Implementation of Web Access for Visually Impaired People using Classical Devices
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Abstract— Visually Impaired people are info-excluded due to the overwhelming task they face to read information on the web they cannot read the information by just scanning the information quickly on the web. As a consequence, they have to come through all the sentences of web pages to understand that the document is interesting or not which is difficult task for them. So For the purpose of ease, we aimed to propose a new human-computer interfaces that run on classical devices such as classical PCs, Pocket PCs or PDAs, so the easy solution is provided as the web access for these visually impaired people by tackling this challenging task by introducing on-line services to existing search engines as it is the most efficient way to access the information.

Key words: SAL, WHO, WMA

I. INTRODUCTION

According to the World Health Organization (WHO), there are 285 million people who are visually impaired worldwide among which 90% live in the developing countries. Unlike fully capacitated people, blind people cannot read information by just scanning it quickly that is they cannot read in the “Diagonal”. This is obviously an overwhelming task which clearly excludes visually impaired people to quick access to information. There are many devices are available in the market for blind people to access information such as Speech Assisted Learning (SAL), Book sense Reader, Eye Pal Reader, Book sense Reader, Eye Pal Reader, Eye-Pal Rol, Braille screens, Braille keyboards, Braille PDAs and Text-To-Speech interfaces but very little has been made reduce the amount of information they have to deal with. Another important problem is that most blind people do not have access to expensive adapted devices. This may cause the society exclusion problem. Only a small portion of visually impaired people have access to information. To avoid all these problems we have implemented new Human-Computer interface that runs on classical devices such as classical PCs, Pocket PCs or PDAs, as visually impaired people can access these affordable technologies. The scope of the project “the vision for visually impaired” is global. A visually impaired is not bounded to any languages if he knows the Basic English, this is sufficient for them to use this system in an efficient way.

II. EXISTING SYSTEMS

There are different devices available in the market for visually impaired to help them in educational activities and to bridge the communication gap between visually impaired people and people with sight. The popular devices for visually impaired people are as follow:

A. Speech Assisted Learning (SAL):
SAL is a learning aid that assists blind people to learn Braille and good reading habits. It costs around $4,600/-. 

B. Book sense Reader:
Book sense is a portable audio book player-recorder and document reader that many digital formats such as MP3, WMA and audible books. This player is designed for visually impaired people. It plays audio books and read text files format including DOC, RTF, TXT, HTML aloud using text-to-speech. It costs around $499/-. 

C. Eye Pal Reader:
Eye Pal Reader is a smart scanner that reads aloud most printed materials. It scans the document without missing a line and converts it into speech form. It costs around $1,995/-. 

D. Eye-Pal Rol:
It is the revolutionary reader for blind which is highly accurate scan and read technology. It is also a auto minder technology allows to use built in calendar to remember tasks and errands which costs around $2,195/-. There are many more devices exists like Electronic Braille Pad, Automatic Electronic Pen.

I) Disadvantages of Existing Systems:
1) Very Costly.
2) Difficult To Learn These Highly Adaptive Devices For Blind.

III. PROPODSED SYSTEM

The project is aimed to vision for visually impaired people. This system has been implemented using some classical devices such as classical PCs, Pocket PCs or PDAs, Braille keyboard so that blind people can easily afford these devices. The project uses the simple Basic English as visually impaired peoples can easily get understand. There are many devices present in the market for visually impaired peoples but they are expensive and difficult to use, so project aimed to provide a platform to make familiar the blind peoples with that highly digitized devices.

A. Block Diagram:
Block diagram of the system shows the function of the system. It simply accepts input from the user (keyboard), after taking input from the keyboard it forward input to the system. System takes the input and converts it into its understandable language and according to input it gives the appropriate output to the user.
The system consists of five broad features.

1) **News:**
   This section consists of Business, sports, politics, current affairs, film industry news.

2) **Entertainment:**
   This section contains Ringtones, songs, puzzles, jokes and riddles.

3) **Mail:**
   This section provides mailing facility.

4) **Education:**
   This section contains information about education and institutions.

5) **Others:**
   This section contains the Dictionary and Yellow pages.

**B. Working of the System:**

To use the product, people who are visually impaired or a normal human being have to register first by which they will get user Id and password which will be further used for security purpose. As the user traverse through the system, they will be assisted by an automatic audio assistance program that would be triggered according to the actions of the user. The audio assistant system is provided for each page, which guides the user with audio so that they can use the desired feature in a correct and desirable fashion without leaving them in a state of confusion. Even the method of taking actions (inputs) is simplified to an extent to use keyboard’s shortcut keys instead of mouse commands. There is no need to remember these shortcut keys since the system guides the users by prompting them (by means of audio) which key is to be pressed for which feature.

**IV. ADVANTAGES OF PROPOSED SYSTEM:**

1) Easy to use.
2) Less overhead
3) Cost effective as the classical devices are used.
4) The system can be globally utilized for the visually challenged people.

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**V. SCREEN RESULTS**

**A. Login Page:**

![Login Page](image1.png)

**B. Registration Page:**

![Registration Page](image2.png)
C. **Home Page:**

![Screen Layout of the Home Page](image1)

Fig. 6.3: Screen Layout of the Home Page.

D. **News Section:**

![Screen Layout of the News Page](image2)

Fig. 5.5.4: Screen Layout of the News Page.

E. **Entertainment Section:**

![Screen Layout of the Entertainment Page](image3)

Fig. 6.5: Screen Layout of the Entertainment Page.

F. **Education Section:**

![Screen Layout of the Education Page](image4)

Fig. 5.5.6: Screen Layout of the Education Page.

G. **Mail Section:**

![Screen Layout of the Mail Page](image5)

Fig. 6.7: Screen Layout of the Mail Page.

H. **Others Section:**

![Screen Layout of the Others Page](image6)

Fig. 6.8: Screen Layout of the Others Page.

VI. **Conclusion**

As our project aims at providing the internet access as well as additional features such as mailing, dictionary, and yellow pages. The system can be globally utilized for the visually challenged people all over the world. The vision for visually impaired is a simple and efficient way of accessing the web using various shortcut keys or key combination to traversed throughout the entire system. The system is based on the existing standard that makes the system highly reliable and of improved quality. The system provides great assistance to a visually impaired people to enjoy each and every feature. However the software is not only intended for visually impaired people but also for any ordinary person who can simply use a mouse interface to traversed through the entire system.
VII. FUTURE WORK:
There is a very huge future scope of the project. As the project provides the very basic platform for visually impaired to deal with technology. The project is presently works as a static application as the project has the static content but in future the project can be design as the dynamic content where the content gonna be change according to the user’s requirement. This project can be get connected to a web site having the large amount of data and used widely. This project can be a good bridge for visually impaired person to meet the highly digitize devices. The project can also be connect to the website which gets update time and again. As the user is visually impaired the interaction between the user and the system can be improve and become more facilitate and easier to user.

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