

**CREATION AND MANAGEMENT OF DIGITAL RESOURCES:  
SERVICES  
ASSISTIVE TECHNOLOGY FOR THE DIGITAL RESOURCE  
DISCOVERY TOOLS FOR THE DISABLED USERS**

By

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**ABSTRACT**

*The information and communication technological tools for the resource discovery should be used by all the citizens without any discrimination. But the physically disabled users are not able to use them all on par with other users. This paper describes the development of information and communication technologies in various nations. It gives an outline of the present scenario of the physically disabled users. It elaborately discusses various physical disabilities of the handicapped users in handling the information and communication technological tools in the resource discovery and gives solutions for the alternative assistive technological tools effective usage for the benefit of certain disabled users.*

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## **0. Introduction:**

The impact of information and communication technologies has transformed the entire universe into a new dimensional structure and the age-old barriers of distance and time have almost vanished. Above all, the existing formats have been combined into a single multimedia system, which handles voice, text, graphics, and video simultaneously. The information and communication technology integrates all the functions of the media and becomes a powerful multi-purpose tool, which will be more useful for resource discovery.

Most of the nations are utilizing these tools effectively and making their societies knowledgeable ones. Half of the 147 million people on the net are living in United States. One fourth of the Australian population has been connected with wire. In Africa, 1:4000 of the population is on the Net. China and India have started globalisation in

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information industry and are investing heavily in fibre-optic cabling. More over India produced nearly 50000 information technology professionals over a year. In China, it is expected that, there will be more Internet users than cars by the year 2002.

## **1. Present scenario of the disabled users**

It is true that every one in the world will make use of these new ICT tools but there are some disabled who are not able to use them effectively due to physical or cognitive disabilities. Injured or elderly often find these services and products difficult and some times impossible to use. The product producers who produce them claim that these will be beneficial to all but actually the disabled are not able to use them and the producers only think about the marketing and keep this issue pending for the next release. All the electronic ICT tools such as fax machines, computers, telephones, TVs, CD players, and kiosks, computers and their applications are not used adequately by the disabled effectively for the resource discovery.

## **2. Types of disabilities**

The users will have many disabilities, which will prevent them in using the latest ICTs in a more effective manner. Their disabilities are as follows:

- ? Users who are hard of hearing or completely deaf
- ? Users with colour blindness
- ? Users with distorted or low vision, or none at all
- ? Users with motor or mobility problems
- ? Users with difficulty of talking
- ? Users with language difficulty
- ? Users with cognitive problems
- ? Users with emotional disabilities

The range of severity will vary for various disabilities. Some will have the combination of two or more disabilities. All the disabled users can't have had these disabilities from the same period. It will vary from user to user and period to period. Following are some stages of commencement of disabilities :

- ? from the early birth itself
- ? develop it through a disease
- ? due to accident
- ? due to old age

## **3. Problems due to disabilities and the solutions**

The users will have to face a lot of problems due to their disabilities. They can't use and operate the ICT tools effectively and complete their jobs. These can be rectified by implementing the Assistive Technology which will generate the products and services specially designed and suitable for the disabled to help in the operation and usage of ICT tools easily. Some of the problems faced by the disabled and their solutions are given below:

- ? Visually impaired can digitising the printed materials by using the scanning technology.
- ? The users who are hard of hearing can see and enjoy the T.V programmes by using the Closed caption T.V.
- ? Users with low vision power can operate the computer by using large fonts to see the texts more easily.
- ? The disabled users can operate the computer by customising the colours displayed on the screen.
- ? The disabled users can operate the computer by enlarging the size of the cursor
- ? The disabled users can operate the computer by reducing the speed of certain operations
- ? The blind user can also operate the computer by using a text reader to vocalize the text.
- ? Those who don't write or type can use the computer and retrieve the resources with the help of touch screen facility.
- ? The illiterates can also use the computer and its applications with the help of the voice realization softwares.
- ? The users who don't have typing knowledge can operate the computer by using the mouse operation facility or they can use light pen.
- ? The language disability can be solved by installing multilingual softwares which will translate the digital contents in the required language.
- ? Elderly users having multiple functional problems may be provided with integrated softwares, which will reduce their complications.

#### **4. Suggestions and recommendations**

The benefits of the ICT tools for resource discovery should reach the disabled users without any barrier. They should also be able to handle the tools without any difficulty. Their hidden talents should also be expressed through the modern ICTs for the welfare of the society. The disability should not be a hurdle for exposure of their talents. The ICT tools should be modified or new accessories may be invented, to attach with the existing tools, to rectify the defect.

- ? The physically disabled should not be isolated by not providing them facilities to use the ICT tools. Some nations have passed laws to prohibit discrimination against the physically disabled users, but also require positive action to include them and to create an inclusive working environment. These laws are often reinforced by government regulations and policies.
- ? The organisations should evolve their internal policies to implement the legal requirements.
- ? They can include the disabled in their policy framing bodies, which will create a good environment.
- ? The organizations involved in manufacturing the innovative ICT tools may include the disabled users in their participatory programme so that they can also express their suggestions in improving the existing structure of the tools.
- ? The Government may consider the problems of disabled, when procuring the ICT tools and recommend to select the tools friendly to the disabled users.
- ? Wide publicity may be given to the assistance programme to the disabled, which will create a suitable environment for them at the home and in working places.
- ? A testing laboratory should be established to provide technical assistance to the production engineers in manufacturing ICT tools for the physically disabled users.
- ? Loan and subsidies may be given to the small innovators who create assistive technologies for the physically disabled.
- ? Loan and subsidies may be given to the physically disabled users to purchase the ICT tool suitable for them
- ? An association may be formed for the welfare of the physically disabled and those who work with them so that they can support each other, provide effective feedback to product / policy makers, and serve as an effective force for the continued innovation of the assistive technology for the physically disabled.

## **5. Conclusion**

The assistive technology will reduce the discrimination to the disabled users and make a suitable environment for the disabled to work along with the other ICT tool users. We should create opportunity for people to expose their talents and develop their abilities. As the ICT tools become more widely used in the information gathering, public discussion, and consensus building that is central to a democratic society, we need to ensure that the technology is designed in ways that encourage their inclusion rather than their prevention. Moreover, cyber space is an important place for the development of civic dialogue and we must encourage continuous widening of the circle of civic

participation. Above all, the potential talents and the contributions of every one should be considered as an advantage for the development of the democratic economy. The usage of ICT tools for resource discovery should be made available to all the citizens including the physically disabled so that the full-fledged global access can be achieved.

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