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Specialized Library Services and ICT's use for Visually Impaired Persons

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ABSTRACT: Today's advanced technology is obvious in today's social, educational, and economic spheres. Humans can now reach any field. '**Beyond darkness, there lies enlightenment**' stated Gautama Buddha. Even today, it is considered that a clairvoyant individual can produce such a singular achievement in the world of technology. A man called Srikanth employed numerous people and realised the dream while wearing a blind fold. Numerous interviews featuring Srikanth are available to watch on YouTube and the internet. Thus, many prominent people, including as Louis Braille, Helen Keller, Soordas and Bhaskar Vyas have contributed significantly to the advancement of technology so that visually impaired readers can use electronic equipment and software in libraries or information centres.

KEYWORDS: Library, Visually Impaired, Braille, Handicapped, Information Technology, Software.

I. PREFACE

In the 21st century, the use of various information and communication technologies, libraries, and information centres has revolutionised modern society due to their use in library services and tools as well as library activities. Libraries play a fundamental role in society.

Literature has a very important contribution to the personality of a human being in his or her cultural life. There is some literature that is meant for adults, children, women, and men. We will call such literature general. But there is another such piece of literature. Which is written keeping in mind certain special categories of persons like the disabled, adults, women, patients, and children. Because of this, distinctions are obtained, like disabled (Divyang) literature, adult literature, and women's and children's literature.

In today's culture, it is common to see disabled people working both physically and mentally. Who bases his work on both his own abilities and those he has gained via further study or a degree. Where will students get the information they require for their academic work? How can I obtain it? These kinds of queries come up. As a result, in modern times, data explosions are witnessed in addition to growing populations. Thus, the current era is referred to as the "information age." For this reason, libraries and information centres house such information sets.

Definitions of words related to the Research Subject:

Visual Impaired (Pragyachakshu): "Visual Impaired "means to see and hear with the hand or the sole of the feet – by touch – that is, to see and understand it through the tactile sense as keenly as possible"

-He who has all knowledge despite having no eyes, whose intelligence is believed to be his eye.

- Intelligent eyes; a wise eye

- Blind to see and understand with the intuition

Visually impaired is Blind, visionless, or disabled humans are considered visually impaired. A limb with low vision is naturally less developed.

Special Library: Libraries that exist for a specific purpose and serve a specific readership are known as special libraries.

- Libraries aimed at serving specific sections of society are known as special libraries. It includes the Children's Library, Braille Library, Hospital Library, Jail Library, Museum Library, etc.
- Library: A library is composed of three sources of library reading materials, librarians and patrons.

A building, space, or institution holding a collection of books, records, music, and occasionally objects. Resources can be found in an array of formats, including commercial releases of motion pictures, television shows, audio recordings, radio, and other video recordings. These consist of CDs, DVDs, Blu-rays, cassettes, and other relevant media like microform. Additionally, they might offer access to data, audio, or other materials stored in bibliographic databases.

❖ Information communication Technology (ICT)?

Information communication Technology: The introduction of computer technology has brought many changes to the lives of sighted people. Time, money, work, and energy can all be saved significantly by incorporating technology into everyday living. Online Banking and shopping in your own home, you may utilize a variety of payment methods.

❖ **Disabled population in India and Gujarat:** Census of India, 2011. This figure for the disabled population is obtained using the disability types established in the Disability Act.

Particular	Disabled population	Visual Impaired
India	2,68,14,994	50,33,431
Gujarat	1092302	214150

❖ Objectives of Research Subject:

- To prepare and disseminate books, information resources, digital audio, and e-materials for visually impaired persons at no cost.
- To organise workshops and seminars to share knowledge about the most recent advancements in the field of assistive technology for visual impairments.
- To examine the software and hardware facilities available in institutions/libraries for sighted readers.
- To provide visually impaired readers with assistive technology services.
- To explore challenges that outstanding reader's face when trying to access library resources, collections and services.

❖ Specialized education for visual impaired:

Mobility abilities reading embossed lettering challenging typing, sighted guidance, and computer skills are all necessary for visually challenged learners. The following assistive devices are required which are commonly used to provide some form of magnification. Additional regularly used devices assistance, speech watches or clocks, medicine item, alarms and tap CD discs.

❖ Computer and Mobile Technology for Visual Impaired:

The introduction of computer technology has brought significant changes to the lives of sighted people. Time, money, labour, and energy can all be saved significantly by incorporating technology into everyday living. Online Banking and shopping In your own home, you may utilise a variety of payment methods. So that visually impaired people do not suffer while also saving time, energy and money, computerised braille presses were invented, and as a result, Braille libraries became richer, allowing visually impaired people and students to expand their education beyond textbooks included in the curriculum

❖ Electronics equipment for Visual Impaired:

Besides from visual instructional equipment utilized in regular children's schools, radios, tape recorders, gramophones, and so on have shown to be extremely effective in talented schools. A unique type of math board, abacus, paper-based Braille board, touch-readable, but also known as today's technology, in which information may be obtained using advanced electronic resources, software, programs, etc.

1. **Sugymya Pustkalay:** - Sugymya Pustkalay for visually impaired persons to have access to books, magazines or other information related to their required subject. An accessible library is looking for accessible books for readers with print disabilities and can access information sources from different libraries to deliver information to the individual as per their appropriate need. Sugymya Pustkalay is a collaborative effort by TCS, DAISY format, NIEPVD

(National Institute for Empowerment of Persons with Visual Disabilities) Government of India to end the lack of knowledge, information and books faced by visually impaired people.

2. **Daisy (Digital access information system):** -The Daisy format in this software functions similarly to a digital interactive book, allowing users to listen to the information. Daisy files in the library are classified as one of two types: open or secure. The information is also available in open DAISY pdf and epub formats. Anyone can go to an open library and read the eBook and digital format content included in the Daisy format, which is why it is known as an accessible book.
3. **Talking books:** - When clairvoyant people may get information by creating audio versions of books, the recordings can be stored on cassettes, CD-ROMs, DVDs, and e-books on the Internet. Most knowledgeable people are able to quickly locate the information they demand.
4. **Freedom Scientific's SARA :** Scanning and Reading Appliance is a low-cost, easy-to-use way to read information from a wide range of printed materials, including books, mails, newspapers, and magazines. SARA scans text and then reads it aloud to the sighted using cutting-edge optical character recognition technologies. Information comprising several hundred thousand more page is automatically scanned and stored by SARA.
5. **KIBO:** - The Kibo XS device, which was launched in July 2019, is currently available in seven countries: India, Kenya, Ghana, Tanzania, Singapore, United States, and United Kingdom. The Kibo smartphone application, which debuted at the same time, currently empowers over 45,000 visually impaired people in 15 countries. They spent more than 40 million minutes reading and learning on the app, gaining access to almost 22 million pages of previously unavailable literature.
6. **Braille Printer:** - Using a computer and a braille printer, information may be captured from documents like reports and printed on books and magazines in a library. Information is then embossed in the form of dots in Braille.
7. **Tactile Graphics:** - Tactile graphics are a method of communicating information to the sighted or visually handicapped without using letters. It could incorporate haptic representations of photographs, maps, graphs, diagrams, and other images. Information that a visually challenged person obtains by viewing photos or other visual pictures.

❖ **Software for Visual Impaired in Braille Libraries:**

1. **Jaws (Job Access with Speech) :-** JAWS helps sight impaired students and teachers to read information from libraries and information centres. JAWS technology provides easy access to journal articles, books, monographs, reports, reference sources, theses, and project reports. So that visually challenged individuals can utilize it independently. This software is compatible with operating system, including Windows 7, Windows 8.1, and Windows 10.
2. **NVDA (Nonvisual Desktop Access):-** This software is a free and open source screen reader for the Microsoft Windows operating system. It allows sighted, blind, and visually impaired people to utilize computers by using synthetic voice and braille. One of the most notable capabilities is the ability to translate information into over 20 languages and save it in any format. Version 2022.3 of NVDA, Microsoft Windows is now available for download.
3. **SAFA (Screen Access for All):-** SAFA - Screen Access for All SAFA is open-source software. Media Lab a National Association of Blind (NAB) in Delhi collaborated on the development of this screen reading program. This software supports several Indian languages, including Gujarati, Marathi, Hindi, English, and Sanskrit, allowing sighted users to read and write in their own language. SAFA software identifies textual language.
4. **Thunder:-** Thunder software is a free screen reader for people who are visually impaired, have very low vision, or are completely blind. Thunder is compatible with Windows Vista, 7, and XP. This software is capable of converting information into multiple languages so that it can be read in the right way.
5. **Web Anywhere :-** WebAnywhere is a web-based screen reader software that is installed on the client system, allowing visually impaired users to collect information in audio form on any computer screen. Direct access to Web Anywhere is available through the a.cs.washington.edu website.

6. **Screen Magnification Software:** - A screen magnifier is software that uses the computer's visual output to show bigger screen substance. This software causes the computer to enlarge the text on its screen, allowing pupils who are partially blind or have low vision to easily read books and journals.
7. **TTS (Text to Speech) :-** Text-to-speech (TTS) is one of the greatest functions for the visually impaired. TTS (Text to Speech) allows users to decide on the language they want, check through Google's speech, and receive whatever information they require. Can listen through.

II. CONCLUSION

The introduction of computers technology has brought many changes to the lives of sighted people. Time, money, work, and energy can all be saved significantly by incorporating technology into everyday living. Online Banking and shopping in your own home you may utilize a variety of payment methods. So that visually impaired readers do not suffer while also saving time, energy, and money, computerized Braille presses were invented, and as a result, Braille libraries became richer, allowing visually impaired people and students to expand their education beyond the textbooks included in the curriculum. Technology has made Braille literature, reference books and audio reading widely accessible.

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