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Message from the Chair of the President

As both the English and Bangla names - Society for Natural Language Technology Research and ভাষা - প্রাকৃতি প্রস্তুতি পরিষদ indicates that our main objective is research on Natural Language Technology Development and their dissemination for the benefit of our society and country. This Newsletter is aimed at reporting some of the achievements made by SNLTR. The achievements include; Standardization of Bangla Fonts and Codes, Conversion of Bangla Legacy Documents, Baisakhi Linux, Bangla Keyboard-layouts, Baisakhi for Windows, Rabindra Rachanabali on the Web, Anwesan and some Educational software, etc. The newsletter indicates some of our on-going projects and upcoming events; our interactions with the Asiatic Society, Bangladesh and "Bangla Beyond Borders" in USA are indications of our international outlook about Bangla and its cognate languages.

I would like to emphasise the necessity of serious research on Science of language in the 21st century. The works of Noam Chomsky triggered a surge of activities in cognitive linguistics. However not enough research has been initiated for the Indian languages. The discovery of relatedness of the members of the Indo European family of languages presents a challenge to look at the different Indian languages through a common perspective. More over in the context of emerging web civilization in my opinion the need for a computational model of Language Learning and Evolution is imperative.

I hope that this newsletter will be instrumental in creating a bridge between you and SNLTR. We welcome your suggestions and participation.

D. Dutta Majumder
President, SNLTR

Message from the Chair of the Director

It is a great pleasure on my part to see the first issue of the SNLTR Newsletter see the light of the day.

In an era, when computers have become a basic ingredient of daily life, language technology must rise to the occasion, enabling local languages be accommodated in the daily computer use. The Society for Natural Language Technology Research (SNLTR) was formed with the aim to foster the development of technology, tools and resources for making computer usage in local language possible. The objectives also included making a rich corpus of on-line literature and documents in Bangla, available in standarized format, so that they can be accessed and used across platforms. As the newsletter will show, we have been able to meet some of these objectives, albeit to a limited extent and we have a long journey ahead.

The objective of the newsletter is to bring the news about the development at SNLTR on your desk, seeking your criticisms, suggestions and support.

Anupam Basu
Computer technology is now an obvious part of day-to-day human activities. This technology is used either as a tool for several applications or as a discipline of research in the contemporary mainstream academics. In all respects, the primary medium of interaction with computers still is English. Consequently, a large section of the population in the multilingual country like India is not able to reap the benefits of the technology. The multilingual scenario of India is where the Governmental statistics has specified 122 languages and 234 mother tongues with speakers' strength of 10,000 and above at the all India level and has scheduled 22 national languages in the 8th schedule of the Indian constitution according to 2001 Census. Though the issue of localization of interface has been discussed in different forums, the goal is yet to be achieved.

In spite of the fact that desktop publishing has come of age for Bangla and other Indian languages and there are several software available for Bangla, the problem persists due to the absence of i) standardization of Bangla encoding, ii) encoding compliant font design, iii) availability of compliant keyboard layouts etc.

The lack of adherence to standard does not allow the computing activities in Indian languages to be inter-operable across computing platforms.

In order to make the computing activities Bangla compatible, it is essential to establish a proper standard. Though a number of organizations have taken up language processing activities, the necessity of establishing proper coherence among them is very much felt, in order to deliver useful Products. Language Technology research has to focus on two components, written texts as well as spoken languages. Besides text processing, speech generation and recognition are two very important areas in which research and development have to be focused. This development will not only result in more natural human-computer interfaces, but will also empower the physically challenged like those with speech impairment and visual impairment, to benefit from computer technology and this would be, in turn, a meaningful venture towards language maintenance in this country of numerous languages.

We are now planning also to engage common users, mainly the students who are more habitual than the others in working with the computers. Most of the students, at the higher level of studies very actively use computers and they are also inquisitive to know how the basic problems what language technology reveals.

The Society for Natural Language Technology Research is doing research and development keeping the above mentioned requirements in mind. SNLTR is an initiation of Government of West Bengal to develop computer technology for and of Bangla Language, although, operationally, it aims to carry out its activities in a multipolar manner, involving other academic and research institutes as well as industries.
Recent Collaboration with the Asiatic Society, Bangladesh (5th May, 2010)

The Asiatic Society, Bangladesh and the Society for Natural Language Technology Research, Kolkata, jointly start a venture to work together on Bangla NLP issues. The occasion was inaugurated in a round table meeting arranged by the SNLTR, Kolkata in the presence of the honorable members of both societies on 5th May, 2010 at Rabindra-Okakura Bhavan, Bangla Akademi, Kolkata. Prof. Sirajul Islam, the President of the Asiatic Society, Bangladesh was delighted in the issues to be taken over to solve the existing problems regarding the technology with Bangla Language. Prof. D. Dutta-Majumder, the President of SNLTR; Prof. Pabitra Sarkar, Vice President of SNLTR, Prof. B.B. Chaudhury, Vice President of SNLTR and Dr. Debesh Das, the honorable Minister-in-Charge of the Department of IT, Govt. of West Bengal were present there and Md. Abul Hasan Mridha, representative of Bangladesh High Command were also present at the meeting.

Regarding possible joint ventures on the following issues were discussed on the table by the distinguish personalities (a) making Bangle Unicode competent (b) developing a Bangle OCR for commercial release (c) developing a Bangla speech synthesizer (d) conducting a through survey of Bangla dialects, etc.

Formation of a sub-committee for the collaborative ventures was suggested. A joint workshop could be a good start in this direction. While discussing about the mode of

The workshop, the following tracks were suggested and agreed upon for discussion by the sub committee:

- Spelling, Font, Orthography
- Bangla Encoding issues and Unicode compliance; Bangladesh to become a member of the International Unicode Consortium.
- Bangla OCR system for commercial release
- Bangla Spell Checker software system.
- Bangla Speech synthesizer with specific applications.
- Compilation of Bangla Electronic Dictionary
- Bangla dialects study in Bangladesh, Tripura, West Bengal and Assam.
- Information Retrieval System and Search Engines developed by SNLTR to be further experimented for other applications.
- Universal Networking Language (UNL) and other state of the art Machine translation technologies.

Inauguration of Online Rabindra rachanabali in Unicode 5.0 format
2nd February 2010

Society has fixed up its motivation to digitize the ever prominent Bangla Literatures which are out of the protocol of copyright. The significance is that the process of digitization would be made through an international encoding standard Unicode 5.0, which will be easily accessible to public on Internet.
With this motivation SNLTR has done a great job of doing such with the works of Rabindranath Thakur. The Rabindrarachanabali has been digitized in Unicode format and open to public since 2nd February 2010 at http://www.rabindrarachanabali.nltr.org/. This gigantic work had been taken care of BESU and inaugurated by Sri Buddhadeb Bhattacharya, Honorable Chief Minister West Bengal, on 2nd February.

Another fascinating move of the Society is to upload swaralipi for each of the Rabindrasangeets online with the Rachanabali. Future would afford instrumental melodious distribution of swaralipi in a click.

A collage of newspaper reports on the release of online Rabindra-rachanabali by Sri Buddhadev Bhattacharya, Honorable Chief Minister, West Bengal.

Lecture Series on Natural Language Processing 26th June, 2010

Organised by the Society for Natural Language Technology Research, Kolkata, the First Lecture titled “Universal Networking Language (UNL): Foundation and Applications” of the series mentioned-above, was delivered by Prof. Pushpak Bhattacharya Computer Science and Engineering, IIT, Mumbai. UNL, the focal theme of the lecture, is a deep semantic representation which was proposed as a way of representing multilingual information in a text. It is subsequently used for machine translation, keyword extraction, context based search etc. In this lecture the fundamentals of UNL and its application to machine translation and search were demonstrated. Topics of the discussion include the foundation issues like Semantic Relations, Universal words, Attributes, UW dictionary and Wordnet, Language Divergence Theory, Semantically Relatable Sets, UNL Extraction from Text, etc. Prof. Bhattacharyya also touched upon the application part of UNL, which includes Interlingua Based Machine Translation, Sentence Generation from UNL Graphs, Use of UNL in Statistical Machine Translation, UNL in Search. The lecture was delivered on 26th June, 2010 at Sisir Mitra Hall, WEBEL Bhawan, Block-EP &GP, Sector-V, Salt Lake City, Kolkata-700091. It was well attended by the executive members of the Society as well as academicians from various disciplines and dignitaries.
Participation in 34th Kolkata Book Fair 2010

The International Book Fair in Kolkata has already carved a niche in the cultural milieu of the city and its popularity can only be compared to that of the Durga Puja, the biggest festival of the State of West Bengal. This year the Book Fair was held from 27th January to 7th February at the Milon Mela Ground on the EM Bypass. This fair is of books from all corners of the world with booklovers visiting in hundreds not only to browse through the books and buy a few but also to share some moments of bonhomie amongst friends. Like previous years this year also SNLTR was present in the IT Park at the book fair ground with a platter of its products. SNLTR demonstrated all its products and research activities. In the Book fair the online version of the Rabindra Rachanabali, a Unicode compliant online repository of all the works including the songs and notations of the first Nobel laureate of the country in its original Bangla language, was inaugurated (http://www.rabindra-rachanabali.nltr.org). For Linux-friendly people presentation as well as a demonstration sessions of Baishakhi Linux (both software and hardware) were arranged. For school students, Computer Based Training (CBT) programme for English for class V, VI, IX and X was displayed electronically. Apart from IT products the Society also published an edited book titled Bhasha-Prayukti during the book fair. An exhibition demonstrating the Evolution of Bangla Language was also on stand during fair days.

Participation in the other Regional Book Fairs in 2010

A part from the famous as well as the central book fair of Kolkata, there are several regional Book fairs in West Bengal. These local book fairs are of books from all corners with the local enthusiasts visiting in hundreds not only to glance through the books and buy a few but also to contribute to some moments of affability surrounded by the friends and other book lovers. Aside from the book-stalls, there are stalls of fast food, sweets and tea and also some stalls for the craftsmen who come from the near townships and villages. The local book fairs also associates little magazine enterprises which is an integral part of those Fairs.

2nd Ranaghat Book Fair and 10th Uttarpara Book Fair: Humanitic Welfare Society, Ranaghat, one of the out-reach partners of SNLTR on the behalf of the SNLTR has participated in the 2nd Ranaghat Book Fair organized by the Ranaghat Baimela Parshad. Including around 100 stalls, this book fair was held from 12th to 21st November 2010 in the Sasthonnati Maydan, Ranaghat. Same way Mrs. Sujata Majumdar has represented SNLTR in the 10th Uttarpara...
Revisit

"The Govt. of West Bengal realized the necessity of building up the foundation of localization technology and natural language processing technology and building e-applications in Bangla to make e-governance a reality for the common people in West Bengal and the neighboring states. The Govt. of West Bengal has set up the Society for Natural Language Technology Research (SNLTR) with this objective and mission. It is an autonomous society seeded and funded by the Govt. of West Bengal, that is dedicated to develop standardized tools and systems and deploy them to the grassroots organizations like the Panchayats, so that the rural, non-English savvy people are no longer deprived of the benefits of information technology. We felt that it is essential to adopt a standard for all such developments, to make the systems interoperable across platforms. Presently, the tools that are available for local languages follow different standards of their own and consequently a document developed by one system is often not readable in other systems, unless the required specific software is available with the reader. SNLTR has decided to adopt Unicode 5.0 and above for all the developments. In adherence to this standard, SNLTR has developed the required fonts for rendering and different keyboard layouts to serve as the input mechanism. The users may select the keyboard layouts of their choice and irrespective of their choice all the data will be stored in the Unicode 5.0 format, that can be read and edited through any machine, since all the systems now has adopted that standard. SNLTR is also a full voting member of the Unicode consortium and its representative attends and suggests different modifications to the international standard. We have been able to convince the Unicode consortium to adopt the term Bangla instead of Bengali."

A Speech delivered by Dr. Debesh Das, Information Technology Minister, Govt. of West Bengal, on 8th September 2009

"Ask a Bengali what in his/her bookcase does he/she treasure most? And the answer will be the sixteen volume set of Rabindra Rachenabali, that is, the complete works of Rabindranath Tagore. ... The Society for Natural Language Technology Research (SNLTR) ...made the entire published works of Tagore (Rabindra Rachanabali) available online through their website http://rabindra; Rachanabali.nltr.org. No longer do you have to carry along with you the heavy volumes; neither do you have to spend money to buy them. Online Rabindra-Rachenabali is free. The website was released to the public on 27th January 2010, at the Kolkata Bookfair.

According to Prof. Anupam Basu, the director of SNLTR who spearheaded this project, Rabindranath should be accessible to
anybody and everybody who wants to read in Bangla. A professor at the department of Computer Science and Engineering of IIT Kharagpur, Anupam leads a series of projects to enable computing in Bangla. He and his team has developed Baishakhi, a unicode compliant keyboard that enables one to type in Bangla, and also enable web browsers to render Bangla in a clean and uncluttered manner. The entire Rabindra rachanabali project has been developed using Baishakhi and has been implemented by MAT3 Impex of Kolkata. The project had an initial seed funding from the Govt. of West Bengal, and had also received support from several organizations like IIT Kharagpur, ISI Kolkata, Jadavpur University, BESU, C-DAC, IBM and Microsoft Research, India."

(Exerptsfrom http://www.jbengali.com/archives/456)

"Dr Debesh Das, Chief Patron of SNLTR- a society under the Government of West Bengal, lauded the initiative of the Union Ministry of Communications and IT in the roll-out of software tools and fonts for all the 22 official Indian languages and said that "The initiative will accelerate the adoption of Information Technology among the masses. What seemed hitherto out of reach will now be available in the language of the people, and is sure to provide a boost to Indian language literature". Baishakhi Linux CD developed by SNLTR was also released at this function."

(Source: http://www.cdac.in/html/press/3q09/prs_r1186.aspx)

"The Society for Natural Language Technology Research (SNLTR) is a part of government's initiative to popularise Bengali language and literature with the help of modern information technology," IT Minister Debesh Das said."

Success of SNLTR

Standardization of Bangla Fonts and Code

In order to make computer applications, such as Document Processing, E-mailing, Calculations possible in Bangla and interoperable across different computing platforms, it was necessary to establish a standard for encoding the data. SNLTR has agreed to adopt Unicode 5.0 and above as the standard for different e-governance applications and this is also in parity with the international practice and standard. This is in direct contrast with the plethora of non-standard Bangla software proliferating the market which hinders interoperability across different computers.

Conversion of Legacy Documents

There is a huge repository of Bangla digital documents that were not prepared in accordance with the Unicode 5.0 standard. These documents have been written in non Standardized fonts, or written in other conventions that are not based on Unicode compliant systems. Hence, any system that is not compatible with any of these fonts or encoding standards could not display Bangla texts properly. To have the benefit of this large corpus of information and data for further use, SNLTR has developed a number of code-conversion software that can convert the electronic version of legacy data to the Unicode 5.0 format.

(Source: http://www.expressindia.com/latest-news/Govt-forms-society-to-develop-software-in-Bangla/358688/)
**Baishakhi Linux**

Based on the standards defined by SNLTR, a Bilingual version of the Linux Operating System was developed and named as বাইশাখী লিনিক্স (Baishakhi Linux). This operating system is open source and is based on Ubuntu flavor of Linux. Any desktop or laptop can have Baishakhi Linux as the operating system. This operating system allows any user to be able to do all possible operation and computations that are supported in other Linux based systems.

The Baishakhi Linux operating system supports all the available features of office works, such as Document Preparation, Presentation Preparation, Spreadsheet Computation, E-mail facilities, Web browsing etc. Further, these operations can be carried out in a Bi-lingual mode that is, both in Bangla as well as in English. Baishakhi Linux is distributed for free.

**Bangla Keyboards**

In order to facilitate data and document entry in Bangla, a number of keyboard layouts have been designed and implemented to suit the needs of different people habituated with different typing practices. The suite of such keyboards is being increasingly upgraded. The salient feature of all these keyboards is that they are all Unicode 5.0 compatible and hence any document entered through them is acceptable across any standard platform and can be visualized through any Unicode compliant Bangla fonts. SNLTR has designed a new Bangla keyboard named “Baishakhi Keyboard”, which has a 3-layer keyboard structure, with Normal, Shift and Right Alt modes, designed to accommodate all the characters of Bangla alphabet and signs.”. The keyboard layout is mostly phonetic in nature.

**Baishakhi for Windows**

Although the penetration of the Windows operating systems is still more than that of the Linux operating systems, there do not exist too many popular tools (like, Keyboard layouts, keyboard layout Viewer, Fonts etc.) for typing Bangla that follows Unicode Standard in Windows operating system. Thus, SNLTR has developed a number of tools, available in a CD, which can be installed in any PC with Windows XP or Vista, to enable users carry out Office applications, such as Document preparation, PowerPoint presentation preparation, Excel Spreadsheet computations, E-mailing, Web browsing, in Bangla. The CD contains the following Tools:

E-mailing, Web browsing, in Bangla. The CD contains the following Tools:

- Keyboard Layouts
- Soft Keyboards
- Font Installer
- Bangla firefox 3.0
- Bangla OpenOffice 2.4(Windows)
- Bangla sahayika

**Rabindra-Rachanabali (with an integrated Information System)**

Rabindranath Thakur is one of the representative icons in cultural genealogy of Bangla tradition. Thus Rabindra-Rachanabali has an immense importance to all Bangla literature readers. Society for Natural Language Technology Research (SNLTR) has taken the opportunity to digitize and publish Rabindra-Rachanabali through its own official website for Bangla readers. There are
so many trends in digitizing Bangla literatures like Rabindra-Rachanabali which are mostly in non-Unicode standards or specific software-dependant. But SNLTR has undertaken the prime responsibility of preparing a UNICODE 5.0 compliant on-line digital repository of the complete literary works of Rabindranath Thakur along with an integrated Information System. This repository is available at rabindra-rachanabali.nltr.org.

Anwesan

The goal of this project is to develop an engine for indexing and searching Bengali language text. The documents may be searched by any user based on keywords and other metadata like, author, characters, genre, etc. The system also provides a mean of archiving, where literary collections would be submitted and grown over time. The system operates as a web based service that may be accessed from any part of the world. Unlike a simple search facility the system ranks the matched documents in order of their relevance to query. The system is very useful to general readers of Bengali literature as well as researchers of Bengali language and literature who can perform comparative studies on different aspects. Also, this helps propagate awareness of Bengali literature to the digital generation.

System consists of following components:

- Query processor
- File handler
- Metadata handler
- Indexer
- Search Engine
- User Interface
- Backend Database

Educational Software and Contents

SNLTR has done the task of developing Multimedia CBTs for school students, based on West Bengal Board of Secondary Education curriculum.

- CBT for English for Class V
- CBT for English for Class VI
- CBT for English for Class IX
- CBT for English for Class X

Another CBT has been developed to facilitate the computer user at the beginning level to know about the history of the computer and how to use various applications of Linux operating system in Bangla.

For College Students: Addressing the need of the educational software for Science and Engineering Education at the undergraduate and graduate college, SNLTR has prepared a collection of equivalent open-source software and have tuned them for use in the colleges. The set of tools christened “Saraswati” (সারস্বতি) is a collection of standard open source based educational application packages available over internet. This was aimed to implement at the degree colleges followed by training to the subject teachers. The implementation process has two stages: Installation and Training.

Unicode (Bangla) support for Adobe InDesign CS4

Regular Adobe InDesign CS4 supports unicode, though it could not render Bangla properly. To overcome this problem, SNLTR-Team has built a system of support which enables hidden composer namely “Adobe World-Ready Paragraph Composer”. This composer is responsible for indic support in Adobe InDesign Cs4. This script is mainly written for Bangla Language, but it also supports other Indian Languages like Hindi.
Bangla Banan Sahayika

Bangla Banan Sahayika is a web application that helps users correct the misspelled words in Bangla.

On-Going Projects

1) **Web Browser for the Blind**, an open source web browser for the visually handicapped people, is a project, which is started jointly with IIT, Kharagpur. The objective of this project is to build a lightweight web browser with special features that can be easily accessible by the visually impaired people.

2) **Sahaj Linux** is also a joint venture between SNLTR, Kolkata and IIT, Kharagpur. Sahaj Linux is a lightweight, user friendly, bilingual (Bangla and English) Linux distribution based on Ubuntu latest edition. The primary motivation behind building the Sahaj Linux OS is to allow school children, beginner level computer users and people with low literacy to access desktop computers easily.

3) The project **Robust Bangla Spell Checker** aims at developing a robust spell checker for Bangla that will be useful for different Bangla application the technology developed should be suitable for use with editors and office applications.

4) The goal of the **Anwesan** project is to develop an engine for indexing and searching Bangla language texts. The documents may be searched by any user based on keywords and other metadata, like, author, characters, genre, etc.

5) **Multidimensional Corpora**, goal of this project is to systematically archive electronic language resources developed so far in Bangla Language as well as in English Language along with a bilingual search engine.

6) **CBT on Mathematics**, WEBEL Informatics Ltd. aims to develop the multimedia lessons of Mathematics for the standard of Class IX and X following WBBSE-Syllabus.

7) **Swarabitan**: This is a project which aims at (1) the digitization of the swaralipis of Rabindra-sangeet available in the Swarabitan volumes, published by Visvabharati and (2) developing a swaralipi-editor that enables users to edit a swaralipi. The digitization of the swaralipis has been completed and any one can access these on line at [http://rabindranachabali.nltr.org](http://rabindranachabali.nltr.org)

8) **Bankim Rachanabali**, Like Rabindranachanabali, SNLTR is digitizing the works of Bankimchandra Chattopadhyay. This is also in Unicode and will be freely available online.

Up-Coming Events

- **Digitization of Bangla Classic Literature** for the online repository in Unicode: Targeted literary personalities are; Saratchandra Chattopadhyay, Kaji Nazrul Islam, Vivekananda, Sri. Mahendranath Gupta, Sukanta Bhattacharya and Upendra Kishore.

- SNLTR is actively planning to bring out an **International Journal on Linguistics and Language Technology** from Kolkata. We hope in the next issue of the SNLTR-Newsletter we shall be able to give the exact date of the first publication of the journal. We hope this will be a good help for the researchers, student communities concerned of India and abroad and call upon the researchers to contribute their original research papers to the journal.
• Upcoming CBTs: CBT for Mathematics for Class IX and Class X, CBT for English for Class VII and Class VIII.

• Bangla OCR: This project is aiming to develop a software for Bangla printed text scanning and editing.

Reader's Response

_Bhasa-Prayukti: Bhasabijnan o Prayukti_  
_Bisayak Prabandha-Sankalan_

Edited by, Anupam Basu, Tirthankar Dasgupta and Sibansu Mukhopadhyay  
Published by Society for Natural Language Technology Research, Kolkata  
Published in January 2010  
Price: Rs. 150.00 INR

Response from Sumit Das, CSE, IIT, Kharagpur

Computational linguistics is a science of human-machine communication in real-world situations, with an ultimate goal of constructing cognitive interactive systems. The different linguistic issues can be captured by different computational models and these are the subjects of interest of computational linguistics. This book explains the need of computer linguistics researches in very easy language. The native speakers of Bengali can get these ideas easily from this book as this is written in Bengali. The different issues and difficulties faced in NLP researches in Indian languages, mainly Bengali, are discussed well here. The article on language evolution by Dr. Monojit Chowdhury is very interesting. The other articles on different linguistic phenomenons in Bengali are also discussed well in details. Overall this book is written in such a way that the readers who are amateur to the field natural language processing can understand the topics quite easily.

Announcements and Notices

Ray on WEB

In its maiden effort to bring technology and culture closer, SNLTR is all set to start a new venture of creating an interactive digital archive of Satyajit Ray's screenplays. To start with, the screenplay of Goopy Gyne Bagha Byne (GUGABABA) will first go onto the web. This will be a multidimensional website with the scanned images of the Ray's handwritten pages of the screenplay along with the music, video clippings, still photographs, etc. This is expected to be the first ever most extensively designed website on the doyen of Indian Panorama, Satyajit Ray.
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Society for Natural Language Technology Research (SNLTR)

ভাষা-প্রযুক্তি গবেষণা পরিষদ

(প্রক্ষেপকরণ সরকারের ভাষা-প্রযুক্তি ব্যবস্থার একটি সংস্থা)

পরিষদের লক্ষ্য:
- কম্পিউটারের ব্যবহারকে বাংলা-সম্পর্কে তুলনামূলক প্রভাবিত করা।
- প্রশিক্ষণে ভাষা-প্রযুক্তি বিষয়ে শিক্ষার ও গবেষণার পরিকল্পনা গড়ে তোলা।

পরিষদ ইতিমধ্যেই যা করেছে
- উইন্ডোজ (উইন্ডোজ-7, উইন্ডোজ-ডিস্ট্রিবুটর, উইন্ডোজ-XP(SP-2)) এবং লিনাক্সে ইউনিকোড নতুন উপায়ে বাংলা লিখার জন্য বিভিন্ন রকমের কী-বোর্ডের সু-আউট।
- বিভিন্ন ভাষায় উদ্যোক্তকে বাংলা টাইপন জন্য বিভিন্ন-কী-বোর্ড চালিত যা করা।
- বিভিন্ন USB-কী-বোর্ড।
- বিভিন্ন লিনাক্স ২.০ [একটি ডিভার্সিফাইড ইংরেজি ও বাংলা] অপারেটিং সিস্টেম।
- বোর্ড-কনট্রোল (পারমিতে উইনিকোড, উইনিকোড থেকে সম্পন্ন)।
- ইউটিটেল CS4-এ ইউনিকোড বাংলা লেখার উপর।

খুব নিত্যই পাওয়া যায়ে
- বাংলা স্পেল-চেকার (Spell Checker)
- আ-পার মার্কিং বক্সলিপি এডিটর

কম্পিউটার-নির্বাচন প্রশিক্ষণ
- প্রশিক্ষণ মাধ্যমিক প্রশিক্ষণের পাঠ্যক্রম অনুযায়ী করে এবং অন্য জন্য কম্পিউটার-নির্বাচন প্রশিক্ষণের ঘটনা:
  > ইতিমধ্যেই সিডিতের ব্যাপার দেখা: CBT for English for Class V, Class VI, Class IX, Class X
  > এর সঙ্গে পাওয়া যায় বাংলা লিনাক্সের সেলব লিনাক্স
  > বৃহৎ শিক্ষার প্রক্ষণের জন্য: CBT for Mathematics for Class IX, Class X
  > এবং English for Class VII, Class VIII

পরিষদের ওয়েবসাইটে পাওয়া যাচ্ছে
- ইউনিকোড-সম্পর্কিত আলাদা সম্পর্কিত সংস্থান দেশ নিয়ে তথ্য সরবরাহ করবে।
- উপযুক্ত জন্য ওয়েবসাইট: www.rabindra-rachanabali.nltr.org
- বিতর্কের বঙ্গীস্বর এবং সম্পর্কিত নাম তথ্য দুই পাওয়া সাভার
  > “অনুপ্রাণিত”-এর সূত্র

§ উপরে বিবিধ পদ্ধতি পরিষদ নির্মাণ করেছে। আর নিত্যই নিয়মিত এই সময় সামরিক ইনিয়ার্ণ বিন্যাস, এগার এবং কর্মশালা আলোয়ারের যাচ্ছে চাইলে নীচের ঠিকানায় আমাদের সাহায্য চাইলে যোগাযোগ করুন।

> আমরা প্রাক্তন করেছি “ভাষা-প্রযুক্তি” বিষয়ক একটি পুরুষী বই। বইটির নাম: “ভাষা-প্রযুক্তি: ভাষাবিজ্ঞান ও প্রযুক্তি বিষয়ক প্রথম সংকলন।”

ঢাকায়: মডিউল — ২০, এস. ডি. এফ. বিশ্ববিদ্যালয়ের, সেন্টার ফাইল্ড, সড়ক লেক, কলকাতা ৭০০০৯১
টেলিফোন: +৮১ ৩৩ ৬৫৩২২২৩ / ৩৩৭৭৮৪৪ ই-মেল: info@nltr.org ওয়েবসাইট: http://www.nltr.org