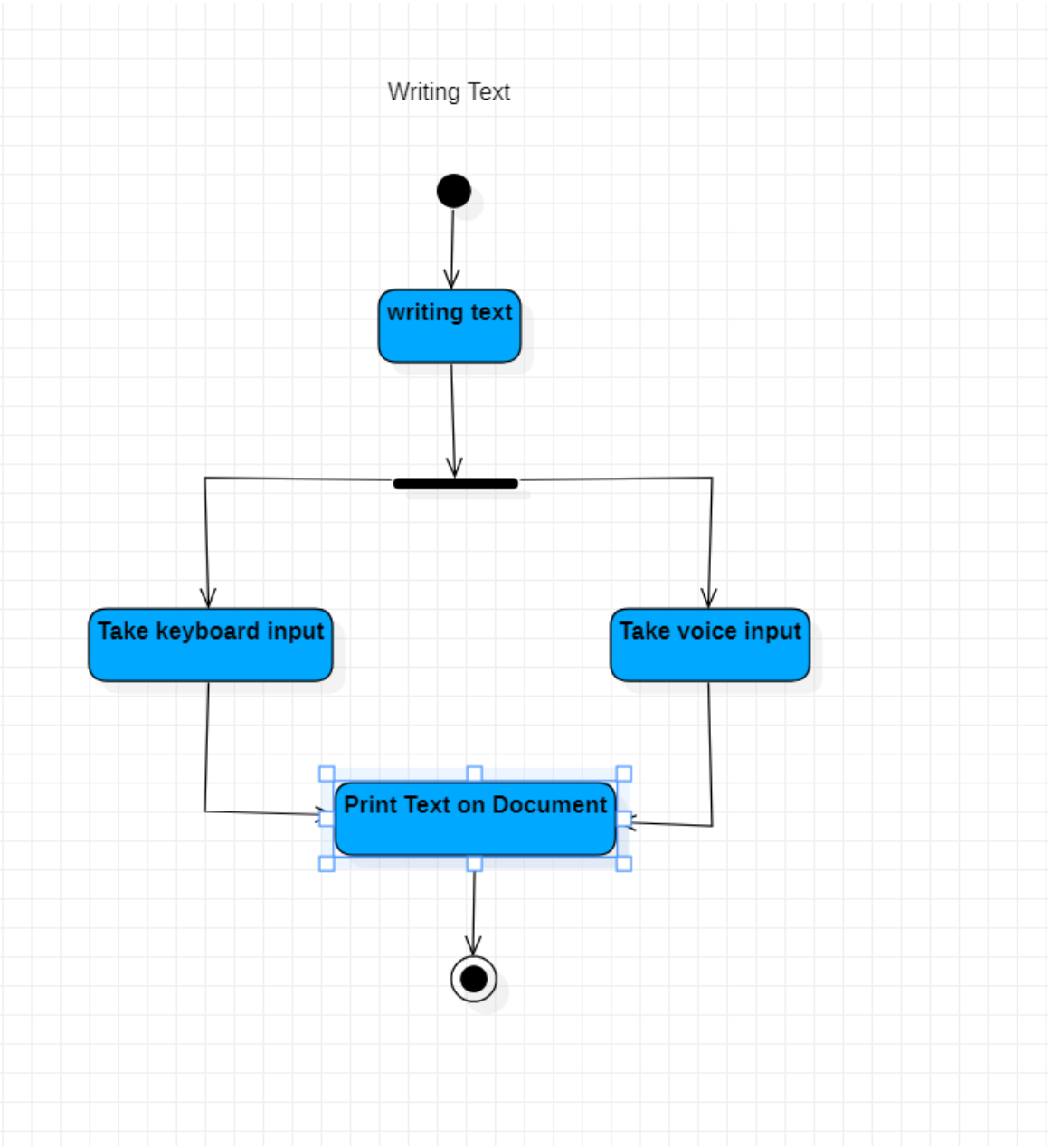
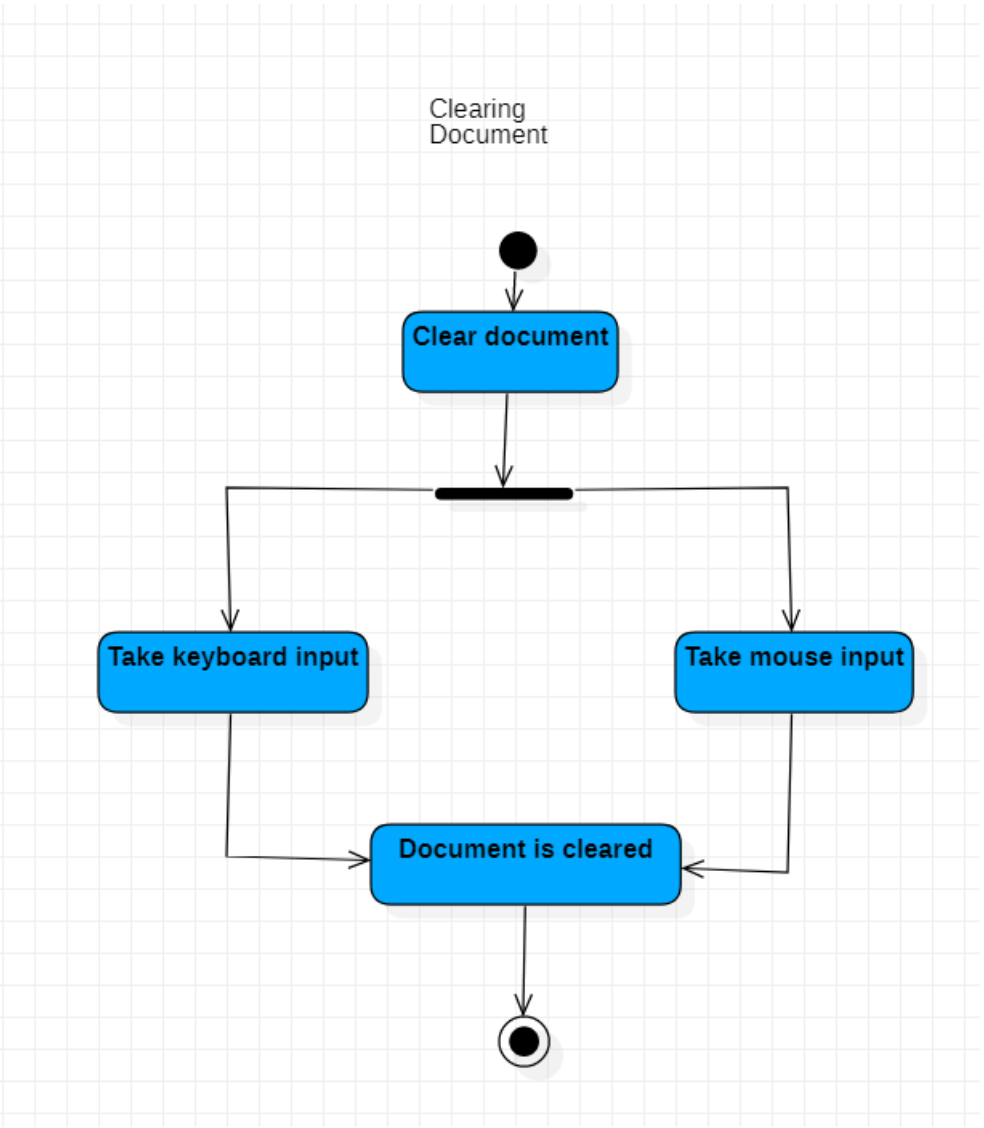


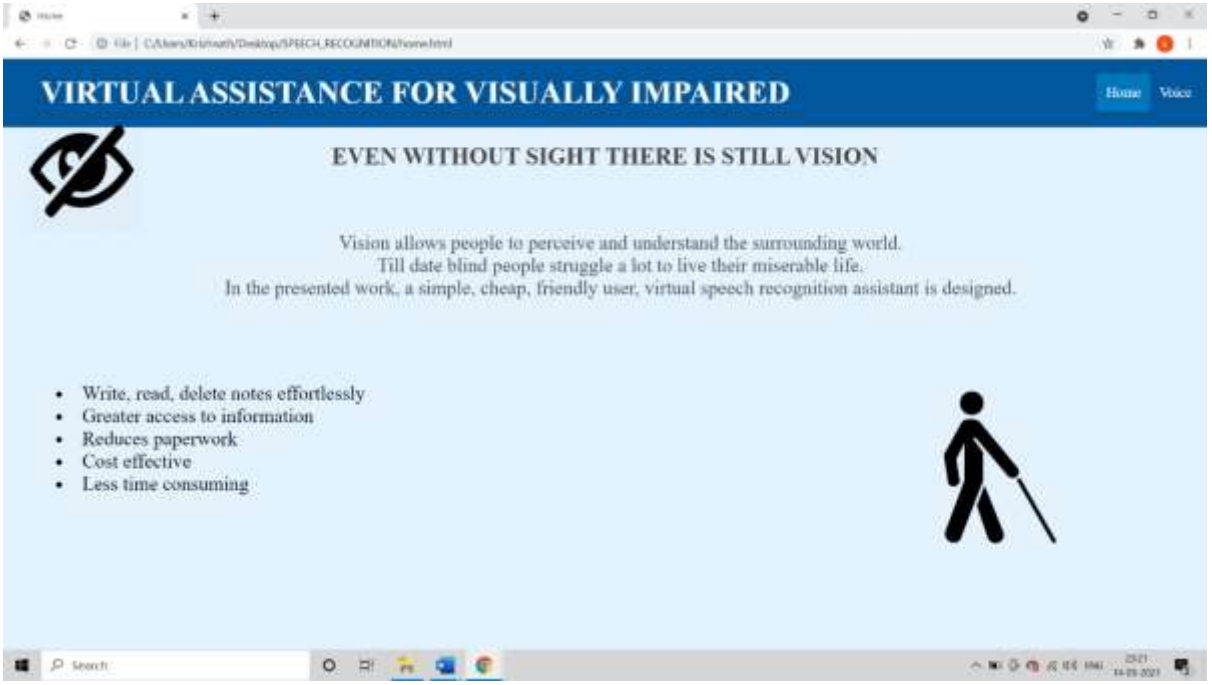
Fig: use case diagram

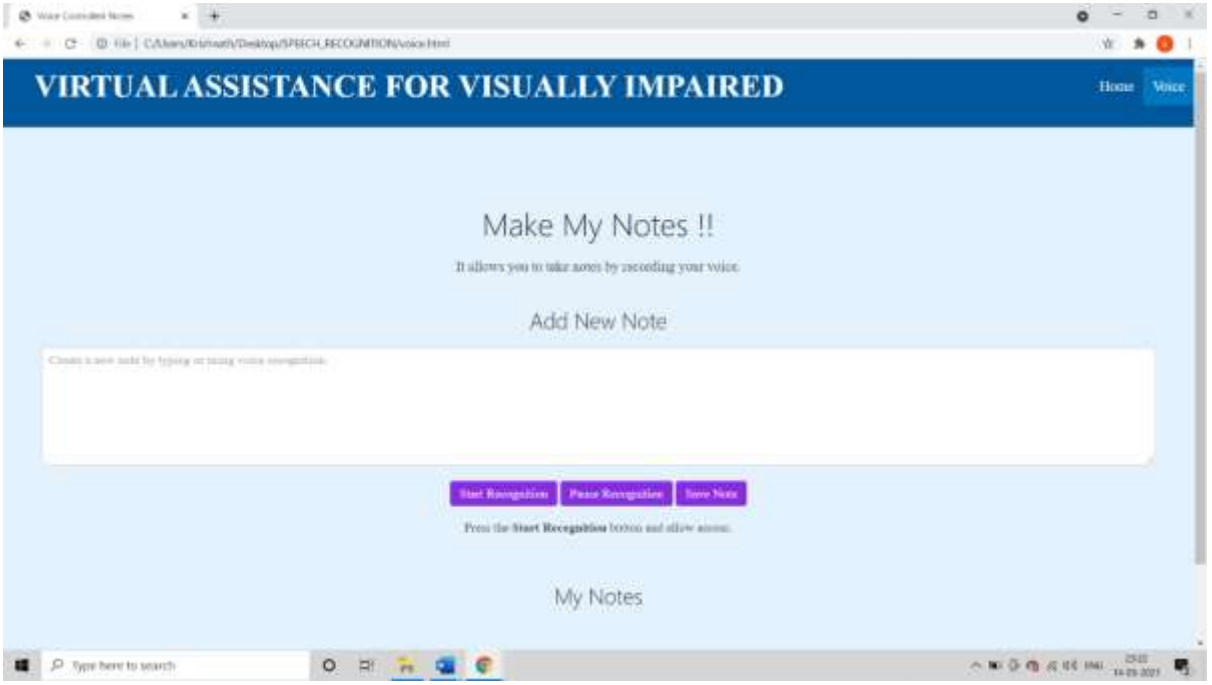
Activity diagram

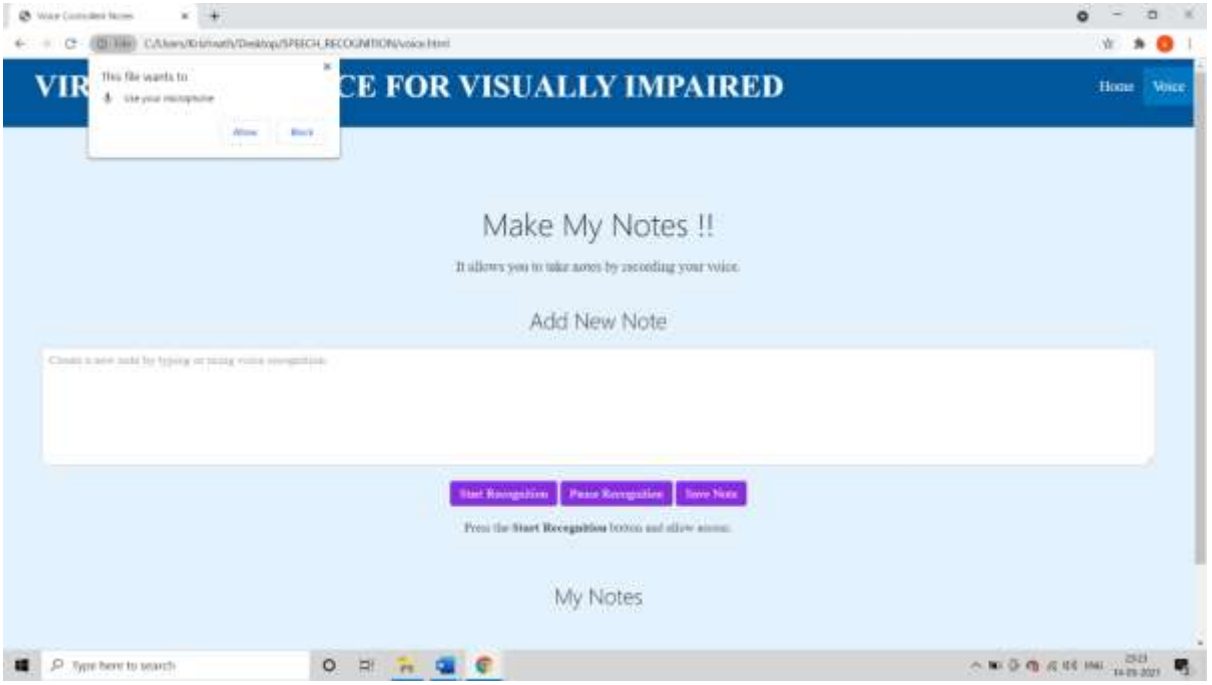


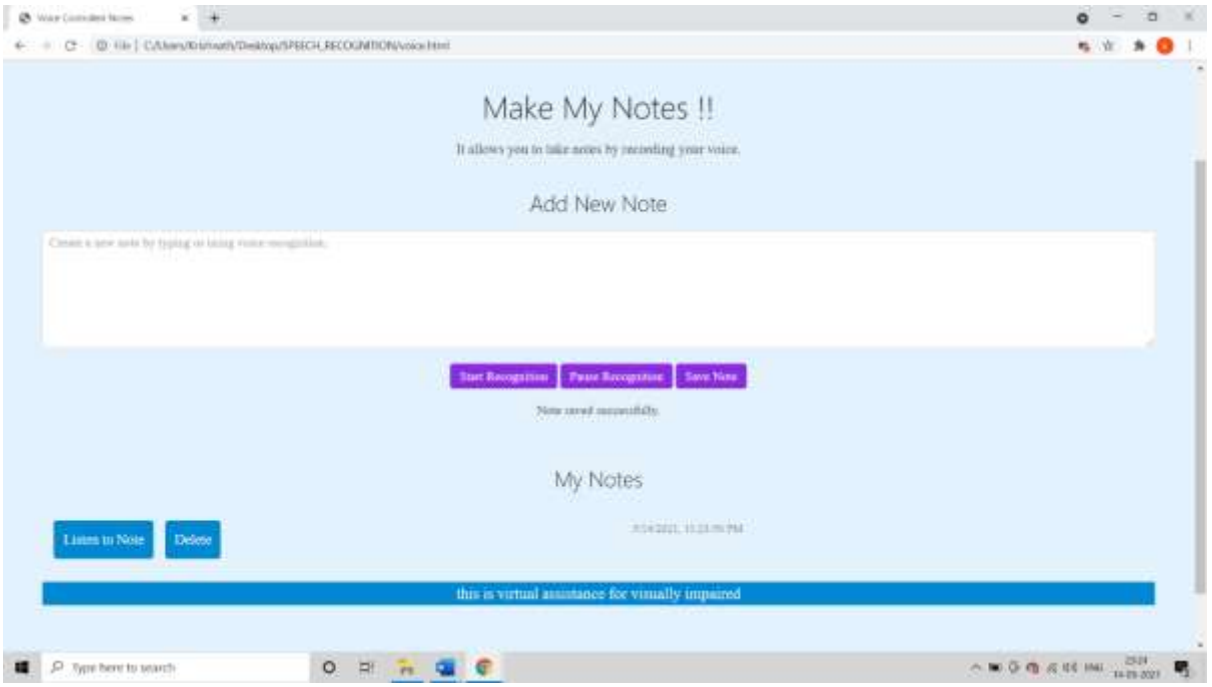

Clearing
Document
Clear document
Take keyboard input
Take mouse input
Document is cleared

IMPLEMENTATION




VIRTUAL ASSISTANCE FOR VISUALLY IMPAIRED
Home
Voice
Make My Notes !!
It allows you to take notes by recording your voice.
Add New Note
My Notes


This file wants to
Use your microphone
Allow
Block
CE FOR VISUALLY IMPAIRED
Home
Voice
Make My Notes !!
It allows you to take notes by recording your voice.
Add New Note
Start Recognition
Pause Recognition
Save Note
Press the Start Recognition button and allow access.
My Notes
Type here to search


Make My Notes !!
It allows you to take notes by recording your voice.
Add New Note
Start Recognition
Pause Recognition
Save Note
Note saved successfully.
My Notes
Listen to Note
Delete
this is virtual assistance for visually impaired
Type here to search

ADVANTAGES

- Time and cost efficient
- Reduce the paper work
- User Friendly.
- Low maintenance cost.
- Volume of data is not an issue.
- Data can be converted easily to information.

APPLICATIONS

- Institute
- Industry
- Commercial
- Personal

CONCLUSION

A simple, cheap, configurable, easy to handle digital guidance system is proposed to provide constructive assistant and support for blind and visually impaired persons. The system is designed, implemented, tested, and verified. The real-time results of the system are encouraging. The results indicate that the system is efficient and unique in its capability in storing information as well as accessing it. This system does not require any special training and is user friendly. This system also resolves limitations that are related to most of the problems that may influence the blind people in their environment.

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