

ICT ACCESSIBILITY FOR PERSONS WITH DISABILITIES IN INDONESIA

Information Technology (IT) has a very strategic role in creating a social transformation towards a more productive society, innovative, collaborative and thus it has global competitiveness stronger. In achieving the expected role of the above, information technology necessary to provide added value at each stage of the supply chain information to the community reciprocally. However, the ICT development provides easy access for persons with disabilities (disable community).

Based on the data refers to the World Health Organization (WHO) estimates that 10% of the world's population or 650 million peoples have some type of disability. Many obstacles experienced by the disable people to use the products and services based on technology such as computers and mobile phones. According to the Commission for Economic and Social Council for Asia and the Pacific (United Nations Economic and Social Commission for Asia and the Pacific - UNESCAP), more than 400 million disabled peoples live in Asia, and most of them are not included in the various community activities.

Meanwhile, based on statistical data from Departement of Social in Indonesia on 2009's explain that one of the 14 provinces who have recorded and there are about ± 850,000 sufferers with disability in the arm. Although, there have been laws governing people with disabilities. In fact, they are still excluded from the world of work because they are considered limitations themselves that aren't productive. Despite in their physical limitations, they still have the same capabilities with those of healthy body. This problem arises from the desire of people with disabilities to obtain equal rights in various fields, including the ease of accessing information can be obtained through the computer and the Internet access.

Some organizations that support this program. One of organizations is ITU Organization (International Telecommunications Union) together with local, global, and private sector partners released a toolkit to provide information and communication technology (ICT) development in the travel and tourism industry. Toolkit was released in Asia-Pacific Regional Forum on Mainstreaming ICT Accessibility for Persons with Disabilities. Hosted and supported by ICT services, this forums attract 140 participants including people with disabilities types of more than 20 countries. Travel by people with disabilities are expected to become one of the fastest growing industry segment in the years. The people who want to get a head-start, the forum provides wealth of information. All presentations have been posted along with the toolkit in e-AccessibilityToolkit.org. As the new toolkit, many key elements are still empty. However, the best starting point is a case study links with many examples of individuals and companies who have done a lot of work and willing to share experiences and technology.

In Indonesia, there are NGOs AITD (Aceh Information Technology Development) seeks to realize the citizens in Aceh that they take advantages from modern information technology (IT) in their life as well as introducing the benefits and importance of Information Technology / Internet to all levels of society. In addition, NGOs are trying their best way to improve the growth of IT for persons with disabilities. So that, ICT will be a very effective tool to include persons with disabilities to participate as part of the community as a whole. It is important to match the perception of the entire community that persons with chickenpox should be included in enjoying the benefits from the existence of ICT. This program is a collaboration with the Directorate of Social AITD BRR, the results achieved in the implementation of this program is the establishment of the Forum of Disabled Pox 17 LBK (Loka Bina Karya) in Aceh and the ICT training for persons with disabilities in nine LBK which is implemented in Aceh on January 8, 2009.

The development of computer applications provide information access for people with disabilities that have been carried out by TELKOM partnership with the Agency for Assessment and Application of Technology (BPPT), Advanced Telecommunications Research (ATR) Labs Japan and Asia Pacific Telecommunity (APT). This applications launched successfully on July 18, 2008. This programs are priority to the people with physical limitations to run various computer applications easily. The people with disabilities to use the keyboard and move the computer mouse, such as body paraplegic, stroke, people with disabilities, able to get the maximum benefit. This application has been introduced to people with disabilities in the Disabled Foundation, Pasteur Cicendo and Bandung.

They also made a demo how applications work, with three applications such as application to open a browser, multimedia and documents. The students with disabilities was also enthusiastically took turns trying to run this application and they are guided by internal RDC, BPPT and ATR as developers. Voice Command Computer application Programs is the result of research since October 2007. Through voice commands, the computer can run many applications easily, including internet access by the disabled people. The application is still a prototype and needs further refinement. It apply in the open source Linux which can be developed and perfected by the Linux community. This application is known as Linux IGOS Voice Command. It is first software with Indonesian language that is used to operate the computer.

This application is a nominee Indonesia ICT Award 2008 in Sector R & D with the function menu running Gnome / Linux, running and closing applications, roaming the Internet, moving the mouse, Linux administration, rebooting the computer, turn off and logged off the computer. Currently, there are just 350 orders words that are recorded from 50 women and 50 male voices in the applications. So that, the word is still not

sufficient. Therefore, it is necessary to repair and improve for to be recognized by the computer.

This application has the following benefits: (1) The availability of access for disabled people in operating the computer so that they have equal opportunities in the use of ICT (Information and Communication Technology) and can achieve independence and prosperity, (2) Reducing the digital gap between normal humans and the have physical limitations, and (3) Allow the operation to the situation that is not possible to use the hand.

In private sectors in Indonesia, Samsung Electronics Indonesia concern with this problem. It conduct CSR activities by organizing Samsung Digital Hope [SDH] then now it is called Samsung Hope now Indonesia. Previously, this program in 2006's has tried to reduce the digital gap by providing the number of grants since the program was launched in 2003, which has funded over 38 projects of IT [information technology]. It is organized by community organizations to provide educational opportunities and jobs for the youth and/ or persons with disabilities in Southeast Asia and Oceania.

In 2005 Samsung Digital Hope give funds USD 500.000 to 11 projects for more than 200,000 youth and / or disabled people in Southeast Asia and Oceania. This last projects received funding include a multimedia educational facilities that it provides basic training and Information Communication Technology (ICT) for free, supporting technologies to help persons with disabilities of their daily work, communication tools for people with disabilities, and development of IT infrastructures.

In previous years, 2004, there is reading diversification project for the blind people through the Utilization of Information Technology (Yayasan Mitra Netra). This project aims to improve the quality of life for the blind people through the availability of information from the electronic book; an online magazine; and libraries. The libraries use a computer that is friendly to the blind people. In addition to information accessibility for

the blind people, the project will create a community that likes to read and learn, especially among the youth with disabilities. This project will also create public attention and understanding to respect the right of persons with disabilities.

This project has a target to blind youth aged 12 to 30 years, who reside in particular in Jakarta, Bandung, Yogyakarta and Makassar, but it will reach across Indonesia. "Continuing the successful of our programs run on the Samsung Digital Hope in 2004, Yayasan Mitra Netra again developed their program to provide technological advances in educational facilities for the blind in Indonesia and involve them actively in their program. Nearly, 700 peoples with disabilities will feel the benefits this program immediately and in addition, about 20.000 peoples are expected to visit the online magazine site. In our hope, the blind peoples can access information and are optimist in the running life, said Tolhas Damanik, Chairman of Reading Diversification Project for the Blind, Yayasan Mitra Netra."

Departement of Communications and Information also concerned with the use of ICT accessibility problem for the disable people. There is one government program, especially in Depkominfo, the Directorate General of Telematics Applications, SIPLK Directorate, with the INAICTA program. It encourage the information and communication technologies community in organizing these awards, because it is still a lack of attention and appreciation from all components of the nation and the people in this country that appreciate with high information and telecommunications work by local community. A series of events INAICTA is expected to expose the best works of the nation's children that is well known by potential industrial users who need it.

One winner, a group of eks-students from Bina Nusantara University, develop a tool distinct pointer from the pointer tool existing conventional, Eye-B Pod. It is called Eye-Based Pointing Device. Instead of using hands to operate the pointer tool, they try to take advantage of eye movement in order to control the cursor on the computer

screen. It can help the people who have disabilities, especially in the arm. They able to use computers and give opportunity to involve with the development of the technology world today.

This software is developed by utilizing computer vision technology which is part of artificial intelligence. For using this tool, users only need to use a standard webcam to be placed right above the screen and directed to the user. Users only need to glance at certain parts (or can be assisted with the movement of the head) who wants to see and the cursor will automatically move to the location that the user visits. To make a 'click' users only need to do a slow blink. Left-wink to click the left and right-wink to right click. Blinking is a natural pattern experienced by every human being. Therefore, a twinkle in his eye briefly, reflex and the same that will not be considered as a process of 'click'.

Eye-B Pod can also improve efficiency in using computers because users not rely on the conventional mouse while using eye movements. Users can still perform a variety of other activities such as writing, drawing, drinking coffee while reading or doing other operations with computer. Another the advantages of Eye-B Pod only needs a standard webcam.

After the development of Eye-B Pod, this software will be sold in cheap prices to be affordable for every level of society. Of course, as a service tools for people with disabilities, this software will be provided free of charge to people with disabilities who need them. Currently, the software is still in research and development phase. In the future, Eye-B Pod will be developed with modules and is added voice so that users don't need a hand to operate the computer. This device would be very helpful for those with physical limitations.

Thus, the development of Information and Communication Technology (ICT) give opportunity to improve the quality of life for persons with disabilities. ICT for people with disabilities to help their to get the jobs. Then, it offers empowerment in the information

society. They also can involve to give their contribution in society. Therefore, The important thing is the commitment of Indonesia government, especially the Departement of Communications and Information, to provide ICT access for people with disabilities.

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