TECHFOCUS

Assistive technology for the disabled

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DISABLEMENT, needless to say, significantly reduces the life quality of a person as it substantially diminishes their work ability. Assistive or adaptive technology, however, can bring back the individual's employability at an acceptable level.

Unfortunately, most people, even the disabled themselves, in the third world countries are not aware that assistive technology may become their real friend in assisting them in everyday life. I would like to highlight in this article some assistive technologies for different types of disabilities; before that it is worth mentioning what an assistive technology means.

There is no specific definition of Assistive Technology (AT). It simply denotes any item, piece of equipment, or system that is used to increase, maintain or improve functional capabilities of individuals with disabilities.

The definition does not necessarily imply that AT must include computers, or that it must be expensive, or that certain medical professionals can only prescribe it. This definition permits AT to be restricted by your own creativity and imagination.
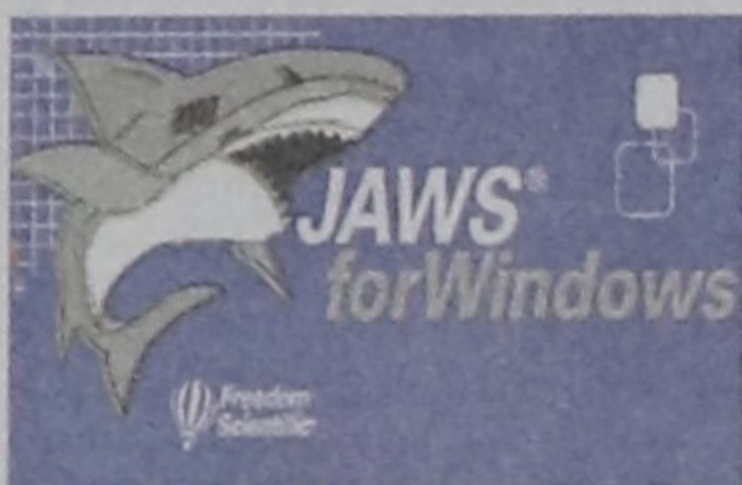
The followings represent samples of the many types of AT, grouped by the nature of a user's disability, that are available.

AT for visual impairments

Visually impaired users face a great challenge when interacting with graphical user interfaces. Typically, they use software applications known as screen readers that turn the texts, events, and elements in applications and websites into synthesised speech. For example, when a user opens a new window in Microsoft Internet Explorer, a screen reader such as JAWS (Job Access with Speech) or Home Page Reader might say "new browser window".

A physically challenged person, I took part in a specialised training program last year, where 19 other physically challenged people also participated. Of them, 12 were visually challenged. I observed with sheer astonishment how my visually impaired friends worked smoothly on computer using screen reader software like JAWS or FSB reader. They used special key combinations to move around screen in order to direct the screen what to read. By listening to this speech, they were able to understand a screen's content.

Another AT for the visually

JAWS for Windows

Home Page Reader

TDD

challenged is refreshable Braille display, which may be used as an alternative to screen reader. These devices convert screen text into Braille and display the Braille on a number of cells comprised of independently controlled pins. When editing and reviewing text, refreshable Braille displays can be much better to work with because a vision-impaired user can easily reread characters on the same line and check spelling. Screen readers are capable of reading words character by character, but the process of moving backwards in text to review and then moving forwards can be cumbersome. Despite their potential advantage, refreshable Braille displays are less common due to their higher cost.

In addition, a Braille embosser converts computer-generated text into embossed Braille output. Braille translation programs convert text scanned in or generated via standard word processing programs into Braille, which can be printed on the embosser. The results on thick paper are the individual dots that constitute Braille characters.

However, choice of appropriate hardware and software will depend on the user's level of functional vision. Put another way, it relies on the intensity of impairment. For example, low-vision users can use hardware such as large monitors, adjustable task lamp, Copyholder, closed circuit television, modified cassette recorder, and scanner to improve visibility. Moreover, this can be helpful to people who have difficulty reading or seeing self-voicing applications such as talking web browsers.

AT for the hearing challenged

Although hearing impaired individuals encounter less accessibility than the visually challenged do, they face tremendous difficulty in terms of learning, job access and social inclusion. These are due to the traditional way of learning.

However, computer technology has emerged as blessing to the hearing impaired. As computer prompts such as spoken messages and beeps can be misunderstood or go unnoticed by hearing impaired individuals, this problem is solved through the use of tools that produce visual warning when the system plays a sound and/or display captions in place of a spoken message. Light signaller alerts the computer with light signals. This is useful when a computer user cannot hear computer sounds. As an example, a light can flash alerting the user when a new e-mail message has arrived or a computer command has completed.

In addition, hearing impaired person can use TTY/TDD (Tele-

communication Device for the Deaf), which is an electronic device for text communication via a telephone line, telecare, closed captioning, teletext and multimedia projector to address accessibility problem. Moreover, newer text-based communication methods such as short message service (SMS), internet relay chat (IRC) and instant messaging have also been accepted by the deaf as an alternative or adjunct to TDD.

AT for mobility impairments

Mobility impairment refers to any condition that limits an individual's ability to navigate through their environment. Mobility assistive technology products and services for the physically challenged are used to ensure freedom of movement around the home or office. For example, persons with mobility impairment can use wheelchair or electric wheelchair to overcome challenges to daily activities. A permanent or portable ramp can also help in this regard.

In addition, alternative pointing devices allow mobility-impaired individuals to control the mouse pointer via a mechanism other than the mouse. These are typically used when someone lacks dexterity to manipulate a standard mouse. Again, some software exists that converts the keyboard arrow keys

into directional movements for the pointer. Other keys are used to signal a left and right mouse click. Besides, for individuals with severe impairments who are entirely unable to manipulate the mouse and/or use a standard keyboard can use HeadMouse wireless pointing device that converts the movements of a user's head into corresponding movements of the mouse pointer by tracking the motion of a single point on the user's head. A standard keyboard may be completely replaced by using this system in conjunction with software that produces an on-screen keyboard.

Mobility-impaired individuals may utilise speech recognition applications. This software can be used to both control applications via speech commands and as a means to dedicate text, with speech converted into text in real time.

Disability is not inability; rather, it is a blessing in disguise. If the disabled get some opportunity, they can also prove their potential in the real field. As evidenced by the above descriptions, assistive technology services address a variety of disabilities in numerous ways. Regretfully, technology, created without regard to people with disabilities, often creates undesired hindrances to hundreds of millions of people. We should know that assistive technology, or more specifically universally acceptable technology, equally yields great rewards for the typical users. One example is the kerb cuts in the sidewalk at street crossing. While these kerb cuts enable pedestrians with mobility impairments to cross the street, these also aid parents with carriages and strollers, shoppers with carts, and travellers and workers with pull-type bags.

And here in Bangladesh, though the availability of disabled friendly or assistive technology is alarmingly low, YPSA -- a specialised non-profit social development organisation -- is doing some exciting work in this respect. As a result, the organisation has been selected by DAISY (Digital Accessible Information System) Consortium, to ensure information in accessible format for people with disabilities (PWDs), especially for the print disabled. We sincerely hope that other organisations would follow YPSA's effort in this regard to make the PWDs lives somewhat easy and enjoyable.

The author, a physically challenged person, is a trainee at Thakral Information Systems Pvt Ltd, Dhaka.

TECHNEWS

Nokia unveils three new handsets

STARTECH DESK

NOKIA unveiled the Nokia N82, the latest multimedia handheld device optimised for photography and internet connectivity, along with Nokia 2600 classic and Nokia 1209, two mobile handsets that offer useful features, range of colours or exchangeable covers in the local market on January 22.

"While cost sensitivity is an important element in creating mobile devices for emerging markets, the overwhelming feedback we receive from consumers in these markets is that they want their mobile device to complement their personality and offer a range of colours and entertainment features," said Prem Chand, managing director of Nokia Emerging Asia.

"The Nokia 2600 classic offers a colorful sense of flair and a robust set of features at an exceptionally accessible price. As with all Nokia devices, it is backed by a brand that stands for quality and durability," Prem added.

On the other hand the Nokia 1209 offers additional cost management features to make phone sharing easy and convenient. Features include the pre-paid tracker, a cost-tracking application, and the multiple phonebook.

Designed for first time buyers, the Nokia 1209 incorporates Nokia's intuitive user interface, dust resistance, and offers up to 80 languages. The Nokia 1209 also has a one-piece key mat for durability and reliability.

Featuring 5 mega pixel

camera, xenon flash, Carl Zeiss optics and internet connectivity, the Nokia N82 also incorporates all the multimedia computer features common to Nokia Nseries. Like its predecessor the Nokia N95, the Nokia N82 is the latest epitome of a truly converged device that is not one thing but is many.

"The evolution of camera capabilities in mobile devices has been extremely fast over the past years. With the Nokia N82 we have reached such a superior level in image quality, speed and ease of use that not only does it outperform any other cameraphone in the market, but it's also a very credible alternative for single purpose digital still cameras," said Prem.

With the 2GB microSD card in the standard Nokia N82 sales package, you can store up to 900 high-resolution photos or up to 84 minutes of high quality video on the device.

With high speed Wi-Fi connectivity and one-click upload to online communities, the Nokia N82 makes

sharing your experiences and discoveries easy. When viewing a picture or video, simply one press of a button starts uploading it while you carry on using the device for other purposes.

The Nokia N82 comes with the new content driven 3D multimedia menu and includes a convenient orientation sensor that rotates the user interface automatically between horizontal and portrait mode. For quick and easy access to entertainment content, the Nokia N82 also supports the Ovi family of Nokia internet services, including Nokia Music Store, N-Gage games.

Nowfel Anower, marketing manager, highlighted the features of the newly launched phones at a colorful launch event while Sajid Matin, marketing manager and Shabnam Huq, manager communications, Nokia Emerging Asia were present at the occasion.

TECHNEWS

Acer unveils new products at 'Altos Café'

STARTECH DESK

EXECUTIVE Technologies Limited (ETL), the authorised business partner of Acer organised a tech showcase of Acer products denoted 'Altos Café' on January 19 at a local Hotel.

The event encompassed tech discussions and product display. During the event, Acer demonstrated their latest IT products, desktop, notebooks, server-storage, video projector and display monitors. The discussion session mainly covered Acer's software supports such as virus protection, inventory, login, and alert login.

Hi-tech gadgets from Acer such as Aspire 2920 ultra portable, Aspire 4720 NWXMI, Extensa 5210NWLMI and the

L310 Ultra-Small Form Factor PC captured the attention of the attendees.

"For the past 30 years Acer

has been serving the people all over the world with their innovative technology and support. At present Acer is probably the only brand in the market that is offering notebooks for less than Taka 50,000," said Shekhar Karmakar, business development manager, Acer India.

He also disclosed the success story of Taiwan and spotlighted their initiative, which has driven them in becoming one of the major IT manufacturing countries in the world.

Other delegates from Acer namely Sudipta Ghosh, chief customer support officer and Kamesh Kumar Roy, chief hardware support officer of Acer India also participated the gala event.

TECHNEWS

BASIS provides insights into SoftExpo 2008

STAR TECH DESK

BANGLADESH Association of Software and Information Services (BASIS), the apex body of software industry, revealed its vision and preparations regarding its forthcoming SoftExpo 2008, which kicks off on February 14, at press conference on January 22 at a local hotel.

TIM Nurul Kabir, convener of SoftExpo 2008 and director, BASIS, elaborated various issues pertaining to the upcoming exposition. He stated that, "The main goal of this year's SoftExpo is to attract foreign hi-tech companies to invest in the local market as well as pave the way for native companies to explore the global opportunities".

BASIS predicts that this year the tech showcase will draw more than 100,000 visitors and delegates. Major participants of the event are software firms, outsourcing companies, hardware solution providers, telecom

KICK OFF EVENT

companies, financial institutions and universities.

Apart from regular display BASIS will organise 8-to-10 seminars highlighting the issues such as e-governance, e-commerce, internet penetration, ICT4D etc.

This year the theme of SoftExpo 2008 -- 'Get, Gain, Grow' emphasises to transform our nation into an e-nation by utilising the immense potentials of ICT in every phase of the economy as well as the society.

Rafiqul Islam Rowly, president BASIS, Natahalia Feinberg, charge D' affairs, Royal Danish Embassy in Bangladesh, Kevin Ringham, director commercial and head of UK trade and investment in British High Commission in Bangladesh, Tomohiro Kinomoto, representative, Japan External Trade Organisation (JETRO) Dhaka, and Gulam Hossain, coordination, ICT Business Promotion Council, Ministry of Commerce were present at the press conference.

First ever laptop expo kicks off

STARTECH DESK

A three-day fair on portable devices, which is the first of its kind in the country, began at Bangladesh China Friendship Conference Centre yesterday.

Education and Commerce Adviser Hossain Zillur Rahman inaugurated the expo. Lauding the organiser for the initiative, he said, 'It's a timely endeavour. It's reminded us again that laptop has become an essential part of our busy life."

He hoped that the organiser would keep arranging such fairs in the future.

Nearly all the laptop supply firms in the country have participated in the fair. They said the fair has helped them reach out to the customers.

The expo showcases ten pavilions and five stalls. Event management company 'Maker Communications' is arranging and coordinating the entire program.

Participating firms are offering discount prices, prizes and other exciting offers. Organisers said anybody could get free access to the laptop party. The fair remains open everyday from 10:00am-9:00pm.

PHOTOFOCUS

LAPTOP PARTY

Enthusiasts throng the Toshiba stall at Laptop Party 2008, the first ever laptop fair in Bangladesh. The three-day fair started at Bangladesh-China Friendship Conference Centre yesterday.

PHOTO: SYED ZAKIR HOSSAIN