


Informatics

AN  GOVERNANCE BULLETIN FROM NATIONAL INFORMATICS CENTRE

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E-GOV INITIATIVE
Smart Card Technology-An Overview
and NIC Initiatives

STATE IN FOCUS
Karnataka

DISTRICT INFORMATICS
Pithoragarh
East Godavari
Doda

E-GOV PRODUCTS AND SERVICES
~ IT at PGI Chandigarh
~ COIN - Banking Software Solution

TECHNOLOGY UPDATE
De-Mystifying Technology
behind Dynamic Portals





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Almost everyone in NIC HQ sports a 'smarter than before' look these days....thanks to the issuance of 'Smart Cards' !! In this issue, we feature the technology behind Smart Cards which has heralded a new dimension in the area of security of distributed systems, personal identification and payment applications.

The whole team of *Informatics* wishes its readers a very happy, prosperous and secure year ahead in 2004.

"HAPPY NEW YEAR"

Sonal Kalra

Readers Write

Dear Editor,

I have gone through the latest issue of your E-Governance Bulletin and I would like to take this opportunity to thank you and the team of Informatics for bringing out such an excellent work. I would like to be a regular recipient of the bulletin.

**Muktesh Chander, IPS
Dy Inspector General of Police
Panaji, Goa**

Readers are invited to send their views, comments and suggestions to the Editor through this column. The same, addressed to Editor-Informatics, may be sent through post at Room No. 379, 3rd Floor, NIC Headquarters, A-Block, CGO Complex, Lodhi Road, New Delhi 110003 or through email at sonal@hub.nic.in

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K K Jaswal



Secretary
Ministry of Communications & Information Technology
Department of Information Technology
Government of India

Message

ICT is having a profound impact on the way Governments all over the world are providing services to their citizens. Electronic Governance is an important item on the Government agenda today. A number of successful e-Governance programmes and projects has been initiated and implemented in various States of India.

I am happy to note that *Informatics*, the e-Governance bulletin of National Informatics Centre, is doing a commendable job by providing a useful platform for sharing information about several e-Governance programmes, projects and activities and highlighting the innovative approaches being adopted in this domain.

My very best wishes to the Editorial Team of *Informatics*.

(K K Jaswal)

**Happy New Year
2004**

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for the latest News



► S.K.Sinha, NIC HQ

Smart Card Technology-An Overview and NIC Initiatives

Plastic cards are a way of life in most developed countries. They are fast gaining momentum in the developing world too. Whether it is for certificate of identity, e-Purse, or Credit/Debit purposes, plastic cards have revolutionized the way business is performed in our day-to-day life. They have been in use for a long time in the form of Magnetic Strip Cards. However, magnetic strip technology has inherent security problems due to the un-intelligent nature of the card, which is basically a digital medium containing data in encrypted form. In that respect it is no different than a normal floppy disk, except with the difference in data writing format and devices.

Smart cards have heralded a new technology that has tremendous potential for enhancing the security of distributed systems, for personal identification and payment applications.

◉ The Technology :

A smart card is a credit card-sized, tamper-resistant security device that offers functions for secure information storage and information processing that rely on

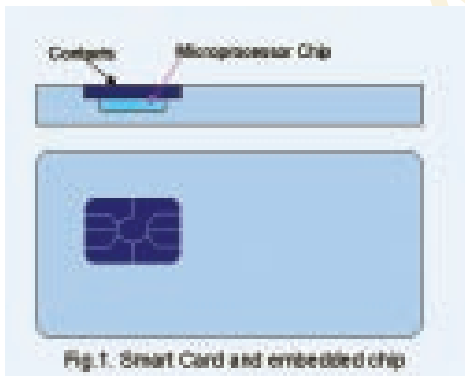


Fig.1. Smart Card and embedded chip

VLSI chip technology. A smart card contains a secure microprocessor chip embedded in the plastic card (Fig.1). The chip can implement an Operating System (OS) with a secure file-system, and the OS has the capability to compute cryptographic functions, and actively detect invalid access attempts onto the card file system. With proper application of file system access rights, a smart card can be safely used by multiple, independent applications.

A smart card is distinguished from a magnetic strip card (e.g., typical credit card), and laser optical cards, as the latter have no VLSI circuitry and Operating System and thus no active security procedures and no built-in tamper-resistance. Anyone with an appropriate card reader can read whatever is on the card.

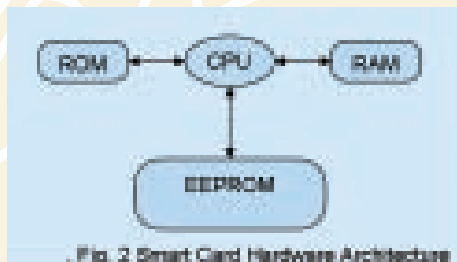


Fig. 2 Smart Card Hardware Architecture

Reading and writing, information onto the card is carried out by the device called Smart Card reader. Since Smart Card is a passive device in itself, it draws power supply and clock from the smart card reader. Through a predefined set of protocols, communication is established between the Computer(PC) and Smart Card through the Smart Card reader. Standard set of API's are available under Windows and other Operating Systems to integrate Smart Card capabilities into different software applications. Smart Card, which has the capability of a miniature computer, communicates with the PC to perform different operations on Smart Card data.

◉ Information Storage :

Smart Card file system, which is implemented over the E²PROM (Electrically

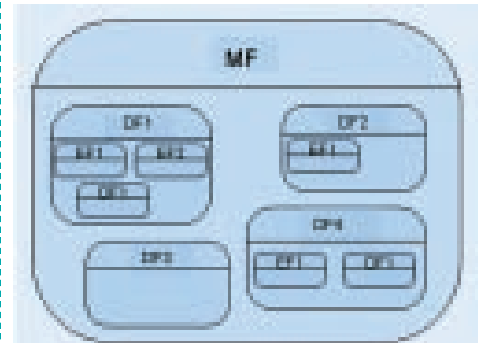
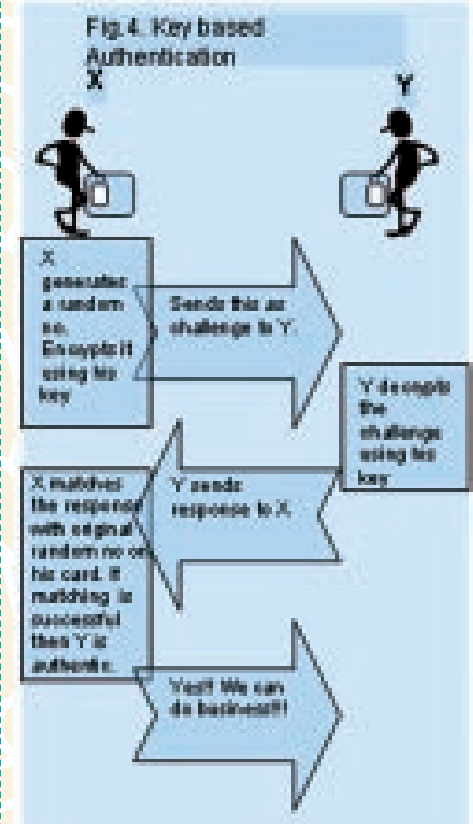


Fig 3 Smart Card File System Architecture

Erased Programmable Read Only Memory) of microprocessor chip, contains hierarchical file system, with MF (Master File) at the top, DF (Dedicated File), and EF (Elementary File) as various entities in the



hierarchy (Fig3). Data elements are grouped and stored in EF, which is the bottom level



entity. Dedicated files (DF) are like directory files of conventional File Systems containing DF's and EF's. Dedicated Files are also the entities hosting all files related to one single application (viz. Driving License, Electoral ID Card, PAN Card etc), and therefore are also termed as Application Files. MF is top level Dedicated File. All kind of files i.e. MF, DF and EF can be configured for their security parameters (conditions) for various operations (Read, Modify, Delete) on their headers. Definable security conditions may be PIN verification, Key Authentication etc.

☞ | **Smart Card Security :**

Smart cards are the most secure devices to store small piece of information, which technologically makes it possible to impose desired security conditions/rules for accessing the required information. Following are the Security Mechanisms which Smart Card provides.

- a. PIN Verification: PIN is like a password, which is securely stored in the Smart Card. Any specific Smart Card functionality (e.g. Performing Money Transaction, requesting for e-Service delivery), can be bound with the successful PIN verification. If PIN verification fails, built-in mechanism on the Smart Card disallows the functionality to get invoked. After three or four unsuccessful attempts Smart Card OS blocks the PIN usage and thereby protecting the valuable Smart Card resources.
- b. Key based Authentication: Key based authentication is the biggest security strength of Smart Card, due to which they are considered to be most secure devices as compared with other cards (Magnetic, Optical etc.). Keys are typically used for cryptographically securing data on Smart Card, with the help of strong on-chip encryption algorithms like 3DES or RSA. Through challenge-response mechanism and encryption and decryption through the corresponding keys, two secure devices (with one or both as Smart Cards) can negotiate to authenticate each other (Fig 4). And this is the methodology

through which a person proves his identity, what he claims to be, by possessing one of the keys, securely stored on his card. The authentication process can be based on symmetric keys (Master Key-Derived Key) or asymmetric keys (Public Key-Private Key). Smart Card technology provides the security against direct access to keys, and makes it possible that all kinds of security operations are performed internally on the chip, without sending keys out of the card. This enhances the security to a great extent. The Smart Card chip (Microprocessor), is strong enough to run various security related complex algorithms using keys internally.

☞ | **Smart Card and PKI :**

PKI technology greatly depends on the security of the private key of the individual. Compromise of private key can lead to the failure of trust environment created for the security of cyber world. Smart Card technology helps implement this in following ways,

- i. Secure storage of individual's private key, inside the Card.
- ii. On-Card generation of private key-public key pair.
- iii. On-Card generation of digital-signature.
- iv. On-Card encryption and decryption of data.

All the basic data/information security characteristics i.e. Authenticity, Integrity, Confidentiality and Non-repudiation can be ensured through above Smart Card PKI security mechanisms.

☞ | **Smart Card for proof of Identity :**

Identity fraud is a growing problem world wide ; specially in the context of the current world scenario. Whether it is the question of secure border control or delivery of citizen services to right person, ensuring the proof of identity becomes a matter of vital interest. Present form of ID are not secure enough or foolproof to stop the identity fraud. Almost every thing which can be printed can be faked. Terrorists regularly use fake passports to cross the world boundaries.

Smart Cards with biometrics having digital

signature of issuer authority can effectively provide the fool proof mechanism to prove the identity of a person is what he claims to be. Using PKI technology on Smart Card, Identity Data of individual with his biometrics on the card can be digitally signed by an issuer certified by Trusted Certification Authority. Field verification process is performed to check for the following.

☞ | **Card is Authentic :**

Authenticity of card is established through challenge response mechanism between the secret key (Private key) stored on the card, and public key, which is available to the interface device (typically a simputer or a hand held terminal), off-line or on-line. A limited version of off-line CRL (Certificate Revocation List) can also be stored on these devices, as per requirement of PKI process. CRL can be synchronized time to time with the one available with Certification Authority.

☞ | **Identity of card holder is authentic :**

First the digital signature of the issuer authority which are stored on-card are verified through off-line or on-line verification process as explained above. Then the stored bio-metrics of card holder are matched with the one captured live at the point of verification. Since the stored bio-metrics are the same which were captured when card was issued and are the part of data which is digitally signed, matching with live capture, authenticates the identity of the person.

☞ | **Smart Card for delivery of Citizen Services :**

Smart Card technology can enhance the speed and authenticity of the process of efficient delivery of G2C services. Efficient delivery of services requires readily available proof-of-identity, authentic transaction history and entitlement details. In Indian context they may be services like ration card, passport, Land Records, Old age pension, different kind of subsidies and support in rural sector including health and education etc. All these kind of services require the on-site/field verification of proof of identity,



entitlement details of beneficiary and application specific data. One of the biggest benefits of usage of smart card for these kinds of services is that, it makes it possible to provide authentic application specific data from the individual's card at the place of business transaction, which otherwise would have been achieved only through creating an efficient data communication link and connecting to the central Service Database at some remote location. Therefore it not only eliminates the need of a vast data communication link across the country with very large number of nodes, but also its availability in all the places where service is being delivered.

Delivery of Services through Web :

With the advent of Internet and World Wide Web, delivery of information/ data to masses has become extremely easy just by publishing it over the web. But there are many situations under which the information service which is required to be delivered through internet, is private/ confidential to the person for whom it is meant to be. This kind of situation makes it essential to first establish the identity of the person remotely through internet. Once it is established that the remote user is a citizen who is genuine subscriber of the service, only then internet/network delivery is made for the required service. Smart Card technology provides the fool proof mechanism of remote authentication/ verification of the person through internet, in conjunction with PKI and biometrics technologies. Delivered information can also be written safely on the individual's Smart Card for future use. Few examples of this kind of services are, e-Vote casting over web, Web submission of Income Tax returns, Delivery of Railway/Airlines Ticket, Road tax payment and delivery of receipt etc.

Smart Card and Access Control :

Smart Card technology provides very safe and convenient way of controlling and restricting the access of individuals to the critical infrastructure of Government or any other organization. Based on the



Fig 5. Card-to-Card e-Purse transaction

sensitivity, a building or infrastructure can be categorized into multi tier levels of desired security, and divided into security zones. Access to these zones is regulated through Smart Card Reader controlled electronic/electromagnetic door locks. Smart Card and the Card holder is authenticated by these readers and the access privileges written on the card are read by the readers to control the release of the lock. Security mechanism can be enhanced by including smart card assisted biometrics verification. By carefully designing the entry and exit log, the movement of individuals can be tracked for later security analysis. This system can also be used in an organization or educational institution for attendance monitoring and punctuality analysis.

Smart Card based Network Access Control and in-transit data security:

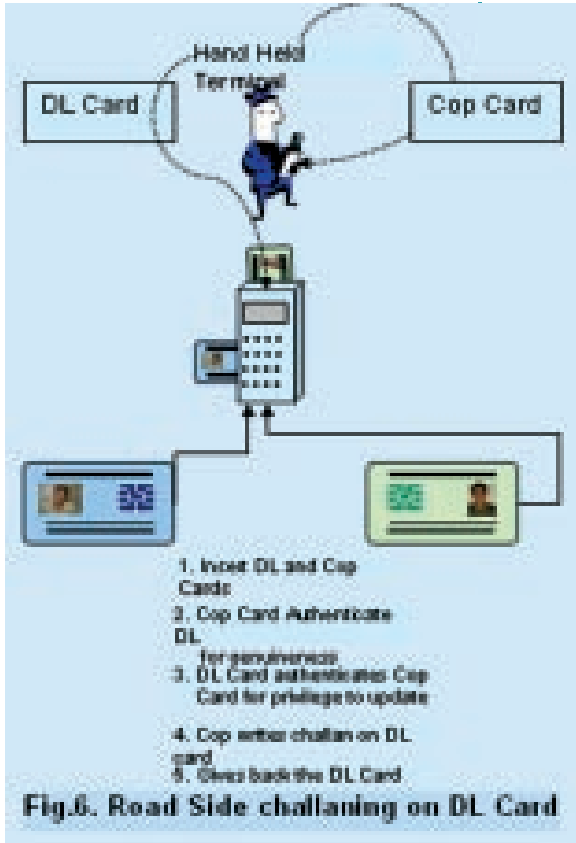
Current password based security for network log-on has weaknesses due to the vulnerability of passwords being stolen while keying-in or through a malicious program recording the key depressions on the background and passing-on the stolen log-on details to a rogue server. Smart Card based remote authentication comes handy

to effectively eliminate this problem of network security which can be implemented for Secure Intranet or Virtual Private Networks (VPN). Smart Card technology can also be effectively used for network data confidentiality and data authenticity. Data confidentiality is implemented by on-card encryption and decryption of in-transit data between sender and receiver, through robust encryption algorithms implemented on the Card chip. Data authenticity can be implemented by digitally signing the data with sender's smart card and transmitting data along with digital signatures. Received data with signatures can be verified for integrity and authenticity by verifying digital signatures through sender's public key.

Smart Card technology for e-purse and stored value :

Smart Card technology offers a most promising way of storing digital money and conveniently transacting it for small business transactions. Several payment systems world wide either use smart cards today or have announced plans to do so in the near future. For security reasons, current credit card payment systems have made on-line connectivity mandatory for business transactions. This hugely increases the operational cost for the systems where amount of money per transaction is relatively smaller.

For the payment systems where transaction amount is smaller, Smart Card based e-Purse system provides a secure, reliable and inexpensive solution. As an e-Purse, smart card stores an actual balance of money, as secure data. e-Purse system on smart card provides functionality of crediting and debiting the balance, after authenticating the cards mutually. Money can be credited on seller's card and debited from buyer's card, in an off-line mode, with the help of an off-line smart card terminal. Both the cards can load and unload balance from their bank account, by visiting a bank which provides this service. This concept of e-Purse transaction can also be successfully applied in automatic vending machines, like milk vending, tea/coffee vending machines



❖ Development of Smart Card interface software with back-end Vahan (For RC) and Sarathi (For DL) softwares.

❖ To establish a Smart Card Compliance Certification body, to test and certify the compliance of smart cards with evolved national standards, for the various products brought into market by different industry players.

a) Development of National Standards for Transport Sector :

For any technology to work with compatibility across the country, it is essential that all the deployment agencies (States) follow same technology standards for their technology enabled delivery of service (In this case Smart Card based DL and RC). NIC led a team of professionals, domain specialists, academia and industry players, to evolve a technology standard for Smart

Cards to be used for DL and RC, for interoperability across the Nation. Various standards which were evolved are,

- ❖ SCOSTA (Smart Card Operating System for Transport Applications)
- ❖ DL and RC related on-chip Card Data Layout
- ❖ Smart Card Hardware specifications
- ❖ Hand Held Terminal Application Specifications
- ❖ Key Management System

b) Development of Symmetric Key Infrastructure :

Security of data against fake duplication/generation and prevention of road offences are the two major reasons for introduction of smart card technology for DL/RC. Smart Card security mainly banks

upon the proper design of the Key Management System and its safe deployment. Symmetric Key based security was considered to be most suitable for field authentication of DL/RC and on-card booking of road offences at the field (Fig 6).

c) Smart Card interface software with back-end :

For performing various process operations in RTO office, interface software for Smart Card is required to read and write DL/RC data from the chip e.g. Personalization and issuance of DL and RC cards at RTO, addition of more vehicle classes in DL Card, Modifying the Road Tax data in RC Card, Permit issuance etc. A standard software has been developed to take care all these business processes.

d) Smart Card Compliance Certification body :

With the authorization from the Ministry of Road Transport and Highways, NIC has established a Smart Card lab, for testing and certification of Smart Cards brought about by industry players for supplying to deployment agencies. Smart Card brands, certified by this body can only be issued as DL and RC Cards in the country.

Access Control System at NIC Headquarters :

After establishing sophisticated infrastructure for Communication and Cyber security monitoring and Control at NIC Headquarters, and also after establishing Digital Signature Certification Authority, NIC HQ has become a critical infrastructure for Government. Due to this sensitivity, NIC has established a Smart Card based access control system at NIC HQ building. Smart Cards have been issued to all employees as well as regular and occasional visitors for entry into the building. Access privileges have been defined in each card for visiting to various bays. For more secure zones, biometric verification has been made a precondition for access. All entry and exits points are being recorded to trace the movement.

For further information , mail to sksinha@hub.nic.in

etc where seller's card can be fixed inside the vending machines, and accumulated digital money collected in a desired frequency.

NIC Initiatives in Smart Card Technology

Smart Card in Transport Sector :

Ministry of Road Transport and Highways, in conjunction with few State Transport Authorities, took up the project of nation wide introduction of Smart Cards for Driving License (DL) and Vehicle Registration Certificates (RC). NIC was entrusted by the Ministry to help and provide its services as consultant for the complete project, which comprises,

- ❖ Development of Smart Card Technology Standards for interoperability across the Nation.
- ❖ Development and deployment of Symmetric Key Infrastructure for Smart Card Security.

▶ | Sudha Kumari & M M Shetty, NIC Karnataka

KARNATAKA - the Silicon State of India



KARNATAKA, the Silicon State of India, with its rich prowess in the Information Technology arena, has captured the attention of the whole world, enticing IT firms from far and wide to pool in their investments in the State. Bangalore, its capital, otherwise known as the 'Silicon Valley', 'Bytes Basket', 'Garden City', 'India's Manhattan' and so on, is the cradle for most of the flourishing IT Industry. The Government of Karnataka, in its endeavour to usher in an era of effective e-Governance, believes that Information Technology should be aimed at providing need-based, timely and good quality information systems to reach the citizens in an efficient and cost effective way. Since the inception of NIC Karnataka in 1987, it has been instrumental in introducing computer culture in the Government and continues supporting the Government's e-Governance initiatives through quality services in the spheres of consultancy, networking, system study, system design, software development, implementation and hand holding.

Major Projects

To bridge the digital divide between the haves and have-nots, the keyword is 'Citizen-centric' projects. NIC KSU has been instrumental in the implementation of some major citizen centric projects...

✦ BHOOMI for Revenue Department

BHOOMI is one of the first e-Governance projects successfully implemented for common man, jointly by the

Government of Karnataka and NIC KSU. It is a workflow based online system to carry out mutations on land records data. It has been providing service to more than 70 lakh farmers of Karnataka since the last 3 years and on an average around 20,000 users are



✦ Secretariat- online : A jewel in the Crown

Secretariat, the highest policy making body in the State, is a repository of wealth of knowledge. To introduce the concept of Knowledge Management, which ultimately drives towards e-Governance, NIC Karnataka State Unit has designed, developed and implemented Sachivalaya Vahini (Secretariat Knowledge System), that led to Online Karnataka Secretariat. Sachivalaya Vahini makes use of the large optical fibre based Secretariat LAN setup by Government of Karnataka, connecting more than 1200 nodes spread across 40 Secretariat departments.

Sachivalaya Vahini consists of the following application packages.

✦ Letter Monitoring and Public Grievances

Letters from state and central government departments, other organizations, People's representatives, and grievances received from the citizens can be scanned and electronic

Letter will move from desk to desk for actions to be taken. The entire movement of the Letters can be traced and action taken in each section and the reason for pendency is made available.

✦ File Management

Electronic Letters will be filed to create electronic Files and these Files are moved crossing departments for actions to be taken. All registers maintained and reports generated manually were replaced with electronic registers and reports. Extensive queries based on any parameter of the File or action taken on the File can be made.

✦ Court Cases Monitoring

This provides information about all Court Cases filed against the Government and by the Government. Court notices will be converted to electronic Letters through Letter Monitoring System and finally into an electronic File. Legal cell undertakes actions like preparation of parawise remarks, draft statement of objections, appointing Government Advocate, etc. Affidavit will be filed in the court and hearing will start. As and when court issues orders, those details are updated in the system.

✦ Budget Proposals Monitoring

Government allocates funds to departments under different head of accounts to implement various development schemes. All the actions in the process have been computerised, monitored and required queries and reports can be generated.

✦ Personnel Information & Leave Management

All the details of the Secretariat employees as recorded in the service register are captured through this system. As and when transfer, deputation, promotion, retirement etc. occurs, details can be updated and necessary orders can be generated. Through Leave Management system,



Secretariat employee can apply online for any type of Leave and the sanction shall be sent through email. Effort is on to integrate both Personnel Information and Leave Management system with Smart card technology.

☞ Knowledgebase

A knowledge base consisting of all Acts, Rules, Government Orders and Circulars is being setup so that decision making process maybe expedited.

☞ Dashboard & Ticker service

Dashboard will give a bird's eye view of the Letters, Public Grievances, Files, Court Cases, Budget proposals and Employees details. Ticker Service will enable any officer to monitor the working of his staff.

☞ Customer Support System

As Secretariat LAN is a large network, users are bound to encounter problems at times and through the CSS, complaints received from the users can be recorded and immediate actions can be taken.

☞ Web Enabling

All queries of general public interest related to Secretariat Knowledge System have been web enabled to provide access to citizens. Citizens can make a query to find out the status of the Letter they have sent to the Government and the exact location where the File is pending.

☞ Salient Features

☞ **Integration** : All the above applications are integrated with File Management System, as every action in the Secretariat initiates a File.

☞ **Access control** : Different menus will appear depending on the access rights of the user.

☞ **Active Directory** : Windows 2000 Active Directory features are used for Security and Management with SQL 2000

EE database and VB 6 / MS Access front end.

More than 4000 Secretariat staff at all levels were trained extensively on Secretariat Knowledge System applications. NIC gave technical guidance to Karnataka Government in setting up a mail server at Secretariat to provide email ids to all employees in the Secretariat and integrate the same with Secretariat Knowledge System for single sign on. Karnataka government portal (www.karnataka.gov.in) was also set up with NIC's assistance.

☞ Major Impact

There are more than 4 lakh electronic Files of 40 Secretariat departments moving through the network and because every information about the Files are available readily, actions on Files and File disposals are being taken speedily. So far, more than 1.5 lakh Files have been cleared. These processes ultimately trigger a series of other activities, which results in speedy development in the State.

being benefited every day. Land Records Kiosks have been set up in all 177 Talukas to issue the land records documents to public on demand. Finger print (Bio-metrics) authentication has been incorporated to ensure foolproof system. BHOOMI has received widespread recognition and has become the model for replication in many other States. International awards have also been conferred on BHOOMI, namely the silver medal at CAPAM 2002 and was also adjudged a finalist at the Stockholm Challenge 2002. For the successful implementation of BHOOMI upto Taluka level, technical and training support to officials has been imparted with the help of District Informatics Officers.

☞ 'Mukhyavahini' for the Chief Minister's Secretariat

For the Chief Minister's Secretariat to handle and redress public grievances, Intranet & Internet based Mukhyavahini software for Petition Monitoring, Chief Minister's Relief Fund and web based Departmental Action Taken Report, are being utilized extensively. Till date, around 1,35,000 petitions have been monitored through the system.

Grievances collected by Hon'ble CM during 'Janaspandana', the face-to-face interaction programme with villagers in any location, is also captured through the web based software for redressal. 'Chief Minister's Review' is a single point portal for the Hon'ble CM to review important projects and developmental works. Daily weather report, rainfall data, electricity distribution with other critical parameters are also made available.

☞ SARATHI & VAHAN for Transport Department

Automation of Regional Transport Office (RTO) was first taken up in 1999. Currently, 9 RTOs are fully utilizing this software for their day-to-day operations of on-line Registration, License, Permit, Enforcement, Fitness, Fee and Tax sections. This has led to enhanced revenue collections to the tune of 20% as the system facilitates close monitoring of tax defaulters.

☞ SAHAKARA DARPANA for Directorate of Co-operative Audit

NIC KSU has partnered with the Directorate of Co-operative Audit to bring in transparency in the administration through the 'SAHAKARADARPANA' dual language portal (<http://sahakaradarpana.kar.nic.in>) to display the financial position of more than 30,000 Co-operative Institutions, depicting their strengths and weaknesses.

☞ RAITA MITRA for Agriculture Department

Access to reliable, updated information and improved communication is a crucial requirement for sustainable development of Agriculture. 'RAITA MITRA' (<http://raitamitra.kar.nic.in>) portal



Hon'ble Chief Minister Sh. S. M. Krishna at the inauguration of 'Raita Mitra' Portal.



provides tips, information and bulletins on a daily basis to farmers for better cultivation. Access to information is provided free of cost through the 745 RAITA MITRA centres across the State.

❖ **KRISHI MARATA VAHINI for Department of Agricultural Marketing**

The Hon'ble Chief Minister inaugurated this online agricultural price information (<http://maratavahini.kar.nic.in>) bi-lingual portal in 2002 and since then, the hit counter has already crossed the 1 lakh mark. The arrivals, minimum, maximum and modal prices of over 100 agricultural commodities and 2000 varieties on sale at the 142 Agricultural Produce Market Committees (APMCs) are available on Internet by 4 pm everyday.

❖ **SAMANYA MAHITI for Rural Development and Panchayat Raj**

To help in micro and macro level planning, the basic amenities available in all hamlets are captured into 400 parameters that are categorized into 21 sectors. Data collected and keyed in at the District / Taluka, are transmitted electronically for consolidation at State level. Web site (<http://www.kar.nic.in/rdrpr>) enables information to be viewed at various levels. Samanya Mahiti is implemented in all the 27 districts and the Department is actively working towards keeping the data up-to-date. Touch screen Information Kiosks have been set up at strategic locations for citizens to access this information.

❖ **ASTHI TERIGE for Rural Development and Panchayat Raj**

'Asthi Terige' is the Property enumeration and Tax calculation software developed for the Gram Panchayats, where the authorized person can fix the Annual Rental Value and rates of tax. Tax collections are being organized through computerized cash counters.

❖ **ZPGIS for Zilla Panchayat**

ZPGIS is a powerful tool that displays information about various amenities available in the district/taluka/village on the map and to perform various analysis for the district administration. SPANS GIS software is customized for this application and is implemented in Bellary district.

❖ **CASCET - 2003 for Education Department**

CASCET-2003 relates to Computer Based online Admission to Professional Colleges for Medical and Engineering disciplines. Software caters to the Computerized Evaluation of Answer Sheets (OMR), announcement of the Merit List and allotment of seats. The website <http://cet.kar.nic.in> is being regularly updated. The project is successfully running for the tenth consecutive year. The success of CET has also led to the counselling and admissions for Diploma Engineering, Nursing, Ayurvedic, Homoeopathic and Unani degree courses. Additional features include automated Audit trail for any back-end transaction, Bio-Metrics (FIT) authentication for access, Web enabled registration for entrance examination, Comparison statement as per key values and real answers, performance comparison between the qualifying examination and CASCET, thereby enabling transparency with accuracy in rank generation and seat allocation.

❖ **CEMIS for Education Department**

A Decision support system for better teacher and school management has been enabled through Comprehensive Education Management Information System (CEMIS) since 1996.

❖ **Returns Filing System for Commercial Taxes Department**

Commercial Taxes Department contributes to more than 70% of the State's revenue. 'Returns Filing System' (RFS) for the KST and CST Acts is being extensively used in 290 Assessment Circles for Registration, Payments, Returns Filing, Notices, Assessments and DCB for the past 8 years.

❖ **CHECKDOC for Commercial Taxes Department**

Computerised Commercial Taxes Checkposts play a vital role in preventing tax evasion. Since 2001, online computerisation has been implemented in 10 important Checkposts which are networked to the Head Office for information interchange. Online verification of consignor and consignee, Transit Pass information, Blacklisted dealers identification, Detection of duplicate bills, under-value transactions has been implemented. CHECKDOC has resulted in

substantial increase in revenue as bogus transactions are traced and consignor-consignee cross-verifications carried out.

❖ **State Budget for Finance Department**

The Budget Information System was first implemented in 1991 to generate around 15 accurate, aesthetic and bi-lingual (English, Kannada) budget documents. District, Department and scheme wise data for plan schemes is captured over NICNET, which eventually culminate in the Plan and the District (ZP Link) documents.

❖ **e-archive for Department of Archives**

The Department of Archives is a veritable storehouse of documents dating back to the 17th century. To provide an insight into the valuable collection of documents, Catalogue software has been web enabled (<http://kannadasiri.kar.nic.in>), featuring powerful search engine inclusive of Phonetic search for over 5 lakh documents.

❖ **e-museum for Department of Archaeology & Museums**

The Department of Archaeology & Museums is the custodian of the heritage and culture of Karnataka, which is visible through the artifacts available at the 17 museums, numerous monuments and Archaeological sites under its control. To share this rich information with one and all, as a first step, Bangalore Museum's catalogue of artifacts with photographs has been hosted (<http://kannadasiri.kar.nic.in>) with a powerful search engine.

❖ **Complaints Information System for Karnataka Lokayukta**

Corruption is the root cause of all evil and the Karnataka Lokayukta aims at eradicating corruption by bringing the culprits to book. Software for accepting complaints with acknowledgement issued online, automatic job allocation to officers for investigation and facility for updating the status of complaints has been implemented.

❖ **Consumer Case Information System for KSCSRC**

Karnataka State Consumer Disputes Redressal Commission (KSCSRC) went online on 1st January 2003. The information of the cases from filing to disposal is keyed in. Generation of daily cause list, Court Hall



updates, Recording Court Hall proceedings, Certified copy of filings, Judgement Transcription and many more outputs are instantaneously available. Computerisation of all the 27 District Consumer Forums has been initiated.

➤ **WEBPAAS for Passport Office**

To apply for a passport, citizens all over the State had to travel to the Passport office. The Ministry of External Affairs has now decentralized the process of acceptance of passport applications to the district SP/DC/DM offices. WEBPAAS has crossed all boundaries and allows for passport application acceptance at the districts, where they are registered and acknowledged, with on-the-spot receipt issue. Data from the districts is uploaded daily to the central web server for consolidation and further processing. WEBPAAS is implemented in 150 districts throughout the country.

➤ **Bwssb Ganakeekrutha grahakara Seva (BGS) for BWSSB**

BGS automates Revenue Billing and new connections for the Bangalore Water Supply and Sewerage Board (BWSSB), catering to 4 lakh consumers in Bangalore City. The merits of the system include no manual intervention, better services to consumers through ECS/SEVAK and data synchronization for anywhere bill payment between Sub-Divisions and barcode bills.

➤ **ASHRAYA for Rajiv Gandhi Rural Housing Corporation Limited (RGRHCL)**

RGRHCL has re-engineered its processes to bring about the 'Less-paper Office' culture, wherein lakhs of paper reports being sent by courier every month for consolidation from Taluks has been dispensed with. Through ASHRAYA, the computerised system for monitoring rural housing schemes, beneficiaries' details at taluka level are keyed in for further consolidation at State level.

➤ **e-Granthalaya, Generic Software for Library Automation**

e-Granthalaya, developed by NIC Karnataka is a generic windows based Library Automation Software, which has been standardized by NIC HQ for implementation all over the country. The features incorporated include acquisition, serials,

OPAC, circulation and administration, with barcode interface. Exhaustive help and search, guest account for non-members and web utilities.

➤ **e-MAN , Generic Software for Assets Management**

e-MAN, a generic web based software developed by NIC Karnataka (<http://kemp.kar.nic.in/e-man>) for integrated maintenance of consumable and non-consumable items of technical stores, has been implemented in many State Units of NIC. The software provides for issuing items, indenting and approval, returning and receiving fresh items into the stock.

➤ **TRAINING SERVICES**

A Team of IT professionals and software developers of NIC Karnataka State Unit and District Centres offer extensive training programmes to officials of Government on basic courses and software applications. State-of-the-art training facility equipped with high end Server and the latest Client systems with multimedia, LCD projector and Internet connectivity has been setup at the Internet & Training Wing, Bangalore.

➤ **E-mail & Internet Services**

NIC KSU provides e-mail service to over 1300 users of Government, Research & Educational Sectors. Internet Service is provided through its gateway at Internet & Training Wing, Bangalore that is served by 1 Mbps leased line to VSNL and 128 / 256 Kbps SCPC VSAT to Master Earth Station, NIC-Delhi. Connectivity to users is extended by means of LAN to 35 Central Government offices housed in Kendriya Sadan, RF Link Metropolitan Area Network to 13 locations having 1500 nodes in Bangalore, Dial-Up lines to more than 300 users connecting through ordinary dial-up PSTN / ISDN and VSAT to all District NIC Centres for District Administration.

➤ **Video Conferencing**

A DAMA VSAT based Video Conferencing (VC) Studio, with additional ISDN connectivity, is available at the Internet & Training Wing, Bangalore. The VC facility is extensively used by Government Departments to review ongoing projects, for training programs and seminars etc. VC Support is also extended to Hon'ble Chief

Minister's "Janaspandana" programme during face-to-face interaction with villagers.

➤ **Web Services**

NIC Karnataka has designed, developed and hosted around 80 web sites which are aesthetic in nature and rich in content for State and Central Government Departments, Boards, Undertakings and Institutions. Hot spot of our web designs is the NIC KSU home page (<http://www.kar.nic.in>) which accounts for more than 50,000 hits on a normal working day. The portal also hosts Examination Results that appear at different periodicity, during which time the hits spike to as high as 2,50,000 per day. The ambitious portal for the Accountant General's Office is now under way, through which around 6 lakh officials of the State Government would have information on their General Provident Fund subscription and loans.

➤ **Central Government Projects:** Support is also being extended to the Registrar of Companies, Passport Office, DGFT, DGS&D, Central Administrative Tribunal, Central Excise, Indian Customs EDI System, DACNET, AGMARKNET, High Court, Debt Recovery Tribunal, Postal Life Insurance, Coffee Board, NIMHANS in their day-to-day computerisation activities.

Besides, District NIC Centres provide active support to the Deputy Commissioner's Office and Zilla Panchayat in their e-Governance initiatives.

NIC Karnataka State Unit is forging ahead in its endeavour to facilitate e-governance in the State and some of the new initiatives and projects which are under way include Raj Bhavan automation, rural digital services for the masses, PKI enabling and setting up a data recovery & dissemination center for BHOOMI Project etc.

For further information, please contact

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▶ Arvind Kr. Dadhichi, Uttaranchal Correspondent

Pithoragarh – the Growing Spectrum

Pithoragarh is a picturesque border district in the Kumaun region, East of Uttaranchal State. The District touches the border of China (Tibet) from northern side and Nepal on the east. The population of Pithoragarh is 4,62,149 (provisional fig. of census 2001) and is spread over an area of 7218 sq. kms. The famous Kailash Mansarovar Yatra conducted by Ministry of External Affairs also passes through Pithoragarh.

NIC - Pithoragarh

NIC - Pithoragarh District Unit was established in 1989 at the Collectorate to serve the IT needs of district administration and to promote computer culture among the government departments and general public. Ever Since its inception, NIC Pithoragarh District Center has developed and implemented various Management Information and Decision Support System, to enable government to take informed decisions, formulate comprehensive plans, follow-up on delivery of public services,



and create user friendly public infrastructures to enable masses to participate in the process of governance at all levels.

Key activities

Integrated Pay and Accounts Office (IPAO)

Through convergence of services and delivery mechanism, NIC Pithoragarh has completely

computerized the payroll system of all the employees of state government. Now pay is calculated centrally at district treasury making the system more efficient and cost effective than the manual decentralized system. Not only this, most of pay related information is disseminated through a comprehensive website making the system more transparent. The software has fully been integrated with already implemented application software Treasury Information System of NIC (TISNIC).

Block Verification System for DRDA

With the objective of enhanced returns and value to people from development programmes, a comprehensive menu driven program (in Hindi) has been developed. This application is running successfully in the district for last three years with verification of works in progress in blocks under different schemes (state/ centrally sponsored) like Employment Assurance Scheme (EAS), Jawahar Rojgar Yojna (JRY), Indira Awas Yojna (IAY), Millions Well Scheme (MWS) etc.

Videoconferencing & Data Communication Services

Since beginning, NIC Pithoragarh has been providing data communication services through NICNET to government departments. Recently with the introduction of Videoconferencing facility it became a member of NIC's 212 node VC network. This facility, which is widely being used by the state government has become an effective tool to communicate between districts and state capital.

Basic Shiksha Parishad Payroll Computerisation

NIC Pithoragarh was the first district in Uttar Pradesh (now in Uttaranchal) which had taken initiative to computerize the huge accounting task of teachers' payroll preparation for Basic Shiksha Parishad in January, 1993. Later, two more modules – Pension Accounting System and GPF Accounting System were added in the software. Since then entire payroll of around four thousand teachers have been generated every month and yearly GPF Balance Sheet is generated and provided to all the teaching staff of BSA.

Web Development & Maintenance

NIC Pithoragarh has developed a very comprehensive and dynamic website (<http://pithoragarh.nic.in>). This website contains all major information for government and public covering tourism, cultural, socio-economic and statistical information which is updated regularly.

Training

Success story of an activity is solely based upon the active participation of persons affiliated with it. Since it is the man behind the machine who gives shape to various projects, NIC Pithoragarh took various initiatives to train a number of employees of State Government to make them aware with tools of IT. Since beginning NIC Pithoragarh has been conducting regular and frequent introductory, on-the-job & refresher training programmes.

Land Records Computerization

With the help of an in house software almost all the data of Record of Right, popularly known as 'KHATAUNI' of almost all the villages of the district have been entered and corrected. Very soon this Land Record Management Information System will be able to deliver the copy of Land Records to the public from a single window in addition to other relevant information.

District Courts – District Court Computer Centre has been established with the help of NIC. Automation of filing, maintenance and many more activities are presently under implementation. Recently Cause List generation program was installed and started at the district court.

Management Information System (MIS)

NIC Pithoragarh has also developed a number of MIS for various state government departments, which are helping in decision taking and planning a number of activities at various levels. Prominent MIS include District Plan, Jawahar Gram Samridhi Yojana Allocation Report, 20 point Programme monitoring, Revenue Collection MIS, Forest Conservation MIS etc.

NIC Pithoragarh District Unit

District Informatics Officer
Dr. Jag Jeewan Singh Bisht

District Informatics Associate
Pankaj Sharma

For further information, please mail to pit@ua.nic.in

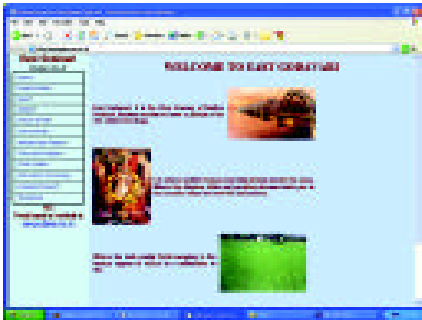


▶ Dr. BVNS Prakasa Rao, NIC Andhra Pradesh

East Godavari - Facilitating Development through ICT

The East Godavari District is located in the North Coastal part of the state of Andhra Pradesh. The District spans an area of 10,807 Sq Kms with 5 Revenue divisions, 60 Revenue mandals and 1011 Grama panchayats with a population of 48,72,622 as per 2001 provisional census figures. The District is known as the rice bowl of Andhra Pradesh with lush paddy fields and coconut groves.

NIC -East Godavari District Centre was established in 1988, with an aim to provide informatics services to the District Administration in planning and development. Though it was a tough task initially to motivate the officials to adopt computer culture, with time, NICNET became an indispensable tool for the district administration.



Landmark Projects

Land Records Computerization

Land Records computerization was started in the District in 1996-97 and data entry was completed under Unix environment. Later the system was upgraded to Windows based platform and the data has been corrected to the current year. Land ownership certificate, ROR 1B extract can be generated for a single Social Security ID / pattadar. Also copies of Adangal / Pahani can be printed for the entire village or for a range of survey numbers.

Janma Bhoomi

Andhra Pradesh Government started the

Janma Bhoomi programme in 1997 and NIC Centre has been involved in developing and implementing the software for various rounds of Janma Bhoomi right from the beginning. The data relating to Non Financial Community Needs (NFCN), Individual Family Needs (IFN) have been gathered and analysed to generate useful reports.

Collectorate 2000

NIC, East Godavari carried out a system study of Collectorate-2000, based on which the software was developed by NIC Andhra Pradesh State unit and implemented in all districts.

District Web Site

East Godavari was the first district in Andhra Pradesh State to have a web site (<http://eastgodavari.nic.in>) which has been designed, developed and maintained by NIC District Unit. The web site covers a wide range of information including district profile, history, administration, ICT activities, Infrastructure etc.

NPCB Monitoring Software

Under National Programme for Control of Blindness, the data relating to blind persons was computerized and various reports PHC wise, Mandal wise were generated for Medical and Health Department.

Personal Register Monitoring

This software enables user department to know the number of files pending for the last 30 days, 3 months, 6 months and 1 year and generates several reports. This software is running successfully for last 10 years.

District Court Computerization

NIC has installed hardware and has developed and implemented software to cater to the needs of various sections in the court. Various day-to-day reports and statistical reports are generated through the system.

Election Management System

NIC East Godavari has been providing

support for all the elections including parliamentary, legislative and local bodies. Support is provided at various levels of election process like pre-polling activities, which include polling party formation, assignments to polling booths randomly etc.

Public Grievances Monitoring

This is one of the most effective applications of e-governance and has been developed and implemented for the District Collector. This software facilitates monitoring of public grievances of various types.

MEDLARS :

NIC, East Godavari conducted MEDLARS workshop in Feb 1996 in Rangaraya Medical College, Kakinada to impart knowledge to doctors and Medical researchers about this facility of NIC. Since then MEDLARS services are being regularly used by Doctors and Medical researchers

Other Activities

NIC Centre conducts several training programmes for the officials in various government departments to help them improve their efficiency in their respective areas. Internet / Email facilities are being used by various Government Departments in the District.

Another NIC Centre was established in the District at Rajahmundry in 1997 with a view to provide effective services to the E-mail and Internet users and departments like District Court which are located in Rajahmundry.

The District Collector honoured the District Informatics Officer and District Informatics Associate in 1999, 2001 and 2002 for their meritorious services rendered to the District Administration.

NIC East Godavari
District Informatics Officer,
Dr. B.V.N.S Prakasa Rao

District Informatics Associate
Sri Karrar Haider Baqri

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▶ Jit Raj, J&K Correspondent

Doda - Marching Towards E-Governance

Doda District in Jammu & Kashmir was carved out from the District Udhampur in 1948, and is the third largest in area after Leh and Kargil. Spread over an area of 11.691 Sq. Kms the district has a population of 6.90 lakhs (as per census 2001).

This District has a rich history and is also endowed with vast wealth of natural beauty and resources.

About NIC- Doda

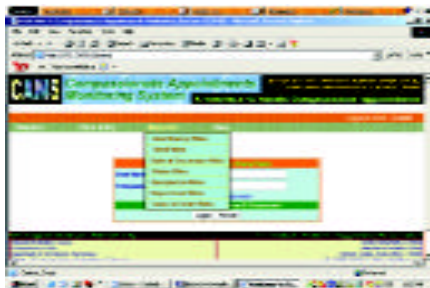
NIC established its presence in Doda in 1991 with an objective to promote Informatics Culture in the District. Since its inception, NIC, Doda has been instrumental in helping the District Administration in completing various time bound and strategic tasks. The NIC Centre has been extending computer facilities to almost all departments in general and particularly to District Development Commissioner's Office.

Major Applications

Public Grievances Monitoring and Redressal System (PUGMARS)

A Web based solution for monitoring and handling Public Grievances. The system has been powered with a lot of features and has proved to be very effective for District Administration.

Compassionate Appointment Monitoring System (CAMS)



Web based solution developed for Monitoring Compassionate appointments. The system holds more than 400 cases at present.

Web Based Monitoring of Rural Development Schemes (WEBMORS)

Monthly progress reports are entered in WEBMORS, which are monitored centrally by the Government.

Other important applications developed/ implemented by NIC Doda include :

- Online Treasury Management System (OTMIS)
- Payroll System
- Pension Management Information System (PMIS)
- Passport Application Acceptance System (WEBPASS)
- Village Information System
- Community Needs Assessment Approach (CNAA)

Internet Services

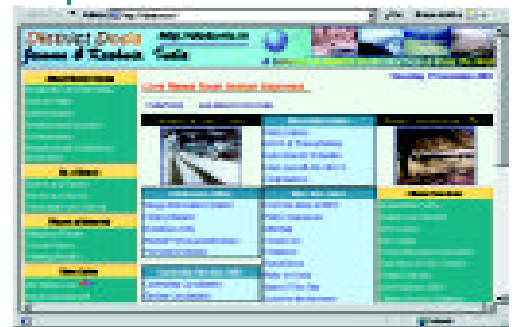
NIC Doda is one place in the District where un-interrupted Internet Facility is available through high speed FTDMA VSAT. Internet facility is provided on the local area network as well as through Dial-up to various departments of the district.

Trainings and Workshops

Training and Workshops to update the skills of Officers / Officials of the District in the field of Information technology are conducted almost throughout the year. Moreover, customized training sessions for departments is a regular practice.

District Web Site

In an endeavor to bring District Doda on the web, Web site of the District was developed by NIC and launched way back in 1999. The Chairman District Development Board inaugurated the Web site. At the initial stage, information on the web site was static in nature. To keep pace with the time, Web site of the district was revised and the new version was enriched with plenty of information pertaining to District in dynamic



form viz. Village Information System, Polling Stations, and Industrial Units etc. The Web Site of the district is updated on regular basis. The web site has recorded a large number of hits ever since its launch.

National Informatics Centre, Doda has been providing its dedicated services to almost every department of the District and also promoting IT culture in the District for more than a decade now. With the result, the departments are realizing the importance of Information and Communication Technology in their working environments. With the recent E-governance solutions provided to district Administration, the work culture has drastically changed. With the launch of Web Site, district has been brought on the information superhighway. Administration / Departments have appreciated the pivotal role of NIC Doda at all times.

National Informatics Centre, Doda

District Informatics Officer
Sanjay Gupta

For Further Information , mail to
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► Vivek Verma, Chandigarh Correspondent

IT at PGI Chandigarh

The Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh is an Institute of national importance and an autonomous body created on 1st April 1967 to train postgraduates in all the important disciplines of medical sciences, to conduct research of the highest order and to provide patient care of the highest standard. The infrastructure for patient care includes Nehru Hospital with 1268 beds, two Research Blocks (A and B) for basic sciences, Advanced Pediatrics Centre (APC) Block for children ailments, New OPD Block for Out patient services, and Oral Health Sciences Block for dental services stretched over an area of 277 acres. There are 19 Out Patient Departments (OPDs) and 91 Out patient Special Clinics.

NIC and PGIMER

NIC signed an MOU with PGIMER in 2002 for the development of a Hospital Information System (HIS). Thereafter, a dedicated NIC team studied the complete system and submitted a report to PGI which was accepted and approved in May 2003. The proposed Hospital Information System will allow hospital's clinical, non-clinical and para-clinical staff to access relevant information efficiently and effectively. HIS will be able to support various functionalities such as managing the list of patients on the wait list requiring different types of treatment, bed status and allotment of bed to the next appropriate patient on the list. Nurses can be allocated to Wards depending on Ward size, type of nursing care needed, operating schedules, etc. The current manual method of managing patients, nurses, and beds is time consuming and error prone. It is also difficult to manage the large paper flow involved in this process.

The Scope of Hospital Information System (HIS) covers the computerization of the following modules:

I) Clinical Services:

- **Registration**
- **Out Patient Department :**
Clinical activities, Special Clinic, Staff Clinic, Day Care, Minor OT, Department Specific OPD
- **In-Patient Department :**
Ward Management, General Ward and Private Ward allocation, Nursing Care Management, ICU Activities, OT Activities
- **Emergency**
- **Laboratory Services**
- **Patient Billing**
- **Appointment and Scheduling**
- **Blood Bank**
- **Diet and Kitchen**
- **Central Sterile Supplies Department (CSSD)**
- **Duty Roster**

II) Support Services:

General Patient Enquiry ,
Laundry, Sanitation,
Security, Transport

III) Back Office Services:

□ **Administration :**
Establishment ,
Recruitment of
Candidates, Service Book,
Vigilance Case Handling /
Issuance of Clearance
Certificate, Office
Activities , Reference
Monitoring (DAK
Monitoring), Court Case
Monitoring, Movement ,
Attendance , Rule Book
etc.

□ Accounts :

Payroll (Group Insurance,
General Provident Fund,
House Rent, Pension,
Loan and Advances, TA,
DA, LTC and Medical
Reimbursement) ,

Miscellaneous Accounts (Contingency,
Budget, Compilation of Financial Accounts,
Private Grants, Rent, Cash Receipt by the
Cashier, Internal Audit, Fee Section)

IV) Hospital Equipment Maintenance and Infrastructure Maintenance (HEM / IM)

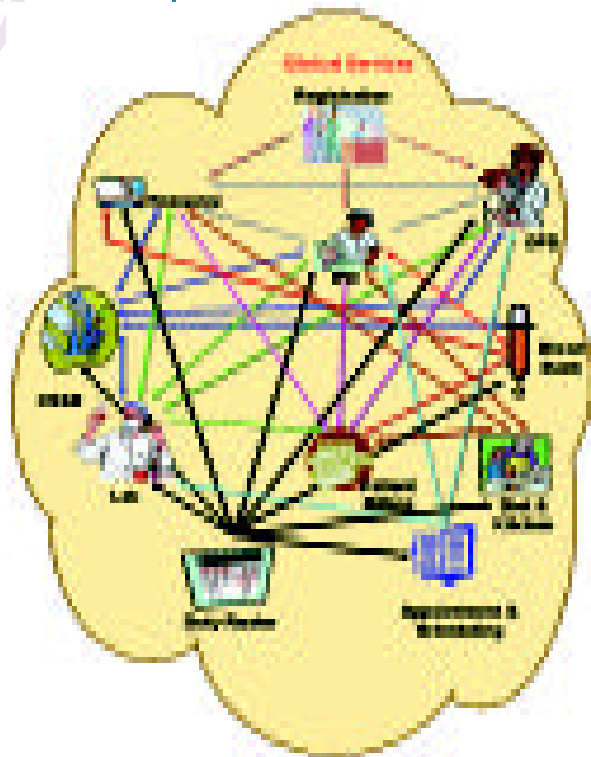
- Equipments Maintained by Supplier
- Infrastructure Maintenance

V) Procurement System and Online Inventory

- Procurement
- Stores
- Pharmacy

NIC will now implement the complete solution on turnkey basis and it shall cover Application software, establishing LAN in various buildings, setting up Wide Area Network across various buildings, supply & installation of Hardware, Storage etc. The tentative time frame for complete implementation is two years.

**For further information,
please mail to sio@chdut.nic.in**





▶ N.K Prasad, Bihar Correspondent

COIN - A Banking Software Solution

Co-operative Banks have been playing a pivotal role in the socio-economic upliftment of the poor and the downtrodden in our Country. Co-operative banks provide services in three-tier approach - SCB (State Co-operative Bank), DCCB (District Central Co-operative Bank) PACS (Primary Agricultural Co-operative Society). The flow of money takes the route from NABARD to Rural via SCB, DCCB and PACS. The Bihar State Co-operative Bank Ltd. was established in Patna way back in 1914 and since inception, the entire activity of Bank was being carried out manually. For each activity of the bank the responsibilities have been predefined and assigned to the designated Officer/ Staff for smooth functioning of the branch. With competition in the financial sector increasing day by day the manual process is not able to sustain in long term in the larger interest of the co-operative bank.

Various activities of the Co-operative Bank include :

- ❑ Interest rate calculations
- ❑ Management of various types of fixed deposits
- ❑ Management of loans/ advances with respect to Agriculture and non-agriculture.
- ❑ Debit/ Credit with respect to all Accounts
- ❑ Management of demand/ collection branch wise and / or month wise.
- ❑ Generation and maintenance of Scroll/ Ledger for all accounts.
- ❑ Preparation of Balance sheet & Profit and loss account
- ❑ Management of entire establishment.

More of these are being managed manually. Bihar State Co-operative Bank has a total of 8 branches in Patna under its administrative control.

COIN as the Answer....

To overcome the above challenges, NIC has developed a specialized software named COIN (Cooperative Banking in Place) . The Beauty of this software lies in its customer-oriented approach. It provides complete mechanism of every kind of transaction that it handles.

The benefit of computerisation is manifold. A computerized system can reduce the transaction cost and bring benefit to the bank by serving more customers with the existing manpower and resources. An efficient way of proper bookkeeping after business hours has been introduced. COIN is designed to provide better monitoring of agricultural loans and advances, the core activity of Cooperative Bank. The scope of computerisation of COIN is to automate the entire range of banking activities. This system in addition to its implementation at Bank Head Quarters can be implemented in remote branches as well. The extent of replacing the manual system with the new automated system will be a step forward in providing better and error free service to its customers.

The gamut of services to be covered by automating the entire processes of banking activities will benefit in managing the key activities of Accounts, Finance, Administration and Developing the Human Resources for the Bank Head Quarters as well as its branches. In addition, the developed system will act as a single window platform for the Management in controlling and monitoring various resources of the bank under disposal.

On completion of the computerisation of all the three SCB, DCCB and PACS and connected through Net, then request for loan amount can be made from remote villages by PACS to DCCB and after scrutiny, DCCB will be in a position to raise the request to SCB from their respective districts. All these loan requests will be

available to SCB instantly for their processing.

Technical Details

Computing Model	: Client-Server
Operating System	: Windows Server Family
RDBMS	: SQL Server 2000
Front End Tool	: Visual basic 6.0

COIN is developed following modular approach of development, so that it can be easily maintained. COIN exploits features of the Component Object Model (COM) . It incorporates object-oriented architecture. COM provides a standard protocol for connecting objects together, even if they are designed in different programming languages. An arbitrary number of OLE custom controls (OCX) are made and used as prefabricated components to aid in building the project that smoothen the functioning of project. A dynamic-link library (DLL) file named BSCB.DLL is developed which groups many functions and class modules that are compiled, linked and stored separately from the project that uses them. Using DLL saves memory and reduces swapping . The software provides quick and comprehensive MIS reports and various conciliatory reports that can be generated at the end of the day. Software can pinpoint any type of errors during handling of transactions

Important Features

- ❑ Better monitoring of agricultural and non- agricultural loans.
- ❑ Demand Draft disbursement Analysis and monitoring with respect to CC banks
- ❑ Timely compliance of various reports to the designated authorities
- ❑ Elimination of manual process, thus making the system fast, responsive and error free
- ❑ Timely analysis of bank wise target achievement for better inspection and decision making
- ❑ Timely reconciliation of Head Office accounts

For further information, mail to sio@bih.nic.in



Rama Hariharan, NIC HQ

De-Mystifying Technology behind Dynamic Portals

With the advent of the Internet and the recognition of the potential of web sites as a prime vehicle for disseminating information, web sites evolved into two major areas. One was the evolution of **web applications**. Web applications provided the necessary dynamism to web sites by interacting with the organizational database. They practically dispensed with the need for the continued support of a web page designer and also eliminated the problems of inconsistency that might creep in due to manual re-entering of the data and the time lag caused due to manual update process.

Another direction in which web sites evolved was the development of **web portals**. Web portals are special web sites that address a wider spectrum of the domain. A web portal may be a public portal, available on the Internet or an intranet portal, available only to the employees and partners of an organization.

However, as the complexity of web portals and sophistication of the end-users increased, it became difficult to sustain the management of the portal through manual processes. The obvious outcome of the above developments was the marriage between static web portals and the dynamic web applications, resulting in what is well known today as **dynamic web portals**.

A number of dynamic portal solutions are available in the market, the major ones include IBM's **WebSphere, Enterprise Information Portal, Lotus K-station**, Microsoft's **SharePoint Portal Server** and Oracle's **Oracle9iAS**, to name a few.

Features

Dynamic portal solutions vary widely in their feature offerings.

- ▣ Distributed Content management with facility for taxonomy creation, automatic tagging and indexing of content
- ▣ Workflow Management
- ▣ Powerful search facilities
- ▣ Personalization at the level of the organization, a community or group of users and also at the individual level

- ▣ Subscription & alert facilities
- ▣ Analysis reports based on user profile & navigation data
- ▣ Security features that may be rule-based or role-based or both
- ▣ Multilingual Support
- ▣ Facility to plug-in custom modules

Architecture

A dynamic portal solution framework generally adopts a three-tier architecture

- ▣ The front-end tier interacts with the users. Invariably, there are two user interfaces. The first interface interacts with the target end-users of the portal. They visit the portal site to access the content posted in the portal. The second interface is typically a management console that facilitates content contributors & portal administrators to handle various portal management activities such as content management, workflow management, multilingual support, plugging in custom modules etc. There is no direct interaction between the two front-end interfaces. The changes administered through the management interface are persisted in a persistent store. The

data from the persistent store is retrieved by the web server (with the help of the middle tier) and rendered on the portal site as per the needs of the end-users.

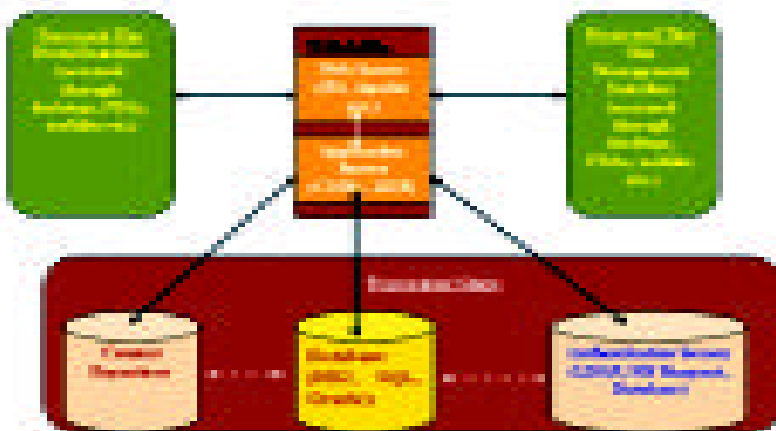
- ▣ The middle tier consists of a web server and an application server such as COM+ or J2EE server. The application server hosts pre-built & custom-built software components.
- ▣ The persistent store acts as the data tier of the portal solution. It consists of a database, a content repository where the content files of the portal are stored and an authentication source, which houses the user details & is used to validate the authenticity of the visiting end-user.

Besides the architecture adopted by dynamic portal solutions, a number of design issues also need to be addressed. Major issues are:

- ▣ The ability to use any front-end device to access the portal as well as use any layout requires a finer level of differentiation where the presentation data is further separated from the presentation logic itself. This is generally achieved by using XML to describe the structure of the presentation data.
- ▣ Since every element that gets displayed on the front-end is retrieved from the persistent store, it could negatively impact the performance of the portal. In order to reduce the load on the back-end database, extensive

Continued on Page 23....

Architecture of Dynamic Portal





CYBER GOVERNANCE

A Glimpse of some of the new websites/portals launched on NIC's web servers.....

Board of Revenue, MP <http://boardofrevenue.mp.nic.in>

A dynamic website for the Board of Revenue, MP, Gwalior was recently inaugurated by Sh. Khushiram, President, Board of Revenue at Gwalior. The site contains comprehensive information of revenue cases with the Board in the State of MP along with its responsibilities, objectives, administrative set-up, progress and achievements, case status, cause list etc. It also contains thematic representation of yearwise performance.



The purpose of the website, developed by NIC Gwalior District Unit, is to keep the litigants and legal practitioners informed about the status of their cases, and also to elicit information for ensuring transparency in the case disposal. The President of the Board expressed appreciation for the efforts of Sh Dilip Shitoley and Sh Sanjay Pandey of NIC Gwalior Distt Unit in developing the website.

Santosh Kr Shukla, MP Correspondent

Task Force on Interlinking of Rivers <http://riverlinks.nic.in>

Ministry of Water Resources has constituted a Task Force on "Interlinking of Rivers". Under the Chairmanship of Sh Suresh Prabhu, the task force endeavors to bring out necessary consensus among States for interlinking of various rivers in India. NIC has taken up the project of establishing a LAN and providing Internet facility to the Task Force. As a part of the commitment of the Task Force to ensure

transparency on the developments and for creating mass awareness about the issue, a website has been developed and hosted by NIC which comprises Discussion Forums, Opinion Poll, Chat etc on the topic. The website was inaugurated recently by veteran journalist and Member of the Task Force Prof. B.G Verghese.

Dr. Kishore Kumar, NIC HQ

Computer Incident Response Team (CIRT) <http://cirt.nic.in>

A Computer Security Incident Response Capability (CSIRC) is established to detect and react to computer security incidents in a skilled and efficient manner. A CSIRC is a combination of technically skilled people, policies, and techniques that constitute a proactive approach to handling computer security incidents. A CSIRC can provide organization-wide protection from damaging incidents, saving the organization valuable resources and permitting it to take better advantage of computer technology. Towards the establishment of CSIRC of NIC, named NIC-CIRT - Computer Incident Response Team of NIC, a dedicated website has been hosted. An additional supporting site (<http://security.nic.in>) has also been hosted for Cyber security guidelines and Security Policies of NICNET. These websites are accessible to all NIC professionals having user accounts on the INTRANIC server. The NIC-CIRT and Security website caters to the following:

- ❖ **Incident Response Service:** An online Cyber security incident reporting form is available to enable reporting of security incidents occurring in NICNET.
- ❖ **Security Alerts and Advisory Service:** It provides the information on latest releases of patches and alerts for different operating systems, router IOS and applications. Latest virus alerts are also disseminated through the NIC-CIRT site.
- ❖ **Vulnerability Assessment:** Online form for requesting the vulnerability scan service is available. Besides the request may be sent through E-mail also to security@nic.in mail account to avail the service.

❖ Animal Diseases Info system

A website for Weather Based Animal Disease Forecast project of Madras Veterinary College was recently launched by Dr. R Kadirvel, Vice Chancellor of Tamil Nadu Veterinary Animal Sciences University, Chennai . The website, www.animaldiseaseinfo.tn.nic.in, aims at projecting the research made on the spread of animal diseases and the factors that affect the same. The highlight of the site is the "Thematic Maps" link that produces **dynamic thematic/choropleth map on Animal Population data and the outbreaks of diseases**. The system provides the facility for customising the data on the parameters such as range values, legends, colours, etc.

- ❖ **Security related Information Dissemination Service:** Various Information Security Policies worked out by NIC are available for dissemination to the users through this service. Information on Patch management, virus, worms and anti-virus measures, security guidelines, etc., is also available.
- ❖ **Security Awareness Building Service:** The website helps increase the security awareness through release of security related news, security incident statistics and security tips on the website.
- ❖ **Security Training:** To update the security related skills, training is organized on Information Security periodically. The details of the same are posted on the site.

For the aforesaid services, the NIC-CIRT website serves as a communication interface between the Cyber Security Division, Security Experts, Network and System Administrators and the NICNET users. The <http://cirt.nic.in> website hosts dynamic content and the site is updated almost on daily basis with the latest security alerts, pertaining to the patches or viruses, or security related news item, or a tip or advisory on security related issues. Thus, regular viewing of the website and acting upon the information therein by the NICNET users, in general, and the Network and Systems Administrators in particular, would help alleviate security problems. We call upon the NICNET users to make use of the NIC-CIRT as a single contact point for reporting of any Security Incident to enable coordinated action on such issues.

Ravi Vijayvergia, NIC HQ



This website uses a free GIS Server called MapServer developed by University of Minnesota (<http://mapserver.gis.umn.edu/>). MapServer is a CGI application and an open source development environment for building spatially enabled Internet applications. It runs on Linux/Apache, all flavours of UNIXes and Windows. Support for TrueType font enables local language representation. Free PHP/MapScript dll provided by DMSolutions has been used for dynamically manipulating the shape file and creating thematic maps.

R. Gayatri, Tamil Nadu Correspondent

Punjab Vidhan Sabha
<http://punjabassembly.nic.in>

The official web site of Punjab Vidhan Sabha was recently inaugurated by Hon'ble Chief Minister of Punjab Capt. Amrinder Singh. The site has been designed and developed by NIC, Punjab State Unit. This dynamic site will help the visitors to know about General Information of Vidhan Sabha, Questions of the House, Meetings of the various Committees, Detailed

All Districts of Kerala on the Net !!

NIC Kerala Web Services Division has launched all district websites of Kerala State in the "Districts Of India" portal <http://districts.nic.in>. Most of the district websites were registered through the online registration of websites launched by Multi-media and web services division, NIC HQ. The district website contents were approved by the respective collectors. This is the first mile stone of the Web Services Division of Kerala State Unit with the stupendous support from DIOs and DIAs of Kerala State. NIC Kerala has also designed and hosted the web site for NIC Kerala State <http://www.kerala.nic.in>. The district administration are working with the DIOs to start services over the web with due priority to the citizen services delivery from the Government. This will further popularize the official web sites of the districts thereby highlighting the importance of the NIC's services in the districts. The efforts of DIOs will be strengthened by the Web Services Division of the state unit. The details with the links to the district websites have been published at <http://www.kerala.nic.in/news>

Bindu S Kumar, Kerala Correspondent

introduction of the members of the house, information about the council of ministers of Punjab, information about the bills passed by the house etc.

The Chief Minister appreciated the efforts of the website development team led



by Sh Navneet Kukreja, SIO Punjab and S. Sarbjeet Singh, NIC Punjab.

Sarbjeet Singh, Punjab Correspondent

Online Filing of Tax Returns in NIC North East Units

For the first time in the entire North East, NIC employees will be able to file their Income Tax details through an online system developed at NIC Assam State Centre, Guwahati. The web-enabled solution (available as password protected intranet at <http://www.assam.nic.in/incometax>) developed in ASP and SQL Server database has changed the way the Income Tax related information of employees will be gathered and processed. The solution has been developed by Ms Sabina Montaz Sheikh of NIC Assam State Unit and is also aimed at minimizing the manual work for the accounts section as well as the tax payer, who have to work out the details in a tedious manner. The system can be customized as per the requirements of any department of the State Government.

Tasiruddin Ahmed, Assam Correspondent

East Kameng District, Arunachal Pradesh
<http://eastkameng.nic.in>

The website of the East Kameng Districts of Arunachal Pradesh was recently launched on the Net by Shri Jokey Angu, Deputy Commissioner, East Kameng in the presence of Heads of Departments, other senior district level officers and other staff members. All visitors showed enthusiasm to see the website

which provides useful information on the various facets of the District. Besides, a two-week long training programme on "Computer-Based Training On Office Automation" was also organized by NIC for the Officers of the East Kameng District, in collaboration with Administrative Training Institute, Govt. of Arunachal Pradesh, Naharlagun. Over 30 officials from different departments participated in the training programme.

Tasso Habung, Arunachal Correspondent

Shimla District, Himachal Pradesh
<http://hps Shimla.nic.in>

The Shimla district official website was



launched by Sh. Virbhadra Singh, Hon'ble Chief Minister, Himachal Pradesh on 20th November, 2003 at Bachat Bhawan, Shimla. Dr. N. Vijayaditya, Director General, NIC was also present on this occasion. The website has been developed by the District Administration, Shimla and NIC District Centre, Shimla. The website provides information about the History, Culture, Tourism, Facts, Administration, eGovernance, Access, Citizen Services etc. An important section of the website is the Shimla-Heritage which provides links to selected photographs of Shimla dating back to 100 years. Besides, the photo gallery section gives photographs of important places in Shimla District.

Ajay Singh Chahal, HP Correspondent

Corrigendum

In this section of Informatics Vol 12 No. 2 (October 2003), the photographs pertaining to the news items on 'Krishi Marata Vahini' and 'Distt. Kinnaur Website' got interchanged. The inadvertant error is deeply regretted.

Editor

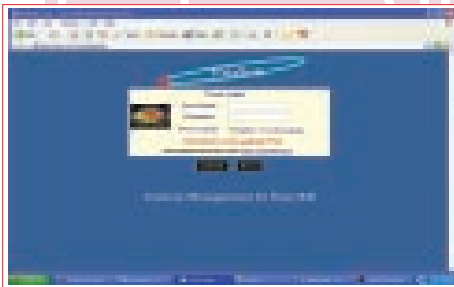


HAPPENINGS

This section features news about NIC's activities/events across the Country and the various new software being developed by NIC in its mission towards facilitating e-governance.....

Orissa embraces PRIASOFT

Panchayati Raj Institution Accounts Monitoring Software (PriASoft) empowers the administrators to monitor the fund receipt, availability, and expenditure at all levels of three-tier administrative set up of Rural Panchayati Raj Institutions(PRI). It generates a number of reports and has an in-built decision support system to analyze any of the account heads. The software is designed so as to allow addition of new account heads at the State level as and when required.



The Web-based version of Priasoft (<http://ori.nic.in/priasoft>) has been successfully implemented by Deptt. of Panchayati Raj, Govt. of Orissa, covering 30 DRDAs, 314 Blocks and 6234 Gram Panchayats. The software has been installed at NIC-Orissa State Unit Server. The data entry / updation is being done, by PRIs, from remote places over the Internet (District, Block and Gram Panchayats). The features related to the elected representatives and assets created by respective Rural Local Bodies (RLBs) are also being added for better management. This is the first time Rural Local bodies have joined e-governance initiatives in such a large number and effective manner.

B.P Mishra, NIC Orissa

National Conference on Co-operatives

A National Conference on "Post-Harvest

Technologies and Effective Management of a Cooperative" was held on 10th October 2003 at New Delhi. The objective of the conference was to bring together on a common platform, various cooperative societies dealing with food processing and agribusiness activities.

Various NIC Projects in the related areas,

NIC participates at IT.COM 2003

NIC participated in a major way at the IT.Com 2003 held during November 1-5,2003 at Bangalore . The NIC Southern State/UT Units of Karnataka, Tamil Nadu, Andhra Pradesh, Pondicherry , Kerala and Andaman & Nicobar Islands set up a stall where the features,



implementation status and the impact of several e-Governance projects were demonstrated online, supplemented with audio and video aids. The stall was formally inaugurated by Sh. Rajeev Chawla, Secretary, E-Governance, Government of Karnataka. The State Informatics Officers of all the

including Agmarknet, Nafed Computerisation, Warana Wired Village Project and Pravara



Educational Complex ICT Network were demonstrated during the various technical sessions. A prominent session on "ICT enabled Agribusiness : Pathways to Rural

participating NIC State/UT centers were present at the occasion and made presentations and demonstrations of their respective activities and projects. A brochure of NIC's activities was also released during this occasion. The NIC stall attracted a large number of visitors including VIPs, Officials from other State Governments, citizens and students from engineering colleges. The Hon'ble Union Minister of State for Information Technology Sh. S.Thirunavukkarasar visited the stall and showed keen interest while appreciating the efforts of NIC in the facilitation of e-governance. The other luminaries who visited the stall included Shri Inamdhara , Hon'ble Minister of Information Technology, Government of



Karnataka, Shri Panjan Agarwal, Joint Secretary, Department of Information Technology, Dr.N.Seshagiri, former Director General of NIC and several senior officials.

Manimozhi Udayanan, NIC Karnataka



Prosperity" was chaired by Sh. M Moni, DDG, NIC and also the Chairperson of the organizing committee of the event which was jointly organized by Bhoovigyan Vikas Foundation and Park Technologies Inc. The conference was presided over by Sh. Annasaheb M.K Patil, Hon'ble Minister of State for Rural Development.

M.Moni, NIC HQ

HALRIS Software Inaugurated

HALRIS (Haryana Land Records Information System) which has been developed by NIC Haryana State Unit as a workflow based solution and has been integrated with HARIS (Haryana Registration Information System) is a unique product of its kind in the Country. Recently, the solution was implemented at yet another district of Haryana i.e. Sirsa (after Ambala, Yamuna Nagar, Kurukshetra and Panchkula).

The project was inaugurated on November 1, 2003 by Hon'ble Chief Minister Sh. Om Prakash Chautala in Sirsa District on the occasion of Haryana Day. Addressing the gathering on the occasion, the Chief Minister



said that the project is expected to bring efficiency, transparency and accountability in the management of Land Records by significantly reducing workload and delivery time and by providing better services to the public. With the launch of HALRIS, common man will now be able to get Copy of Record of Right (Nakal) of his land, Services like Deed Writing, Deed Registration, Attestation, Sanctioning and incorporation of Mutations in Land Records etc. under one roof at Tehsil HQ without facing any hardship and harassment. The System is also expected to check tampering of Land Records, thus reducing litigations pertaining to land

disputes. The System promises to fulfill the aspirations and needs of common people as well as administrators alike.

Hari Chand, Haryana Correspondent

Feasibility Study for IT Centre at Lao PDR

Government of India has planned to assist the Government of Lao PDR in establishing an "Information Technology Centre with Value Addition" at Vientiane under its International Technical Exchange Cooperation (ITEC) Programme to strengthen its South-South Cooperation. Sh. M Moni, Deputy Director General, NIC was deputed as Information Technology Expert to explore the feasibility of setting up the Centre. During his visit to Vientiane, Sh. M. Moni participated in a seminar to assess the needs and preparedness of various Ministries & Departments of the Govt of Lao PDR and delivered a talk on "Digital Opportunities and Sustainable Development – A South-South Cooperation Imperative".

Sonal Kalra, NIC HQ

One Day Governance Programme at Vadodara

"One Day Governance Programme / Nagarik Seva Kendra" at Vadodara district of Gujarat has been awarded for 'Exemplary



Implementation of e-Governance' by Department of Administrative Reforms & Public Grievances, Ministry of Personal, Public Grievances & Pension. District Collector Sh. Bhagyesh Jha, I.A.S collected the award from Shri. L.K Advani, Hon. Dy. Prime Minister of India at the 7th National e-Governance conference recently held at Chennai.

Nagrik Seva Kendra is a window for the citizens to get various certificates like Income Certificate, Caste Certificate, OBC Certificate, Domicile Certificate and Senior Citizen Certificate. All types of Affidavits, Arms Licenses Renewal, Petition Writer Renewal, Hotel License Renewal and Stamp Vendor Renewal are also issued through this Kendra.

Software developed by NIC automates the procedures at the Seva Kendra right from the receipt of application and approval to printing of various certificates. The Kendra immensely benefits the citizen of Vadodara and the response has been tremendous since its initiation in May 2003.

Manoj PA, Gujarat Correspondent

E-Governance in Haryana Health Department

Haryana State's Technical Committee headed by IT Secretary of the State had prepared the IT Action Plan of Haryana Health Department wherein the responsibility of developing application software was assigned to NIC Haryana State Unit. The software has been developed to monitor the flow of drugs, goods and attendance of doctors. E-mail facility with Internet access has been provided to the Civil Surgeon offices in all the districts of Haryana.

A workshop was organized on the same recently at Panchkula and Karnal districts. During the workshop, Sh. Rajkumar, IAS, Commissioner & Secretary, Health and Medical Education released two software



packages namely 'Family Welfare Information System' and 'Doctors Leave Record Information System'. He appreciated the role played by NIC, Haryana State Unit in the computerization of health department,



Haryana. Sh. S S Duggal, & Sh. Rahul Jain of NIC gave hands-on training to the nodal officers and demonstrated the software to Civil Surgeons.

Hari Chand, Haryana Correspondent

NIC Support during President's Visit

During the visit of Hon'ble President of India Dr. A.P.J Abdul Kalam on July 6th, 2003 to Mumbai, the NIC State Centre Mumbai provided the necessary Computer and Internet connectivity to the President and his entourage. ICT facilities were provided at the Camp office of President at Sahyadiri Guest



House of Govt. of Maharashtra.

Hon'ble President of India during his visit to His Holiness Dr. Syedna Burhanuddin (TUS) at Saify Mahal, Mumbai. Next to him is Sh. Moiz Hussain, SIO Mumbai

Moiz Hussain, NIC Mumbai

Software for GPF Queries

A Web-enabled software (<http://www.agae.tn.nic.in>) developed by NIC Tamil Nadu State Unit for the Office of the Accountant General (A&E), Chennai was recently launched. The software provides the following queries related to GPF to the State Government employees numbering about 7.0 lakhs :

- Monthly credits / debits transactions for any year from 1991-92.
- Current year Opening / Closing Balance credit
- Opening / Closing Balance for any year since 1991-92
- Missing credits (Year / Month)
- Current year cumulative credits
- Final withdrawal details like status, FW amount etc, for retired employees (along

with nominee details, residual etc.

The GPF data is maintained for all transactions since 1991 and the total number of records in the database is about 100 million records. The software has been developed using SQL Server 2000 and ASP.NET.

R.Gayatri, Tamil Nadu Correspondent

ISO Training at NIC Bihar

ISO certification process has been initiated in NIC to establish QMS for ensuring consistent and reliable quality of services to the users. Initial stage of this important activity was marked by a series of awareness training to the employees so that a broad awareness is generated. Immediately after trainers' training at NIC (HO), NIC Bihar took the lead in providing awareness trainings to all employees within a fortnight. This training was effective and has generated lot of interest in adopting QMS.

Success of ISO training at Bihar led to the selection of Bihar State Unit as the Leader in this regard. Dr. Saurabh Gupta, the then SIO and Shri S.N Behera of NIC-Patna were nominated as National Trainers on ISO. They have already successfully executed the ISO awareness training at Andaman & Nicobar, Sikkim, Meghalaya, Jharkhand and Mizoram.

N.K Prasad, Bihar Correspondent

Launch of HimBhoomi at Himachal Pradesh

On 20th Nov. 2003 Hon'ble Chief Minister of Himachal Pradesh, Sh. Virbhadr Singh inaugurated the online issue of copy of land records for the Sunni Tehsil of District Shimla, which was attended by a large no. of dignitaries. Dr. N Vijayaditya, Director General, NIC was also present on this occasion. The HimBhoomi software has been prepared by Himachal Pradesh State Unit and facilitates the porting of data from District to Tehsil, online entry of mutation and online issue of Nakal to the owners. For land records master entry, the LRMIS software prepared in Oracle 7.0 and Unix is under implementation in all

the districts of HP. The Chief Minister released the CD containing the data of Sunni Tehsil and gave CD to Principal Secretary (Revenue), Govt. of Himachal Pradesh and Tehsildar Sunni.

Thereafter he released the Jamabandi (ROR) with his signature and presented it to DG NIC besides the others. He also distributed certificates of appreciation to Sh. Rajesh



Bahadur, SIO HP, Project Leader Sh Mukesh K Ralli and Sh Lalit Kapoor, Sh Sandeep Sood, Sh Rajeev Sharma as team members and DIO & DIA of Shimla for excellent implementation.

Rajesh Bahadur, NIC Himachal Pradesh

National Register of Citizens Database

NIC, Assam State Unit has undertaken the project of computerizing the National Register of Citizens (NRC), 1951. The sensitive and important project was entrusted by the Department of Political & Home Affairs, Government of Assam to NIC. Dhubri was selected as the pilot district for implementation in Assam. Out of a total of 1304 registers, containing data for population of 7,16,859, data entry for more than 130 registers have been completed from March till November 2003. Ten personnel from the Assam Police department trained at NIC Dhubri were engaged in the data entry operations using the software developed at NIC Assam State Centre. Since the original registers contained data in English, Assamese and Bengali, the software was designed to support regional language and implemented using ISM Office 2000, Visual Basic and Access. Considering the fact that the pages in the registers are mostly in a nearly mutilated condition, and the legibility of the hand-written records, the data entry which



has to be done with utmost care, is an uphill task. Once the entry is completed, data in the digital format shall remain preserved for years to come and can be referred to as and when required by the Government.

Tasiruddin Ahmed, Assam Correspondent

Ration Card Computerisation at Gujarat

NIC has developed and successfully implemented Tehsil/Taluka Level Ration Card Computerisation System in Banaskantha District of Gujarat State. The initiative taken by Shri Kamal Dayani (IAS), Collector & DM and Shri Rajesh Mehta, District Supply Officer, provides G2C e-Governance interface to the benefit of the citizens of this north Gujarat district. Backlog of 20000 ration



Hon'ble Chief Minister Sh Narendra Modi talking to a ration clerk at Nagrik Seva Kendra.

cards has been cleared and the database of around five lakh cardholders has been built up. Centralised data store at District level is being updated by online data entry and printing of ration card is at Taluka level through Gujarat State WAN. Online ration card system was inaugurated at Nagarik Seva Kendra, Palanpur on Oct 2, 2003 and visited by Hon'ble Chief Minister. Eight Talukas of the district is now issuing ration cards using this system.

Manoj PA, Gujarat Correspondent

Training on Developing websites at Arunachal

A training programme on "Developing Website" was conducted by NIC Arunachal Pradesh State Unit from Nov 10-14 '2003. Sh. Manish Gupta, Secretary IT, inaugurated

Continued from Page 17....

De-Mystifying Technology behind Dynamic Portals

caching is used. Frequently accessed content that is more or less static are retrieved from the database and cached in the web server as HTML or XML fragments or files. These cached fragments are updated automatically as and when changes are applied to the underlying database.

- To facilitate quick & easy search, the content contributor is required to tag the content with attributes such as author, title, keywords etc. Wherever possible, each attribute is stored within the file, as meta-tags in HTML documents and in the document properties of the documents such as Word, Excel etc. Documents for which information cannot be directly written into the files (e.g. .exe file) have an HTML stub file created for them which stores the content attributes as meta tags and have a redirect to the actual file. Sometimes, keywords are built dynamically based on user search.
- Multilingual support is extended to the portal by storing all labels, messages etc. in the database. To boost performance, these labels are retrieved and cached in the web server.
- Personalization is carried out through explicit as well as implicit profiling. Explicit profiling is achieved by explicitly asking the user to state his/her preferences when signing up. In implicit profiling, user behavior is captured invariably through a web log, which is then analyzed to judge user preferences. Both explicit as well as implicit profiling, when combined with user details, provide analytical insights that can be used to improve the site.

The paucity of space restricts a full-blown discussion on many more challenging design issues handled by such portal solution frameworks. Attention may, however, be drawn towards the development of a similar solution framework by NIC.

eNRICH (<http://enrich.nic.in>) was conceptualized, jointly by NIC & UNESCO, as a simple browser-based solution to enable rural communities to access information they need

through a single one stop portal. Though any of the above portal solutions could have been used, the need was for a very low end computing solution that could be installed in a desktop environment.

eNRICH was further enhanced to cater to the need for the development of block community portals for the 487 blocks under the **Community Information Centre (CIC)** project of the 7 North-Eastern states and Sikkim. Some of the features offered by eNRICH include:

- Content management including facility for building content taxonomy, distributed content contribution (by CIC operators, domain experts & government functionaries), provision for content tagging, moderation of content etc.
- Role-based security
- Personalization at the level of block community as well as individual both in terms of appearance as well as content
- Analysis reports based on the user profile & navigation data
- Multilingual support
- Search facilities
- Sharing of content among multiple online block communities

eNRICH is also being customized to generate dynamic portals for more than 550 DRDAs of the country. Efforts are also underway to customize eNRICH to act as an integrated solution for health workers in PHCs, allowing sharing of health related information as part of WHO's Health Inter Network Pilot Project. All these customization efforts are providing valuable insights for making the portal framework more generic.

Dynamic portal frameworks offer opportunities to address a wide spectrum of application areas ranging from a highly complex one-stop, integrated government portal such as the proposed India Online portal on the one hand to a fairly simple portal required by a large number of rural communities who lack the technical expertise to manage the portal.

For further information, mail to rama@hub.nic.in



the five days programme at State Secretariat. Speaking on the occasion, Mr. Gupta expressed his happiness that the departments have shown keen interest and sent their officers for this training programme. He said that web site is the best



way in dissemination of news and also the cheapest means of communication. The Secretary also appreciated NIC's role in providing training. Mr. D.K.Debnath, SIO, who also spoke on the occasion, informed that the training programme has been taken up in right earnest and effort have been taken to ensure provision of a computer with internet connection for each trainee during the training, so that the participants can effectively practise on the skills learnt during the programme. The programme was attended by officials from various departments of the Arunachal Pradesh

Tasso Habung, Arunachal Pradesh

● | **Awards to NIC Projects during E-Gov Conference**

The official web portal of Haryana government, <http://haryana.nic.in>, which has been developed, hosted and being maintained by a team headed by Sh. Pardeep Kaushal, NIC Haryana was awarded "Merit Citation" under "Exemplary Website" category at the 7th National E-Governance Conference held at Chennai during Nov. 13-15, 2003, organised jointly by the Department of Administrative Reforms and Public Grievances, Government of India and Government of Tamil Nadu. In addition, a paper entitled "e-Food.Net – A Web Based Decision Support System for Food Department & Related Agencies" was also

awarded "Merit Citation" under "Best technical papers".

The e-Food.Net Software has been developed & being implemented under technical guidance of NIC Haryana and the paper submitted by Sh. Baljit Singh,



Computer in-charge Haryana Food & Supplies Department & Sh. S S Duggal from NIC Haryana. These two Merit Citations were received by Mr. G S Bansal, SIO-Haryana from Sh. L.K. Advani, Hon'ble Dy. Prime Minister of India.

During the Conference, the LokMitra Project of Himachal Pradesh Government was conferred with the "Exemplary EGovernance Initiative-Bronze Award". The LokMitra Project has been designed, developed and being maintained by NIC Himachal Pradesh and the nomination paper was also prepared by NIC Himachal Pradesh for the Conference as a concept paper on behalf of the HP Government. The LokMitra Pilot Project has been implemented in the Hamirpur district with the objective of providing IT enabled Government to Citizen Services to the rural masses. The Project was listed as one of the 20 Hot E-Governance Projects of the Country by Dataquest September 15, 2003 issue.

Hari Chand, Haryana Correspondent and Ajay Chahal, Himachal Correspondent

● | **NIC Officers elected on CSI-Lucknow Board**

Owing to their valuable contributions in the field of Information Technology for the State of Uttar Pradesh, three officers from NIC U.P. State Unit, Lucknow have been

elected as office bearers of Computer Society of India, Lucknow Chapter for the year 2003-2004. Dr. L.R. Yadav, Technical Director, NIC has been unanimously elected as Chairman, while Mohd. Amir Idrees has been elected as Secretary and Mr. Deepak Sharma as Treasurer.

Anshu Rohatgi, Uttar Pradesh Correspondent

● | **Online Counselling & Admissions at Rajasthan**

NIC has implemented an Internet-based counseling system for the All-India Engineering Entrance Examination (AIEEE) and introduced it in the Malviya National Institute of Technology (MNIT), Jaipur & 13 National Engineering Institute and a few other Universities. The system has been launched for the first time in the country. In order to smoothen out the process and make it faster and convenient, online counseling & admissions system has been implemented by the NIC, Rajasthan State Unit. The successful



candidates of the engineering entrance test will be able to select the college of their choice and the branch of study through Internet. As many as 13 National engineering institute and a few other Universities have been included in the new system.

The State Science and Technology Minister, Shri Madhav Singh Diwan took stock of the counseling system in MNIT over the weekend and lauded the NIC's endeavor saying it would bring effective management and transparency to the admission procedure in the prestigious engineering courses

Deepak Bhargava, Rajasthan Correspondent

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