10. Globalisation for an on Demand World

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New worlds demand new solutions—but how do you maintain and enhance your business competitiveness in a highly dynamic market scenario?

In the on demand world, change happens faster and more unpredictably than ever before. To stay competitive, e-business needs to move with it. IBM understands how technology and business processes interact. With a clear vision of the On Demand strategy, IBM emphasized the need for 'on demand' readiness to meet the business and customer requirement. IBM's On Demand solutions enable customers to effectively respond to their ever-changing business environments as a strategic necessity. On Demand software, hardware and services enable customers and users to maximize their flexibility in a fast-changing world. As a part of this, enabling customers to serve their international customers in the user-environment of their choice is critical to our strategy.

In line with the above strategy, we believe non-English users and customers in India will demand the same level of usability from applications as English-speaking users have. This will enable users to:

For plenty of advice and information, see: http://www.ibm.com/software/globalization and http://www.ibm.com/ondemand

This article concentrates on our capabilities to provide solutions in Indian languages

Local Language Computing

For over thirty years, IBM has been a pioneer in human language technologies. Local Language Computing expands the scope to a vast segment. All IBM's offerings are internationalized to support the local language of the area in which they are used. Recently IBM announced the taking of Multi-Lingual technology to PDAs (personal digital assistants) and give handhelds a multilingual voice. IBM ViaVoice Translator software for PDAs that use Microsoft's PocketPC operating system will now translate English to and from German, French, Italian and Spanish. We will continue to bring in innovative technologies in the future to expand the scope of multi-lingual computing.

India challenge

India is a land of diversity. There are 18 official languages and numerous other spoken ones. IBM provides support for 11 Indian languages (in 9 Indian scripts) for our offerings. These languages are - Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Oriya, Punjabi, Hindi, Tamil and Telugu (in alphabetical order)

Indian language support – Benefits

IBM helps companies leverage their expertise in efficiently connecting with employees, partners and customers in the environment that maximizes collaborative efficiency. Local Language computing will help customers work in a fully functional Indian language environment that enables them to transact functions like: e-government services, banking, ticket-reservations, customer-service, bill-payment, identity-management, etc.

1. Use egovernance services like Land Records Applications, Provident Fund, Voter Registration, Regional Transport Offices, etc. in their first language.
2. Use e-choupals to transact agricultural business more effectively.
3. Receive interactive agricultural expertize from farmers' co-operatives like IFFCO.
4. Have a higher level of interaction from newspapers like Hindi Milap, Malayala Manorama, Ananda Bazar Patrika, Sanjh Savera, Gujarat Samachar, Kannada Prabha, Dharitri, etc.
5. Make reservations online for journeys, entertainment, online education courses, etc.
6. Acquire higher education more effectively though distance learning.

Sectors benefiting from this initiative

The government along with other business sectors like Banking, Financial Companies, Call Centers, Airlines, Railways, etc. can benefit from Local Language Computing. Anybody having an e-business for India will have to offer Indic languages to its customers and partners sooner or later.

IBM Software support for Indian languages

Furnished the software support that IBM offers for Indian languages

1. Lotus Notes and Workplace: Promotes effective collaboration and communication between your users.

Value: Rise in productivity and user-satisfaction.

2. Universal Database DB2 Data and Content Management: Storage, archival and management of data and content created by your users.

   Value: Complete and perpetual availability of data and content.

3. Websphere Application Server: The most popular On Demand middleware in the world. It hosts applications on the internet that are 'behind' your browser and at the heart of the internet.

   Value: Globalized applications that cater to your users anywhere in the world.

4. Rational Application Development Tools: High-quality Rapid Application Development tools using open source Integrated Development Environments like Eclipse.

   Value: The foundation of simplifying application development for simple and complex business problems.

5. Tivoli Infrastructure Management Solutions: Managing Information Technology infrastructure that could be spread over wide areas of cultural diversity.

   Value: Simplified infrastructure management tailored to the conventions of the local users.

The above software enables creation of On Demand applications in your IT infrastructure.

Other IBM offerings to supporting Indian languages (either now or soon) are: IBM Printers, IBM AIX Operating System for pSeries and IBM OS400 Operating System for iSeries.

Developments at IBM's India Research Lab (IRL)

Extensive research and developmental work on Speech Recognition technologies is being carried out at IBM's India Research Laboratories, at New Delhi. The design and implementation of computer systems that exploit speech and facial imagery to interact with users is one of the challenges taken up at IRL. We have extended IBM's ViaVoice™ recognition technology to build a speech recognition system for the Hindi language. This incorporates a statistical language model for Hindi, which captures the language characteristics from a huge amount of text data. The system has been made robust to speaker variations by training it over a large number of speakers from various parts of the country. Research and advancements in the fields of 'Telephony Speech Recognition' and 'Indian-English Text-to-Speech Synthesis' is also carried on at IRL. More information on IRL's research projects can be obtained from: www.research.ibm.com/irl

Some considerations in Globalizing On Demand Businesses:

1. Use Open Standards: Open standards are critical in maintaining inter-operability with IT systems you sometimes did not know existed!
2. Cultural sensitivities are important. Ensure that your application respects the cultural conventions of your users. (Open Source IBM ICU APIs help solve this.)
3. Your application should be accessible from any client device: Minimize dependence on specific kinds of client devices, e.g. your application should be accessible from non-Unicode clients as well. After all, you don't know who will use your application.
4. Plan for use of components so that they can be easily globalized for your internal and external use: As your application expands, you will have trouble maintaining it unless you have planned in advance to modularize the components that comprise it.
5. Use Linux to maintain standards and minimize your infrastructure costs: Linux standards are maintained by the Open Group (http://www.opengroup.org) and it is a good way to ensure that your business is compliant with Open Standards. It also reduces overall cost and prevents lock-in by vendors.
6. Use Java: Java is the platform of choice for inter-operability. Its cross-platform credentials minimize the need for you to re-write code / components when you are moving across platforms.
7. Use Eclipse: Eclipse (http://www.eclipse.org) is an Open Standards Integrated Development Environment (IDE) that minimizes the cost for retraining developers when they move between one coding environments and another. Its wide adoption among IT solutions-providers ensures that there are practically no environments on which it cannot run. Software engineers need not retrain themselves every time they use new application development software.