Bangla computing: a missed window of opportunity?

MUSTAK HOSSAIN

ALTHOUGH Bangla is the mother tongue of the world's fourth largest population, it is yet to find its place in the computer operating system, the country's Information and Communication Technology (ICT) experts mentioned.

Popular software makers have incorporated more than 250 languages into their operating system, but Bangla is not among them, despite the sharp rise of every day computer usage in the country and elsewhere in the world.

Operating systems handle a computer's hardware interface and its scheduled tasks, while also allocating storage and providing a platform for software applications.

ICT experts say Bangla has lost its chance to have an entry as a computer operating system language due to a lack of initiative and patronisation from the government as well as negligence in implementing the country's copyright law.

"At present, there is no Bangla software available that follows the rules of the Bangla dictionary or grammar," said Mostofa Jabbar, a pioneer in developing a Bangla interface.

"We will not be able to proceed further with Bangla language, for instance using it in various software, until we can establish Bangla in operating systems," said Jabbar.

The use of Bangla, meanwhile, is increasing everyday, with over 30 crore people using the language, mostly in Bangladesh and West Bengal. A large section of expatriates also publish Bangla newspapers abroad.

Many tribal communities, including among others the Ahomia, Monipuri, Naga, chakma, also use Bangla letters to write their ethnic languages.

Bangladesh has yet to be incorporated into the universal computer code since the country is not a member of the Unicode Consortium, a body responsible for creating a global character standard. The Unicode Consortium has

SHARIER

successfully created an International Standard called ISO/IEC 10646 for numerous languages.

A move was made by the government back in 1987 to incorporate Bangla into the universal computer code, but no progress was made since then, sources said.

"As a solution to the problem Bangladesh can obtain membership in the Unicode Consortium, as the country is already a member of ISO. So we can proceed," Jabbar said.

The Bangladesh Standard and Testing Institute (BSTI), a part of the Ministry of Industries, is by default the liaison body for the ISO, but they do not have the expertise to explain the problem to the Unicode. "Even, they (BSTI) are reluctant to seek help from the expert organisations in private sector," he added.

The consortium has developed a unified language code for all the languages in the world, since computers store letters and other characters by assigning them a number. Before Unicode was invented, there were hundreds of different encoding systems for assigning such numbers. Unicode provides a unique number for every character, no matter what the program or the language.

Global computer giants like Apple, Xerox, HP and IBM ignored inclusion of the Bangla language in their operating systems due to the absence of implementation of copyright in the country, said Akhtar Hussain, an ICT expert working for a multinational company.

Hussain said the companies lost their interest in Bangladesh despite having a huge potential market, as we are yet to be habituated to buy software rather using pirated one.

"If we can implement the copyright law then big companies will come forward to adopt Bangla in their operating system," Jabbar said.

However, after including most of the world's languages in their operating system, software giant Microsoft finally plans to release by April the localised version of its Windows operating system and its Office suite in four more Indian languages, including Tamil and Bengali. But it is unclear if the Bangladesh ICT expert community and concerned officials are aware of this fact.

Hussain said implementation of Unicode is a problem for Bangla language as the letters presently used are not Unicoded. So we need to make a combination of Bangla letters and glyphs and also a list of glyphs and its standardisation to bring uniformity and to ensure acceptance to all.

He hopes that at the end of the tunnel we can just resolve three problems with Bangla script, including "|" (dari- the stop mark in Bangla script), "||", double dari and the letter Ba without the matra.
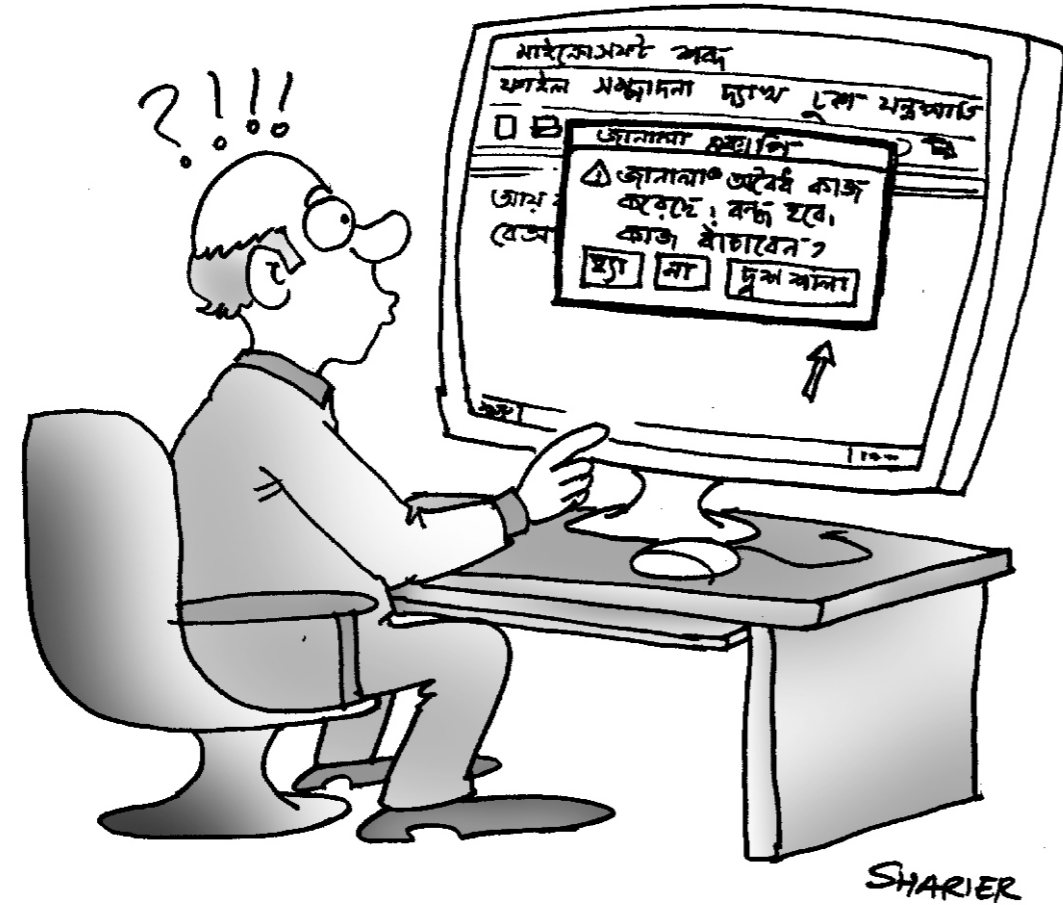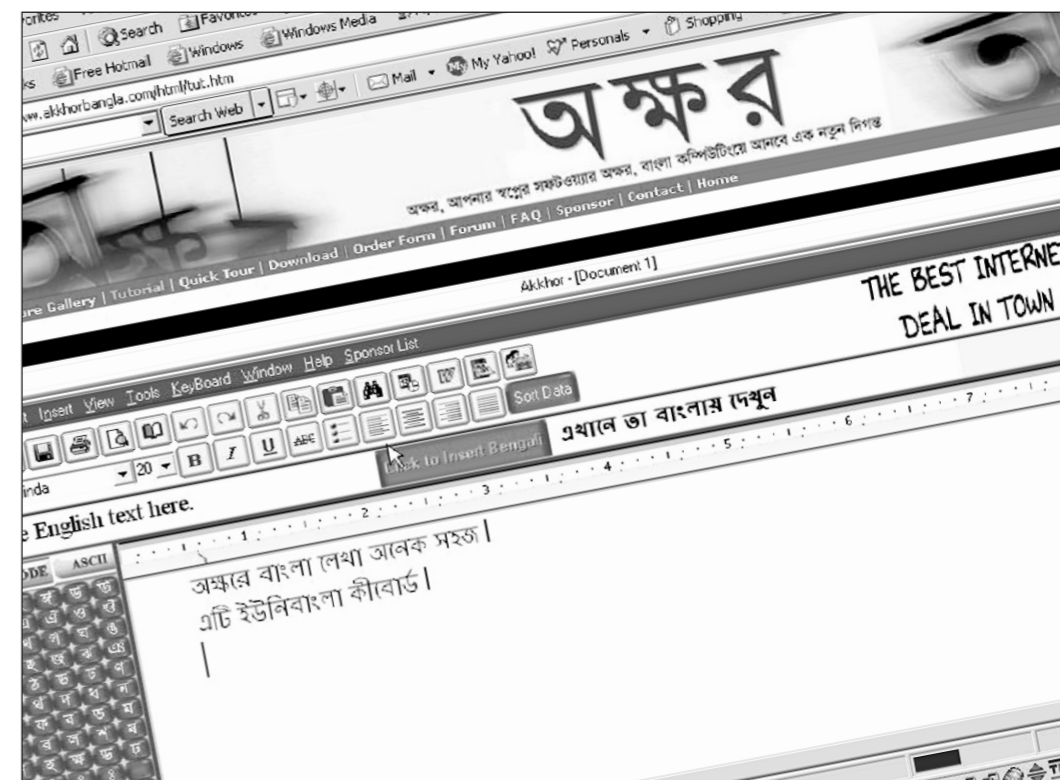
While Ekshey February has earned recognition as the International Mother Language Day, the authorities concerned are nonetheless doing little for the advancement of the language.

AkkhorBangla, getting bigger and better

RIDWAN A KABIR

MANY of you may recall the story of the eighteen-year-old tech genius Khan Mohammad Anwarus Salam, who developed a Bangla software called AkkhorBangla, published in StarTech last year. At present, Salam is a third-year CSE (computer science and engineering) student at BRAC University and it has been almost one year since AkkhorBangla has been released in the market.

In respect to February 21 and upholding the dignity of our mother language, Salam has added a user-forum in AkkhorBangla's website (akkhorbangla.com), where visitors are given the chance to download a free demo version of the software and may win a free copy of the software by submitting their opinions about AkkhorBangla after using it. "This section was introduced in February 11, and will continue till the end of the month," Salam said.

"Initially, only Bangladeshi citizens will be selected from the forum," said Salam, discussing about the selection method. "From them ten lucky users will receive a free-copy of AkkhorBangla." The process involves online registration with name and address and the selection method will be executed using a random-number generator.

"I hope this will bring in a consciousness for using AkkhorBangla in everyday computer usage," hopes Salam. It should be mentioned here that, AkkhorBangla works exactly like a Bangla word processor and can be used to write Bangla using a Bangla keyboard or just by clicking the mouse. "There is a built-in display of all Bengali alphabets and vowel notations," said the young developer. One may choose to write Bangla phonetically in English and the expressions will be picked up by the processor and displayed in Bengali.

"You may also convert any text you write into picture files using AkkhorBangla, thus there remains no problem in sending such texts in emails or using it in a web-interface," clarified Salam, while he mentioned the use of Visual Basics primarily and Visual C++ at the background for executing such commands. The processor also comes with a life-time Bangla calender, an a MP3 player with possible Bengali playlists, a keyboard manager to type in MicroSoft Word or elsewhere, Bengali typing-tutor, an Unicode converter and a Bangla reader and translator. The 'reader' reads out any Bangla word one writes.

AkkhorBangla won the first prize at the BCS Computer Showcase 2003, and after that Salam got the contract to upgrade AkkhorBangla with further enhancement. "They wanted AkkhorBangla to do a lot more than just write Bangla," Salam said. "This is another reason why I have built an online forum," he stated, mentioning how the guidance from the user-end has always made it possible for him to add new phases to the software.

Bipedal robots presented based on old-style toys, simple mechanics

AFP, Washington

BIPEDAL robots that work using the same dynamics as toys of yesteryear are more apt at imitating human steps than their more sophisticated electronic counterparts, researchers said.

Footage of three robots was shown at the American Association for the Advancement of Science annual conference here in Washington. The robots shown operate by using force of gravity, their legs acting like a double pendulum.

Small electric motors fed by an extremely low voltage battery act as joints, allowing the robots to control their steps and adapt to irregularities in the terrain.

"We can let the mechanics take care of a lot of the motion as opposed to motors," said Andy Ruina, of New York's Cornell University, creator of one of the robots.

"The concept is simple, the legs act like sticks attached to hinges and swing back and forth with a pendulum motion" -- a concept used for more than 100 years in design toys that walk down a slope without propulsion.

Another biped designed by Martijn Wisse of Delft University of Technology in the Netherlands has a pneumatic system that simulates the way leg muscles work.

The third robot, based on the same principle, was presented by researcher Russ Tedrake of the Massachusetts Institute of Technology in Boston.

His model, dubbed "Toddler" is more computer-based, allowing it to walk on its own.

"It can walk on a variety of terrains. It evaluates how to walk and adjusts."

All three robots use very little power to operate.

Use of the experimental machines involved development of more sophisticated and efficient artificial legs, researchers said.

"If we understand how humans move, we can develop more advanced rehabilitation," said Tedrake.
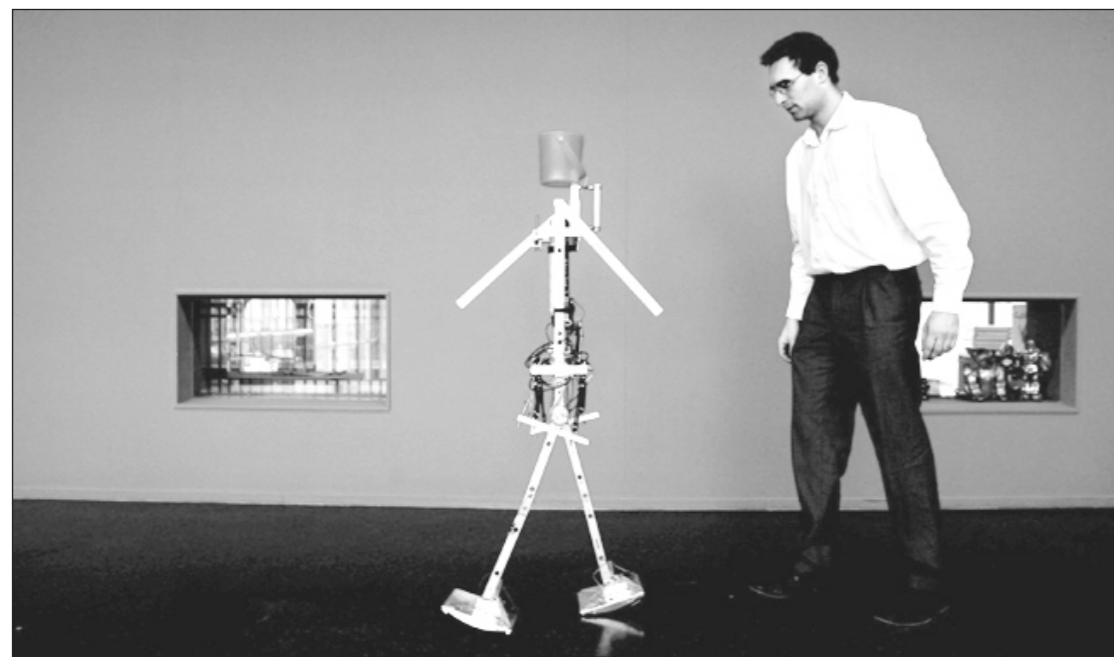

PHOTO: AFP

Robot Denise walks in a science center in Dutch, The Netherlands, next to Dutch researcher Wisse on February 17. Denise is the first two-legged Robot that can move on a flat floor with a minimum of electronics and bottles carbon dioxide gas.

NCCPB-2005 hopes to standardise Bangla

SAAD HAMMADI

STANDARDISATION of Bangla in computing is an important area of research for those of the same nationality. Last year's success of the National Conference on Computer Processing of Bangla (NCCPB), Independent University, Bangladesh (IUB) initiated the event annually. The event is primarily to put together the research of IT specialists in computer processing of Bangla (CPB) and the second conference was held at the Bangladesh Institute of Administration & Management (BIAM), last Friday.

Dr. M. Lutfar Rahman, professor of computer science and engineering, Dhaka University chaired the event, while chief guest, Prof. M Asaduzzaman, chairman, University Grants Commission, special guest, Prof. Bazlul Mobin Chowdhury, vice chancellor, IUB, guest of honour, Abul Ahsan, vice president, IUB and Prof. Mohammed Anwer, director, school of engineering and computer science, IUB graced the occasion.

"Computer has become an essential part of our lives but we seem reluctant to bring into use our own language. The introduction of Bangla will help native speakers to become computer literate," said Prof. M Asaduzzaman.

Many research papers were submitted in this field from academic and research institutions in Bangladesh, India and other institutions abroad. After careful scrutiny 36 papers and two keynotes are selected for the conference and are published in the conference proceedings," said Dr. Rahman.

Prof. Abdus Sobhan, of the applied physics and electronics department, University of Rajshahi, presented one keynote paper that discussed the policies and technological issues on computer processing of Bangla.

He said: "Among policy issues, standardization and adoption of the standard Bangla keyboard preceded others."

Other issues were creating a website for CPB and maintaining it with documents and related abstracts, funding for R & D and organising workshops.

"In course of time compatible software in Bangla speech to text would be developed," said Prof. Sobhan. "Bangladesh is closely associated with a few regional forums and translation software would definitely have a good impact on the countries' trading and other agreements across the border," he added.

The second keynote paper described a complete script of conjunct-free structure of Bangla letters Nobobangla -- developed by Shah M.Musa, a scientist at Intel Corporation, Santa Clara, CA, USA.

The purpose defined for this conversion of habitual Bangla characters to Nobobangla is that conjunct characters generate a large number of symbols, making it difficult for a user to learn and use them effectively.

Scholars and experts say that there are over 900 conjuncts in Bangla. With the invention of Nobobangla, its interface with the computer can be directly based on ASCII keyboard.

ASCII stands for American Standard Code for Information Interchange where the keyboard layout is presented sequentially like the English alphabetical order and Nobobangla characters will follow suit.

The Nobobangla script has only 47 symbols compared to more than 900 in Bangla making it easier to learn and use. The phonetic analyses have been considered for pronunciation of Bangla words using International Phonetic Alphabet (IPA) symbols. Nobobangla has reduced the vowels in Bangla from 11 to just seven vowel characters.

The changes hopefully will bring a new dimension in the field of Bangla computing.

From left Abul Ahsan, vice president, IUB Prof. M Asaduzzaman, chairman, University Grants Commission, Prof. Bazlul Mobin Chowdhury, vice chancellor, IUB, and Prof. Mohammed Anwer, director, school of engineering and computer science, IUB are seen at NCCPB-2005.