

InformatICS



Special Feature Commonwealth Express



**Uttar Pradesh: Focusing on
Rural e-Governance**

**CollabCad: Designing
CBSE Curriculum**

ICT Initiatives in Dholpur

**Jammu & Kashmir
Embraces ICT for
e-Governance**

e-College*Suite

**Eucalyptus Cloud
Computing**

Informatics

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Editorial



AS the Commonwealth games are being hosted in New Delhi, we bring an exclusive coverage of Commonwealth Express Train in our Special Feature section. The Ministry of Railways and Department of Information Technology jointly launched Commonwealth Express Train to spread awareness about sports and Information Technology among citizens in the country. The train is for showcasing achievements in sports as well as IT, e-Governance, technology initiatives for improved citizen services in rural India. The train creates awareness among people about the evolution of ICT as a major force in building better India.

SMS application development using Open Source - Andhra Pradesh Experience, Online Job Application System for Government of Gujarat, Introduction of CollabCAD in CBSE Curriculum, e-College*Suite: Integrated e-Governance solution for College Campus from NIC, and Pregnancy, Child Tracking and Health Services Management System of Rajasthan are the highlights of our Products & Services Section.

Technology update covers Eucalyptus cloud to remotely provision e-Governance applications, and Self Healing Software to Fix Post Release Errors.

'From the States/UTs section', highlights ICT initiatives in the State of Jammu & Kashmir and Uttar Pradesh. Various ICT projects and initiatives in Amravati district of Maharashtra, Imphal East district of Manipur, and Dholpur district of Rajasthan have also been highlighted in our Districts segment.

GOI Web Directory - A one-point source to access all Indian Government Websites at all levels and from all sectors is briefly described in National Portal Update this time.

All our regular sections viz., International e-Gov Updates, Cyber Governance, In the News etc. are there to serve your need to know what's happening in the e-Gov domain around us.

It is our immense pleasure to present INFORMATICS with new look and layout. We are sure you would enjoy the content and information presented with the new look. If you have any suggestion to improve the quality of INFORMATICS, we definitely look forward to hear from you.

Enjoy Reading...

We would like you to contribute to Informatics. You can send your contributions to our State Correspondents or can also send directly to us at the following address.

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In the past Railways has successfully launched exhibition trains like Azaadi Express, Red Ribbon Express and National Science Express for highlighting Indian Independence, AIDS awareness and Science and Technology respectively. With Commonwealth games being hosted in India, Ministry of Railways and Department of Information Technology jointly launched Commonwealth Express to spread awareness about sports and Information Technology among the masses across the country.



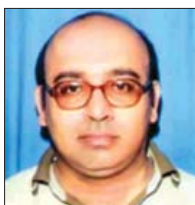
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Commonwealth Express Train - An exposition on wheels

Edited by **Vivek Verma**

THE Commonwealth Express train was flagged off by Hon'ble Union Minister for Railways Km. Mamata Banerjee and Hon'ble CM of Delhi Smt. Sheila Dikshit along with Hon'ble Minister of State for C&IT Sh. Sachin Pilot on 24th June 2010 from Safdarjung railway station. Also present on the occasion were Ministers of States for C&IT, Railways, Chairman Railway Board, Secretary, DIT and DG, NIC. The flagging off of the Commonwealth Express in New Delhi coincided with the arrival date of the baton through the Wagah Border from Pakistan. After 101 days journey schedule covering 21 States and 3 UTs and stopping over at 49 cities having broad gauge connectivity, this exhibition train concluded its journey in Delhi on 1st October 2010.

Out of a total of 11 coaches, five coaches were allocated to Railway Sports Promotion Board to showcase the history of Commonwealth Games, details of the venues of the events, to spread general awareness about different sports and to give wide publicity to the sports icons of India who have brought laurels to the country with their stupendous feats. In the remaining six coaches,



Hon'ble Union Minister for Railways Km. Mamta Banerjee, Hon'ble CM of Delhi Smt. Sheela Dixit and Hon'ble Minister of State C&IT Sh. Sachin Pilot flags off the 'Commonwealth Express Train'

Department of Information Technology showcased the capacity and the work done in the country in the area of Information and Communication Technology to make people understand the significance of ICT as a major force of change, impacting every sphere of life. The initiatives carried out by the Department of Information Technology and its affiliated entities in the fields of e-Governance, infrastructure, technology relevant to rural India, language interfacing technology etc., were exhibited by way of backlit translights, front-lit digitally printed posters, short informational films etc. To reach out to the common man in as effective manner as possible, the content of the backlit translights was made available in ten

regional languages and this language changeover happened as and when the train entered such a State. With no entrance fee or platform ticket requirement, the exhibition remained open from 10 a.m to 8 p.m at each halt.

The first coach gave brief history of Commonwealth Games and details about the mascot "Shera" and the Queen Baton Relay (QBR). The second coach threw light on details of the venues and various games to be played. The third coach displayed various sporting events, which have been included in the Games and details about the participating countries were displayed in the fourth coach. The contribution of Railways in the development of sports and the list of medals won by railway sportspersons in international events found their place in the fifth coach.

Remaining 6 coaches very nicely covered different facets of ICT. The first of which systematically presented an impact that ICT has made in the life of a common man by showing the evolution in communication from smoke signals in primitive times to SMS and e-mails in the present times. Initiatives taken by the Department of Information Technology (DIT) and NIC impacting the life of common man was displayed in the second coach. The third coach dealt with the influence of ICT in various sectors - social, health, education, agriculture and ecology. The fourth coach presented ICT from industry's perspective highlighting its contribution towards the growth of economy. The theme of the fifth coach revolved around common service centres (CSCs), an initiative for common man's convenience which serves as an enabler for bringing government closer to citizens. The sixth coach, designed as mobile auditorium, provided Internet services, Citizen Centric Services, Video conferencing and mobile communications for the convenience of public.

The theme "IT Story of India", was very nicely demonstrated through host of e-Governance applications

namely AGMARKNET, NREGASoft, VAHAN/SARATHI, e-Counselling, Public Grievances, Land Records, Property Registration, Tele-education, India Portal, Video Conferencing system, etc. In addition, an e-Quiz facility was an instant hit, where participants replied to system generated questions on Computers, Environment and Earth Sciences to win a certificate. Counters were very well equipped with laptops, printers, display equipment etc. and printed brochures of around 60 applications, with local language interface, were made available. The average reported audience at each location was 12000-15000 and more than 5 lakh persons visited this unique exhibition of sports and IT.

“While a section of the population is aware of the significance of ICT, the larger section still does not have much clarity about it. The more important part is that the people do not know how ICT as a tool can change their lives. The CWG Express is about bridging that knowledge gap

Sh. R. Chandrashekhar,
Secretary, MoCIT

The Central representatives from NIC Land Records Division, Headquarters, States and Districts managed the show very well. Right from the start at Delhi on 24th June, 2010, top priority was accorded to this event by DG NIC, who along with Dr. Y K Sharma, DDG, NIC visited the train a number of times and guided the team with their valuable suggestions. All through the journey, criss-crossing the length and breadth of the country, NIC's central team at headquarters with active participation of respective state units, who mobilised their

resources, ensured the success of the event. SIOs personally reviewed arrangements of stalls, deployment of officers and the applications to be demonstrated in the stalls. NICSI extended full logistic support in a short span of time.

GLIMPSES FROM THE STATES/UTS

Punjab - A team of 7 officers manned the counters at Amritsar, Jalandhar, Patiala and Chandigarh and answered to queries of the visitors. Many e-governance applications including PRISM, "Suvidha" were demonstrated.

Jammu and Kashmir - A team of 4 officers under SIO handled the J&K leg of the exhibition at Udhampur. CM public grievance, Electoral roll, social welfare, cause-lists of courts were some of the applications that evinced keen interest.

Haryana - Covering Ambala and Chandigarh, a team of 7 officers under SIO gave demonstration of HALRIS, HarSamadhan and Public Grievances, Online counseling and Off campus counseling, "E-Disha" - citizen centric service centres and many other applications, which was widely appreciated.

Chandigarh - A team of 4 officers under SIO managed the show. Visitors were briefed about the various initiatives including eSampark, eJan Sampark and Gram Sampark.

Himachal Pradesh - At Una 7 officers tirelessly showcased the initiatives like eSamadhan, ePehchan, Job Portal, eParman, eGazette, Online Hotels Reservation.

Uttarakhand - At Hardwar, SIO with a team of 10 officers displayed various applications like Devbhoomi (Land record), Transport (Vahan and Sarathi), Commercial Tax, e-Janadhar Seva, Employment Exchange automation, Uttarakhand-SWAN.

Uttar Pradesh - The team was in full strength at all the 5 halts - Lucknow, Allahabad, Varanasi, Jhansi and Agra city where Bhulekh-Land Record System, e-Scholarship-Scholarship Management System, e-District Scheme, PRERNA-Property, Food and Civil Supplies Computerisation-Ration Card Digitization, Land Record based Rice/Wheat Procurement System, SMS for PDS distribution were shown.

Bihar - Covering Patna and Gaya halts, a team of 14 officers gave demonstration of Vahan and Sarathi (Transport), RACE (Energy Billing), SCORE (Property Registration), MUDRA (Municipal Corporation), E-certificates, PHC and CHANAKYA.

Assam - There were 2 stoppages at Maligaon and Mariana where the NIC Assam team showcased DHARITREE (Land records), e-PANJEEYAN (Registration), VAHAN & SARATHI (transport), e-COURT (Court) & use of Geographic Information System (GIS) in Land Records computerization.

West Bengal - With 5 scheduled stoppages namely New Jalpaiguri, Asansol, Kharagpur, Kolkata and Durgapur, the applications shown were Bhumi, Bhuchitra, Missing Child Portal, School Education Portal, WBAGRIS-NET.

Jharkhand - NIC team was in full strength at Dhanbad and Ranchi to showcase the initiatives taken by them. Some of the projects displayed were e-Nagrik Sewa (Certificate issuing system through Pragya Kendra), Samvad (Public Grievance Monitoring system), e-court, Land Records, Revenue Court, Old Aged Pension Scheme, Commercial Taxes and Transport department. Jharkhand Space Application Centre and Jharkhand Agency for Promotion of IT (JAP-IT) also coordinated with NIC and displayed noteworthy happenings in the state like e-Registration, CSC project, Jharkhand Portal, Jharkhand

GEO profile, Village Profile, Agriculture Information system etc.

Orissa - The team of 10 NIC officers took over the responsibility of demonstrating various applications at Macheshwar station. This included e-FCS (Paddy Procurement), Bhulekh (Land Records), Chief Ministers Grievance Redressal System, GePNIC (eProcurement), SUBIDHA (eMunicipality), Jalakara (Water Billing).

Chhatisgarh - The halts were at Raipur and Durg where Paddy Procurement Computerisation, Online Agriculture Subsidy to Farmers (e-Agri), RES works Accounting System (e-Works), Computerisation of House allotment by Housing Board (AWAS), Land Records Computerisation (BHUIYAN), Property Registration Process (E-Panjeeyan), PDS online, e-Agri, e-Works and BHU-NAKSHA : Land Parcel map management were presented by a team of 8 NIC officers.

Andhra Pradesh - The train reached Secunderabad to a rousing welcome. Visitors appreciated the concept which highlights the significance of ICT as a major force of change impacting virtually every sphere of life from industry, health and education to ecology and disaster forecast.

Tamil Nadu - With halts at Chennai and Madurai, the focus was to showcase the impact of ICT in various sectors - social, health, education, agriculture and ecology. Anytime Anywhere e-Services for Land Records, Collabland, BC and MBC Scholarship system, Systems for Civil supplies, Online MSME, PICME where showcased.

Puducherry - Led by SIO, a team of 9 officers showcased various applications of interest to common man. Visitors showed keen interest in Property Registration (e-Pathiram), Land Records (Nilamagal), Birth and Death Certificate, Value Added

Tax (VAT).

Kerala - With stoppages at Trivandrum, Kollam and Ernakulam, a team of 30 NIC officers handled the exhibition where they showcased India Portal (www.india.gov.in), SmartMove with Learners License Test Trial, Dr.SMS, Revenue Services, MVD Kerala Services, Fisheries (RealCraft), SSLC and DHSE, Civil Supplies Dept. Portal, Agmarknet, Passport and MGNREGA.

Karnataka - With 3 stoppages at Mysore, Bangalore Cantt and Hubli spread over 9 days and a team of 10-12 NIC officers, citizens were able to experience many applications. Some of them are Land Records (Bhoomi), India Gov Portal and Courts, Water Billing software, Rural Digital Services (Nemmadi), Panchatantra, NREGA and Vatsoft, Krishimaratavahini.

Goa - The train arrived at Vasco on its 75th day of the journey to a rousing reception. Chief Minister Digambar Kamat inaugurated the exhibition.

Maharashtra - The train had halts at Khadaki and Mumbai Central. Led by SIO there was a team of 14 NIC officers to provide details on Mahabhulekh, Property Card Registration Online, Touch Screen Kiosk, PregCare, e-FACMIS, SIMNIC and District Websites.

Gujarat - The train was welcomed at Gandhinagar with a colourful cultural programme. The exhibition was inaugurated by Mr Ravi Saxena, Additional Chief Secretary (Science and Technology).

Madhya Pradesh - NIC Madhya Pradesh showcased 'Parakh', 'Samadhan Ek Din', 'e-Scholarship', 'e-PDMS', 'Education Portal', State specific contributions under National Portal of INDIA.

Rajasthan - NIC Rajasthan showcased

'Apnakhata', e-Gram and Sugam

Visitors lauded the initiative by way of penning down very positive comments in the visitor's book. Since, local applications were also being showcased; people were thrilled to see their own information online and were seen capturing it on cameras. The coaches dedicated to sports were like a moving museum with plethora of information covering everything from the history of the CWG to India's promising performances and heroes who brought

back medals from various tournaments over the years. At every place the train went, traditional welcome was accorded by distinguished gathering and enthusiastic people were too eager to have a glimpse of specially designed train. People braved the inclement weather at some places and came in large numbers just to have a first hand experience of the exhibition. The train in itself was a colourful treat for school students and children who were found to be amused by the vibrant theme and ambience. The

event was widely covered by local media and TV channels. At some places the exhibition timings had to be extended because of a huge rush. The Sports and Information Technology extravaganza caught the fancy of the masses in the far and wide corners of India through this Commonwealth Express and people went with unforgettable memories of nicely organised exhibition. The successful completion of this odyssey added yet another feather to the cap of this esteem organisation.



"Shera" the mascot of 2010 Commonwealth Games New Delhi



NIC Team at Commonwealth Express Inauguration



State IT Minister, Govt of Bihar inaugurating the exhibition at Patna



Dr. Poongothai A Aruna, Hon'ble IT Minister Govt of TN visiting NIC stall



Student in VC session at Kamakhya/Guwahati



Students lined up at Lucknow to see exhibition



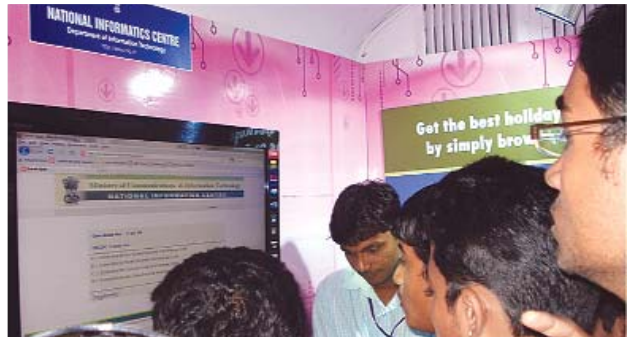
SIO, Karnataka highlighting the Bhoomi application to Syed Kirmani, Cricketer in Bangalore



DC Una was highly appreciative of the e-Governance applications demonstrated by NIC



School Students visiting the train at Bhubaneswar



Students jostling for space at e-Quiz counter at Ajmer



Certificate issued to a participant of e-Quiz at Ranchi



Citizens at Tamil Nilam Stall in Madurai



Sh. N S Nigam, DM, Paschim Medinipur, Sh. Anil Handa, DRM, Kharagpur Division at the inauguration



Mr. Sanjay Kumar, Secretary (IT) Chandigarh Administration inaugurating exhibition

SMS Application Development using Open Source

SMS - Short Messaging Service has changed the life of the common man, leave alone the benefits of a mobile phone, in staying connected and doing transactions while on the move. SMS integration with e-Governance applications has taken a big leap in reaching the masses renaming SMS as Smart Management Service.



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SMS is a powerful personal communication channel. Wherever there is a need or benefit for sharing information, SMS can play a significant role. Specifically, government organisations can leverage the platform for collecting information from, and staying in touch with, various field organisations.

Particularly, in rural areas where the penetration of internet and other IT facilities are very low, SMS could be a very useful tool for public sector as well as for the government departments in implementing their eGovernance applications using mobile technology.

Open Source and Free SMS Gateway Software

An SMS gateway has a lot of responsibilities in an SMS messaging system. So, SMS gateway software can be very complex and complex software is usually expensive.

Fortunately, there are open source SMS gateway software packages that can be downloaded free of charge over the web. One high-quality free SMS gateway software package is Kannel, which is written in the C programming language. Kannel can handle connections to SMSCs, mobile phones and GSM/GPRS modems. It has an HTTP / HTTPS interface for the sending and receiving of SMS messages. More information about Kannel can be found on its web site <http://www.kannel.org/>.

How is it made possible?

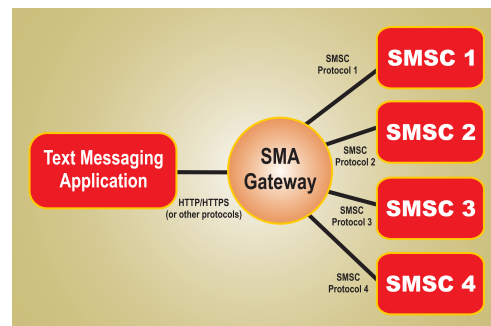
All this is made possible with the Open Source Technology viz., Linux,

Kannel SMS Gateway, Java/JSP, PostgreSQL.

What is a GPRS Modem?

A GPRS modem is a GSM modem that additionally supports the GPRS technology for data transmission. GPRS stands for General Packet Radio Service. It is a packet-switched technology that is an extension of GSM. GSM is a circuit-switched technology. A key advantage of GPRS over GSM is that GPRS has a higher data transmission speed. GPRS can be used as the bearer of SMS. If SMS over GPRS is used, an SMS transmission speed of about 30 SMS messages per minute may be achieved.

This is much faster than using the



ordinary SMS over GSM, whose SMS transmission speed is about 6 to 10 SMS messages per minute.

Working of SMS Gateway

A GPRS modem is needed to send and receive SMS over GPRS. Note that some wireless carriers do not support the sending and receiving of SMS over GPRS. If we need to send or receive MMS messages, a GPRS modem is typically needed. The SMS gateway acts as a relay between the two SMSCs. It translates one SMSC protocol to another one. This way can be used by two different wireless carriers to interconnect their SMSCs for



NIC, Hyderabad SMS Team with the J&K Police at Jammu

Excerpt of the letter from
Dr. R.S.Praveen Kumar
IPS, Joint Commissioner of
Police(Special Branch)
Andhra Pradesh



Introducing SMS based CUG transformed the way we communicate among ourselves and our interface with the citizens.

purposes such as enabling the exchange of inter-operator SMS messages. The use of an SMS gateway can greatly shorten the SMS text messaging application's development time. To connect to an SMS gateway, you can use an SMSC protocol such as SMPP and CIMD. Some SMS gateways support an HTTP / HTTPS interface. HTTP / HTTPS are easier to use than SMSC protocols. The drawback is that there may be fewer SMS features to use. For example, an SMS gateway may not support the sending of picture messages through the HTTP / HTTPS interface. SMS text messaging application connects to SMSCs through an SMS gateway.

Success in AP

In this direction, Andhra Pradesh has achieved another feather in its IT cap, by developing Open Source Technology based SMS applications and implemented successfully for APNPDCL with complaint status system, Warangal, Anantapur District Collectorate with Civil supplies Dept.'s Complaint and auto forwarding system and for Prajavani - a Public Grievance Status System, AP High Court with Case Status System, Hyderabad and Cyberabad Police with Complaint receiving and forwarding system, Tracking of Stolen Vehicles as a Closed user group System, Hyderabad Passport Office with Passport Application Status and auto answering the applicants with Verification objection

details system and so on.

In the case of Hyderabad and Cyberabad Police Commissionerate, an SMS based Complaint receiving and forwarding system, which is a very useful G2C and G2G Application, has been implemented with the objective that the System supplements the existing Dial 100 facility for lodging complaints regarding Women harassment, Crime, Terror, Traffic related problems etc. In addition, this allows the department in Sending SMS to CUG groups/individual official for further monitoring. It supports a Web based Work Flow System with full reporting capabilities. SMS Message length greater than 160 characters can be sent in a single message. Also, using an Excel worksheet, the official can send the SMS. All the SMS are stored in database and retrieved as and when required. Persons sending Hoax messages can be easily tracked and prosecuted. Police will alert the Officials through this application by selecting group members. This is Operational since 2008.

This application has won several laurels and had a quick replication in 2 more states viz., Kerala and Jammu & Kashmir and is made operational since 2009. These SMS applications have become part and parcel of the Police Department's day to day activities, since implemented.

Edited by **Dr V.V. Venkata Ramana**,
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It is believed that SMS messaging services are going to play a major role in many walks of life and strengthening citizen service delivery by implementing many more applications through mobiles, in the days to come.

Online Job Application System for Government of Gujarat

Those who are looking for the jobs in Gujarat State government or thinking of making careers along with the various Gujarat Government departments, they can now apply through Online Job Application System. The vision of this online system is to devise an Information and Communication Technology (ICT) enabled system which expedites the process of candidate selection for government job with speed and transparency.



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IN Govt. of Gujarat, there are two bodies which do the recruitment process starting from accepting application forms to conducting exam and personal interview for finalizing the selection list. Gujarat Public Service Commission (GPSC) basically does the work related to selection of Class I and II officers while Gujarat Subordinate Staff Selection Board (GSSSB) does the work related to Class III selection. Rules and recruitment process is same for both the agencies. In a year, GPSC does the recruitment of 1000-1500 officers on an average while GSSSB execute the selection of approx. 5000-6000 vacancies.

In 2012, retirement is expected in large number in all categories. Right now, GPSC and GSSSB has very high work load of 5000+ vacancies each. In addition, individual departments and government undertakings are also doing recruitment separately.

Objective of OJAS

OJAS is designed to provide the functionalities with following objectives.

- System should provide the complete solution to the government for speedy and transparent recruitment process.
- System minimizes the manual work at the office as well as provides easy environment to the applicants to apply online.
- System should have sufficient security to the data generated and reduce the legal actions from applicants.

Main Features of OJAS

OJAS offers end-to-end candidate selection process using ICT. The system offers online selection of advertisement, application filing, application print, call letter printing when released etc. to the candidates on internet on 24x7. From OJAS, managers of GPSC/GSSSB get day to day progress of applications for future exam and interview planning. Utility reports with necessary communication letters are the crucial factor for speedy work disposal. The system



OJAS Interface

has full back-office operation duly digitized with secured login authentication and finger print verification for each process. The system has also features like edit application, make online payment and upload one's picture where needed. Jobseekers can also keep track of the positions they have applied for.

OJAS (<http://ojas.guj.nic.in>) available on internet provides

- Online advertisement announcement (currently open and forthcoming)
- Online Application
- Photo and Signature upload
- Confirmation of an application
- SMS intimation of confirmation of an application
- Printing of an application form

(Barcoded print with photo and sign)

- Call letter for written exam (Barcoded print with photo)
- Instructions for vacancy, application and exam
- Availability of Payment Gateway for fees payment

OJAS Admin

(<http://ojasadmin.guj.nic.in>) available on intranet provides

- Create Advertisement
 - Define age limit, exam centers, payment details etc. for each advertisement. These are all parameters driven selection options. No. of vacancies, its recruitment caste and age criteria, required education qualifications etc.
 - OJAS Admin has the facility to include different departments easily for their requirements with minor addition.
- Schedule Advertisement i.e. when to start and when to end on internet and if required extension of deadlines.
- MIS reports and queries for exam planning i.e. center wise no. of applications, caste wise and gender wise no. of applications
- Special restricted application update facility
- Different reports for application scrutiny process
- Application Rejection with reason
- Exam day reports i.e. Attendance sheets, invigilators report, IPO payment report, Exam place notice board report etc.
- Automated process of Roll No. generation and allotment of exam place and block no (seating room).
- Bulk SMS alert for call letter release and exam date intimation
- Attendance management using bar code reader

Benefits from the System

The important benefits of the system can be concluded as below:

- The Application forms available 24x7 and in bi-lingual format.

Job Title	Total Applc	Total Applc	Total Applc	Total Applc
Surveyor (Town Planning)	2010	551	0	07/08/2010 23:59:00
Surveyors (Settlement Commissioner)	6091	2445	0	07/08/2010 23:59:00
Surveyors Backlog ST (Settlement Commissioner)	338	177	0	07/08/2010 23:59:00
Head Clerk (Commissioner Tribal Dev. and Director Developing Caste)	9710	3673	0	31/08/2010 23:59:00
Head Clerk (Director Schedule Caste Welfare)	5970	2238	0	31/08/2010 23:59:00
Head Clerk Backlog ST (Director Developing Caste)	1318	360	0	31/08/2010 23:59:00

Status	Total Application
Approved	5
Cancelled	7
Inactive	3

OJAS User Administration Interface

- Simplified forms with no paper work and elimination of application form sale
- Intimation through SMS of acceptance of application form, call letter intimation etc.
- Saves time at each stage and ensures Accuracy and Transparency
- Saves expenditure incurred by the applicant and recruiting agency by eliminating the sale of application forms
- Restricts applications by enforcing Validation Rules.
- Minimizes management issues like keeping 2-3 lacs of applications with their enclosures, data entry of forms, planning exams and preparing results etc.
- An Eco-Friendly system due to less consumption of papers
- This will result in time saving by at least Six months.

Future Scope of OJAS

- Online Indenting of Vacancies by the Departments
- Availability of pending vacancies and its MIS
- Candidate's authentication by Finger Print Verification (By way of Bio- Metric System)
- Online submission of selected and wait list candidates
- Back-office process system for finalizing candidates

The Online Job Application System of Gujarat is a comprehensive system which is designed to provide better and speedy employment opportunity to the educated youths of the state. This unique system implemented in Gujarat is hoped to bring new trend in applying government jobs in the coming future and empower the government with the best human resources.

For further information

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Introduction of CollabCAD in CBSE Curriculum

Keeping pace with the changing trends and the latest technological development in the field of collaborative design & development of Industrial Designs, CBSE has updated the curriculum for "Engineering Drawing". As a first step in this process the name of the subject has been modified from "Engineering Drawing" to "Engineering Graphics". A significant step in this direction is the enlargement of the scope of the subject by introduction of "Computer Aided Design" in the updated syllabus.



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TODAY'S children are tomorrow's scientists and engineers; and hence, one of the primary goals of education should be to prepare them to shoulder this responsibility. The students need to gather scientific knowledge and practical skills for becoming successful in their career. Fully understanding this requirement, the Central Board of Secondary Education (CBSE) has been offering a course on "Engineering Drawing" at Senior Secondary level, in which the students are widely exposed to concepts of 3-Dimensional geometry.

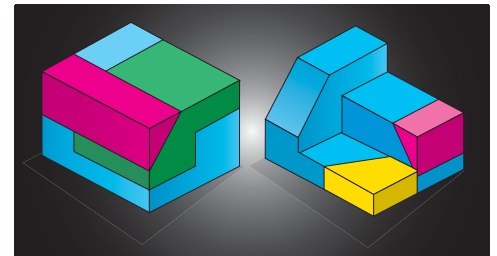
CollabCAD for CBSE

CollabCAD is an initiative of National Informatics Centre, Bhabha Atomic Research Center, Mumbai and Vikram Sarabhai Space Center, Thiruvananthapuram. It provides the facility for solid and surface modeling, feature based modeling, 2D and 3D constraints and assembly. CollabCAD supports reverse engineering, and has an in-built content management system. The Plot Configurator module of CollabCAD facilitates presentation of models as 2D drawings for printing and plotting. Besides it allows collaborative design of models across a network by designers sitting at different geographic locations.

CollabCAD covers every phase of the design process - from conceptualization through visualization and animation; and will be useful to the students irrespective of the discipline she/he takes-up at a later stage. It enables them to learn the design

methodologies related to Computer Aided Design systems, besides enhancing their skills for envisaging complex 3D models from basic building blocks. An early exposure to a CAD/CAM software would be advantageous to the students when they go forth to their engineering courses, and finally become engineers and scientists in various industrial sectors. CollabCAD as a medium of instruction for the "Engineering Graphics" would improve the standard of the course by assimilating the engineering knowledge with computer skills, and thus make the course more interesting and popular.

CollabCAD is developed based on proven open source tools and technologies such as: Java/Java3D, Open Cascade, and PostgreSQL; and this



A Typical Machine Block in "Engineering Graphics"

makes the product highly cost effective for deployment up to the school level. The limited entity demo version of the software that can be freely downloaded from NIC and CBSE web sites would be available to all the students even at home so that they can use it to practice their day-to-day lessons.

Customization for CBSE

The software was customized to suite the content of the "Engineering Graphics" course of CBSE. Direct and

easy-to-use methods were provided to create Prisms, Pyramids and Cones, which form the basic solid primitives in the course. Facility to create auxiliary isometric views was also provided to have a better view of the model depicting maximum features. A tailor made standard layout was provided in the Plot Configurator module of the software for the students to easily create various orthogonal views of the model. Besides, the detailing features in this module were also enhanced to cater the needs of modern day machine drawing.

To make the learning of the software easy, an elaborate course book was prepared in close interaction with the experts in the subject. The book contained introduction to the software, instructions for downloading and installation, and tips on the software usage. Step-by-step procedure to create various primitives and machine blocks were also provided so as to enable the faculty and the students to carryout the exercises without any external help.

Master's Training

NIC has signed a MoU with CBSE for inducting CollabCAD in the course curriculum of "Engineering Graphics" for students appearing for the class XII examination from the year 2010 - 2011. According to this agreement, NIC would provide Master's Training



■ DG (NIC) Dr. B.K. Gairola inaugurates the training at Delhi

to the course faculty from various schools under CBSE at different regions across India. The limited entity demo version of the software would be made available for free download from CBSE website, to enable the schools and the students to freely use the basic module of the software.

Such trainings generally consists of elaborate discussion and interaction sessions where the participants are enlightened on variety of topics extending from the use of computers as a medium of instruction to interactive building-up of the 3D machine blocks from the data in 2D drawings. To keep the interaction among the participants and the CollabCAD team alive, a user group is also created

through which ideas can be exchanged and doubts clarified. The members in the group are being periodically updated about the issues of common interest and enhancements in the software through this medium.

Conclusion

Introduction of Computer Aided Design in the updated curriculum of "Engineering Graphics" course of CBSE has been widely appreciated by the engineering and technical fraternity at all levels. In the initial stage the use of CollabCAD is limited to the project work of the course at the internal assessment level, where the students will learn the basics of CAD. The workshop experience would expose the students to CAD concepts in general and 3D modeling in particular. It is hoped that the software would be used in future as a tool to explain the complex concepts in Engineering Graphics by CBSE, and also by other educational agencies.



■ An interactive session during the workshop at Chennai

For further information

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e-College* Suite: Integrated e-Governance solution for College Campus from NIC

In terms of public governance, India has been a laggard in the utilisation of ICT. There are several reasons for this. One is the monopolistic nature of public governance. It is the customer, in this case the "aam aadmi", who has to like or lump whatever is offered by the public institution. He has no alternative. A second important reason for the slow start off the block, particularly of e-Governance, is that it enables transparency and cuts down avenues of corruption.



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E DUCATION as a sector has remained relatively untouched by e-Governance. This is most distressing, considering that education is the cornerstone of our efforts to build up the future generation.

Even in the Right to Education Act there is little mention of implementing e-governance in our education system. As it stands today, our education system is chaotic, to say the least. It is characterised by a high dropout rate, teacher truancy, obsolete syllabi, inadequate infrastructure, unemployable graduates and the lot. The tiny proportion of quality output that emerges from it is more a case of serendipity and the determination of the students belonging to this micro-minority.

This is because the present system lacks means of continuous monitoring, meaningful evaluation of the teacher and the taught, constant feedback to the players concerned (administrators, faculty, parents and students) and appropriate timely control and correction mechanisms.

If the quantity and quality of output from our education system have to be substantially improved, then there is no alternative to introducing e-Governance in this sphere. However, to be really effective, the e-governance system deployed will have to go beyond mere computerisation of records or processes. It has to be able to provide the management of the educational institution

information about the Why of a happening or a performance in the last two terms? Which teacher has produced the best consistent results for his/her class?

Then again, considering the paucity of funds in our state-aided educational institutions, an e-governance system which is inexpensive to install, simple to use, easy to maintain and can be conveniently expanded will be much more acceptable

If the e-Governance solution so developed and implemented in the colleges through out the country and linked to National Knowledge Network (NKN) then the possibilities are endless."

e-College* Suite

Managing educational institutions has become a tedious and complex task. It requires careful planning, systematic approach and accurate control of administrative processes to attract the best students, produce best results and project the best image. The institutions are increasingly seeking the help of information technology to improvise their facilities and maintain a competitive edge to their educational Activities

NIC's **e-Campus*Suite** is a suite of application that provides Management, faculties, staff, students with immediate access to real-time information and connects that information to specific action. It is an adaptable solution serving all sizes and types of institutions including community colleges, research institutions, and large, public, multi-campus.

Kottakkal Ayurveda College, one of the oldest Ayurveda Colleges in

Kerala, initiated the idea of introducing good governance for improving the service through ICT in one of the governing body chaired by the Health Education secretary, Government of Kerala. Chief Executive officer of college held Series of discussion with NIC and finally decided to go for developing a college suite meeting all their requirements.

40 numbers of computer and other accessories were purchased and installed in Administrative office, college office and in the departments. These computers were connected in LAN by establishing a campus area network (CAN) which is also connected to powerful Servers installed for running college Suite. This network also provides the Internet to all units in the campus. Training room with 10 seat capacity was constructed to impart continuous training to the staff of all categories in the college.

e-College*suite is now functional in the campus from 01/06/2009 and all modules are getting implemented with active support of the staff. Continuous review of the software is taking place at every stage of implementation and making it more and more user friendly.

e-College*Suite is developed in OpenSource technology by using LAMP under direct supervision of National Informatics Centre adhering all GOI and State IT guidelines.

Key -Features

- Single point access of all campus related information from anywhere in the campus
- Integration of ID cards & bar coding technology
- Better informed decision making for management.
- Total Cost-Control (income and expenditure)
- All departments are linked through the central database
- Inter-departmental paper based transactions become a thing of the



Inauguration session of e-College at VPSV

**e-College Inauguration
on 29/04/2010 at VPSV
Ayurveda College
by Hon'ble Minister
of Health,
Smt. Sreemathi
Teacher. Padmashree
Dr. P.K Warriar, Health
Secretary Dr. Usha
Titus I.A.S, District
Collector
Sh. Mohandas I.A.S,
attended the function.**

- past.
- Integrated to college dynamic college website.
- Parents have access to all academic information about their wards through the internet.
- SH2 encrypted data for higher level of data security.

Key Benefits to Students

Students get a new platform not only to gain but also to express the knowledge base inside them. The simplified

and effective way to of joint efforts of learning will give them a great ground to run in up to the limits of their will power.

- Publish articles to share experience, knowledge and views.
- Manage school online news magazine.
- Participate in forums for career and other important issues.
- Get connected with alumni to gain from their vast and varied experiences.
- Use and contribute to the digital library.
- Access library transaction. Through e-Granthalaya
- Access to fees/Certificates/ Attendance /Syllabus information
- Fees payment through ATM/Bank Online

Benefits for Teachers

Realizing that a student teacher relationship is the most important relationship in education, e-college Suite tries to give them a new media of interaction. This new media leaves behind the limitation of time management and set curriculums. Irrespective

of the course curriculum teachers have e-college*Suite to share the best with their students using articles etc.

- Complete attendance automation.
- Complete marks / grade management system.
- Interact with parents efficiently and effectively.
- Manage Assignment.
- Manage class information and analytical reports.
- E-mail & Internal messaging system.
- Lesson Planner/time table

Benefits for Parents

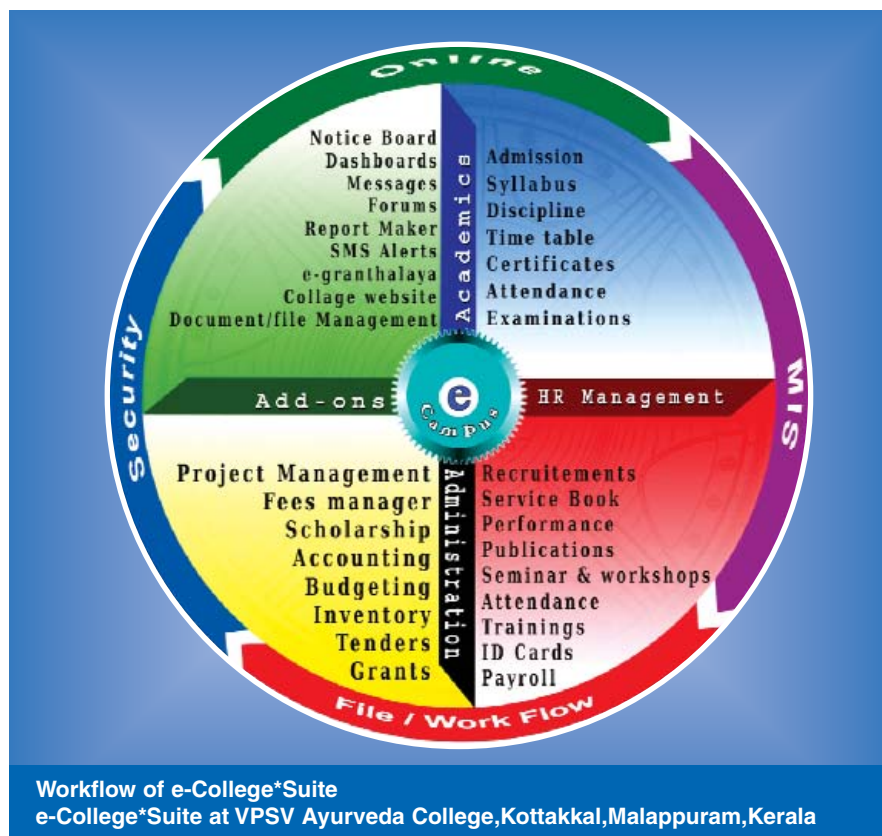
In today's busy scene where often both the parents are either working or living far away from the institution, personal visits to the institution is really not an easy task. The reporting system in e-college Suite enables them to have a closer look to their performance and will provide a fact based approach to their son/daughter life- and all this from their home or offices. Besides this e-news, polling and forums brings them closer to the institution.

- Know latest about your ward in terms of academics, attendance, fees
- Get connected to the school effectively and easily.
- Get updated with latest in school with the help of E-news, Image Gallery, newsletters

Benefits for Administration

School management has a systematic and easy approach towards maintaining and updating the different aspects of the website. All the management aspects of the institution like the admission process, message broadcasting, notice boards, e-Mazines publishing are taken into account which not only saves resources but also provides efficiency in working.

- Single Point College Management Software.
- Good financial controls.
- Zero redundancy in managing the entire institutions records.
- Achieve global outlook and expo-



sure for the institute and its constituents.

- Save man hrs and money in lots of communication aspects.
- Get connected to parents and alumni in an effective manner.
- Single software handling everything saves a lots of investment in different software
- Less Paper office Management

Other Benefits

- Manual effort is reduced and speedy and accurate reports are generated.
- Data security is maintained on a departmental level.
- High degree of transparency of the institution through the Web.
- Better co-ordination between departments.
- Student conveniences extended beyond the classroom.
- Overall reduction of operating costs; and savings on time and efforts.
- Highly streamlined and effective workflow of administration and

academia.

- Workload on entire staff, administration, clerical and teaching is heavily reduced.
- Over time a knowledge base will be built-up.
- Does a total re-engineering of the administrative mechanism.
- Integration of administrative functions.
- User level access rights are implemented so that users without sufficient rights will not be able to access the system, thereby increasing the security.
- Customisable MIS reports and report generation tool.
- Financial Information are SH2 encrypted.

For further information

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Pregnancy, Child Tracking and Health Services Management System

NIC Rajasthan has developed and implemented the Pregnancy, Child Tracking & Health Services Management System (PCTS) for Medical, Health & Family Welfare Department, Govt. of Rajasthan, for improving its services right up to the grass root level (Health Sub centre). It is online software used as Planning & Management tool for improving health care services within Rajasthan.



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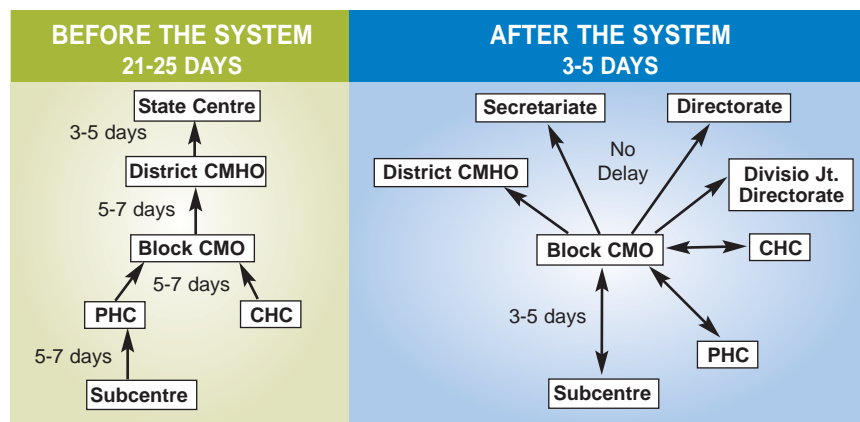
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The Pregnancy, Child Tracking & Health Services Management System is extremely useful in ensuring better health for women, minimizing maternal mortality, neo natal mortality and in tracing areas with decreasing sex ratio at birth. It is also useful in monitoring functioning of all health institutions across the state numbering more than 13, 000. The system was formally launched by Hon'ble Union Health Minister **Sh. Ghulam Nabi Azad** on 15th Sept. 2009.

WHEN launched, it was a unique e-Governance project ever implemented in health sector. Monitoring of individual pregnant woman for health care as well as every child was not possible earlier. The Pregnancy, Child Tracking & Health Services Management System however made it possible that every single pregnant woman can be tracked for imparting health services till the delivery and subsequently every child. The project is not merely based on numerical figures, instead detailed data is captured for every beneficiary, who gets services from the Health department. Thus problem of digital and content gap is

minimized to a large extent.

The Pregnancy, Child Tracking & Health Services Management System is targeted towards improving health services right upto the lowest level health institution in the state viz; Health Subcentre at village level. Presently, Medical Health & Family Welfare Department operates in Rajasthan with 34 district hospitals, 32 hospitals attached to medical colleges, about 200 city dispensaries, more than 360 Community Health Centres, about 1650 Primary Health Centres and more than 11300 Health Sub centres. All these institutions are responsible to provide health care services to the common citizen across the state. The Pregnancy, Child Tracking & Health Services Management System makes it possible to monitor each of these institutions with online details of individual



beneficiaries getting services from them.

Monitoring of individual case through the Pregnancy, Child Tracking & Health Services Management System, ensures that health services are provided to every woman who has registered for Ante Natal Check-up at any of the Sub centre , Primary Health Centre , Community Health Centre, or other government institution across the state. Such a system would result in reduction of maternal mortality. Since every individual pregnant woman can be tracked through this system, it is also useful in ensuring that more and more women take to Institutional Delivery, which again will be helpful in minimizing maternal mortality rate.

Benefits from the system

As with ANC check up, the system also tracks every single new born baby and prepares an ANC schedule, Delivery schedule and immunization schedule for each health unit. This helps in planning activities at every health institution. Institution-wise monthly requirement of vaccine dosages is automatically prepared by the system. This helps the ANM at sub centre to adequately plan for Vaccine stocks and immunization sessions. The ANM can also use the information to follow-up the cases. In this turn ensures better immunization coverage resulting in reduction of child mortality and improved child health.

Checking the population growth is an extremely important task. MIS for sub centre Management serves as a good tool in providing information of all such couples which can be potential cases for sterilization. The system provides information about all the pregnant women who already have one or more children and are registered for ANC check-up. Counseling sessions can be taken up with all such women/ couples.

A useful feature of the system is that it also filters all such cases which have registered for pregnancy but have not reported delivery even after the expected date of delivery has passed. This information can be used in tracing abortions/ foeticides.

The system is also used by all health institutions to report their performance periodically. Thus it is also an effective



Excerpt of the letter from
Mission Director,
Dr. Pritam B. Yashvant,
NHRM Rajasthan

PCTS IS A GIGANTIC step for improving health care in Rajasthan. It helps us move from numbers to individuals. With the help of PCTS we have been able to reduce infant and maternal mortality and are better placed in terms of institutional delivery

tool for monitoring service delivery by every health institution. In addition, Hospital Activity Indicators provide information about IPD, OPD, investigations, etc. which are useful in assessing service delivery .

Major Benefits

- Facilitates Online tracking of pregnant women & children for health care
- Reduction in maternal mortality as a result of case specific tracking
- Improved child health because of better monitoring of vaccination programme
- Reduction in infant mortality
- Helps in improving institutional delivery
- Identification of cases for sterilisation makes it an affective tool for population control
- Better management of every health institution in the state

The project team includes:

Smt. Indu Gupta - SIO Rajasthan,

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Before the System	After the System
<ul style="list-style-type: none"> • Total time for information communication 21-25 days • Redundant compilation at all levels • Time for trends and analysis 2-3 months after complete reporting • Monitoring for individual health institution was not possible. It was very difficult to locate non performing units. • Tracking of individual case was very difficult. 	<ul style="list-style-type: none"> • Total time for information communication 3-5 days • No manual compilation at any level • Instant trends analysis • Facilitates monitoring of individual health institution from state, district & block. • Individual pregnant woman and child can be tracked

Jammu & Kashmir: Embraces ICT for e-Governance

J&K State comprises of three geographical regions, namely Jammu, the Kashmir valley and Ladakh. Administratively, it is divided into two divisions namely Jammu and Kashmir. Jammu is the winter capital and Srinagar is the summer capital. J&K has 22 Districts of which 8 are newly created. Kashmir valley, known as Paradise on Earth, is famous for its beautiful mountainous landscape, Jammu's numerous shrines attract thousands of Hindu and Muslim pilgrims. Ladakh, known as "Little Tibet", is renowned for its remote mountain beauty and Buddhist culture.



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Sh. Ritvik Pandey, Secretary, ECI Chairing a meeting of Deputy Commissioners & DIO's of NIC

Edited by **Vivek Verma**

J&K State Centre of NIC, which was established in 1988, has made tremendous contribution in promotion and penetration of Information Technology in various spheres of Administration with special emphasis on Citizen Centric Services. In this endeavour, it has touched all the major sectors of administration and all Departments, Organisations, Districts and Central Government offices in the state

PROJECTS IMPLEMENTED

Elections: NIC J&K provided tremendous support at different times for this challenging task undertaken by the state government. In addition to Electoral Rolls, which are available in Urdu, English & Hindi and are regularly updated and published on the official website (<http://ceojammukashmir.nic.in>), around 33 Lakh EPIC cards have been generated and distributed out of a total electorate size of around 65 lakhs. During the Vidhan Sabha Polls 2008 and Lok Sabha Polls 2009 support was provided for vital activities like making available candidates' information, affidavits hosting, results processing, Randomization of

Polling Parties and Randomization of Electronic Voting Machines, Communication Plan, Video-Conferencing etc.

Transport: "Comprehensive e-Governance solution for Transport Department in Jammu and Kashmir", an ambitious project initiated in 2004 for implementation of SARATHI and VAHAN, has been very successful. Out of 22 districts, it has been implemented in 8 RTO/ARTO offices and has been initiated in the remaining 14 RTO/ARTO offices. Very soon Smart Card based Registration certificates and Driving Licenses will be issued.

Municipalities: J&K Municipalities Automation Package (JAKMAP), a comprehensive suite of ten applications covering Birth & Death



Citizens are in queue at JMC Single Window Revenue Collection & Public Grievances Cell

Registration, Payroll & GPF Accounting, Human Resource Information System, Assets Management, Single Window System, Court Cases Monitoring System, and Complaint Monitoring System, Accrual Based Double Entry System, Website etc, has been implemented in both the Municipal Corporations of Jammu and Srinagar and has been a boon for the citizens.

Judiciary: NIC has carried out ICT enablement support at both wings of High Court at Jammu and Srinagar since early 90's, through state of art infrastructure. Key functions such as List of Business Information System, including Case Filing, Registration & Case allocation and Orders/Judgments of the Cases, are being maintained.



Staff at Civil Secretariat Treasury in

Cause Lists, Case Status and Judgments are easily accessible to Litigants, Advocates and General Public. People in the remotest corners of the state are also able to access the information through Interactive Voice Response System, about the status of case. Besides this, ICT support has also been provided for activities like Library Computerization, Pay Roll System, Maintenance of Website and providing regular trainings to the Officers/Officials.

NIC J&K State Unit, in consultation and guidance of e-Committee, successfully embarked upon e-Courts project, covering District and Lower courts. It is being rolled out across the state at 76 locations including 22 District Courts

and 54 Taluka courts.

FINANCE

Department of Accounts and Treasuries : JAKTMIS (J&K Treasury Management Information System) is a workflow based transaction processing system running smoothly in 4 treasuries on pilot basis. It takes care of all payment and receipt transaction processing from counter level to accounting stage. All the reports required by AG office and Treasury, including internal registers and ledgers, are generated by the system.

Integrated Finance Management System (IFMS): Treasury Computerization being a Mission Mode Project under the National e-Governance Plan, IFMS is the latest initiative in this direction. It covers computerization of all the Treasuries, Budget Distribution System and Government Receipt Accounting System in J&K which is hooked to the central server. It has been developed by NIC Pune and customized as per the requirements of J&K government.

Fund Organization: The project GenProfit System has been developed and implemented for Fund Organization, which involves Computerization of subscriptions made by the state Govt. employees since 1986 with the Fund Office. Initially computerization of GPF details of secretariat employees were taken.

NIC J&K helped in formulating ICT policy by way of financial support system and evolving the standards for the rules and procedures, on way to various automation systems through Business Process Re-engineering. This helped in transforming the Fund organization into a user-friendly office disseminating information through web portal (<http://jkfunds.nic.in>). A Unique 9 digit code is allotted for around 4.5 Lakh subscribers in the whole of J&K State. It has been successfully implemented in 19 out of 26 locations, and is being taken up in the remaining. Details of



Excerpt of the message from
Hon'ble CM of J&K,
JANAB OMAR ABDULLAH

NATIONAL INFORMATICS Centre (NIC) has played a critical role in launching Information Technology Initiatives in the Government. During the recent devastation in Leh caused by the sudden cloudburst and flash-floods, the NIC provided the much needed connectivity in very trying and difficult circumstances.

The State Government was able to launch an online complaint monitoring portal in the Chief Minister's Office which enables people to register the grievances which are expeditiously attended and disposed off-. We expect NIC to provide support to the Government in its future effort to make governance efficient and transparent.

I do hope that the magazine being published by NIC would focus on and highlight the best practices in the use of Information Technology for good governance.

more than 75,000 employees of police department are also available.

Excise Department: Jammu and Kashmir Excise Management Information System (**JKEMIS**), developed and being implemented by NIC J&K, covers the Excise related processes of distilleries. It includes the capturing of documents electronically from all the distilleries and its processing at Excise department. The processed information is sent back electronically to the various distilleries. It has enabled the department to remotely monitor the working of the distilleries thus bringing a new era of electronically handling the functioning of Excise Department.

Power: NIC state Centre Jammu Developed the J&K Revenue Management through computerized Energy billing system (**JKRMCE**) for Power Development Department (PDD) is in place at 75 Sub-divisions and in queue at 25 other Sub-divisions. It has resulted in the automation of the process of bill generation and revenue management of the cash collected at the banks. It has brought qualitative & quantitative change in Departmental Services factored by the use of IT at different levels of operations and delivery of error free energy bills to the consumers.

Community Information Centres (CIC) Project: it has been successfully implemented in 132 of the 135 Blocks of the state, for the benefit of local communities at grassroot level, thus bridging the digital divide. The benefit of these centres is attributed to the fact that the locations are very remote and the terrain hilly and difficult. The services being offered by the CICs are Computer Education & Trainings, Internet Browsing & E-mail, and Community/Citizen Centric Services.

Passport Offices at Jammu & Srinagar: NIC is also providing full

ICT support to Passport Offices in Jammu and Srinagar. Around 180 applications are received in Jammu office on daily basis for issuance of fresh, renewal, duplicate and additional booklet cases. Besides issuance of passports, miscellaneous services like change of residence, date of birth, name, ECNR status, PCC, addition/deletion of spouse name, change of photographs etc. are also being rendered. Passport Office Srinagar in collaboration with NIC has started SMS enquiry system for passport applicants of Kashmir Division.

Rajbawan Jammu/Srinagar: NIC has placed its manpower at Rajbawan Jammu/Srinagar and providing full ICT support to Rajbawan. Computer Centres at both the places are established by NIC and 2MBPS leased connectivity also provided.

GENERAL PURPOSE PROJECTS

Online Public Grievance Monitoring System: Awaz-e-Awam (<http://jkgrivance.nic.in>) is an initiative of the responsive administration to reach out to the masses by making use of technology. It is a web based system for public grievances redressal in a transparent, accountable and time-bound manner. A new concept in this hilly state, it is a nice way of interacting with the government without having to actually visit any government office. A Call Centre for public grievances redressal is established in Chief Minister's Office, which is being looked after by NIC.

All the offices of Government, including universities, are connected with the system. User, after registration, gets the unique complaint number which helps in tracking the status of the complaint.

File Monitoring System (FMS): FMS a web based application, has been implemented in the Civil Secretariat Jammu/Srinagar. Accessible over LAN, It has become

very convenient to track a file and also monitor the status of files with the subordinates, which has resulted in bringing in efficiency.

Centralized Pay Package: This package is implemented in the Secretariat as well as other departments/offices outside the Secretariat and is being very effectively used. This package is also being used by the District Administrations.

APR Monitoring System: APRMS has been developed and implemented in Home Department for the monitoring of the Annual progress reports of all Police Officers by the Home Department, Jammu and Kashmir Govt. It is a web-based application, which proved to be of immense help to the Department, in keeping track of huge volume of APRs.



Revenue Clerks are at work at energy Bill Collection Centre of

VIP Security Deployment: This software has been developed and implemented for Security wing of J&K Police. Keeping in view the swelling list of VIPs /Protectees in the state, including Political and Government VIPs, a need was felt to have a system to effectively monitor the allotment of Security Guards, Residential guards, Access control, vehicles, fuel etc. very helpful in effective monitoring of these arrangements.

Challan Management Information System (TMIS): TMIS is under implementation at each SSP / SP office where the challan details provided in a stipulated format by each Challaning



SIO NIC J&K receiving Wisitex-2010 award from Hon'ble Minister for S&T and IT J&K

officer will be consolidated. This data from is then forwarded to the central server at IG (Traffic) level. Various Reports / Queries are generated at the IG level, which is of immense help in implementing and deciding the techniques/policies to improve the traffic scenario in the state and also keep a check on the habitual offenders.

Personnel Information System

(PIS): This package is hosted locally on NIC Server and is in use by 9 departments located in the Civil Secretariat and by few others in Districts. It facilitates speedy retrieval of service details of the employees.

Web-Services: In addition to websites of most of the departments of the state government, NIC J&K has developed and hosted websites of all the 14 Districts of the state.

Below Poverty Line [BPL] Census:

The software for data entry of Below Poverty Line Survey has been developed and implemented for Rural Development Department. Data entry of BPL beneficiaries for all 14 districts completed and a web site for dynamic search of BPL records has been developed and is being hosted.

VIDEO CONFERENCING SERVICES PROVIDED DURING LEH CLOUD BURST

During the recent Leh Cloud burst when there was no means of communication left between Leh and rest of the world, NIC Leh, NIC Kargil, NIC

Srinagar and NIC Delhi came forward and provided yeomen services through the facility of Video Conferencing. The services were extensively used by J&K state administration to assess the loss and monitor relief and rescue operations that were going on in Leh. Divisional Commissioner Kashmir, Revenue Secretary J&K Govt, Deputy Commissioner Srinagar and OSD with Divisional Commissioner Kashmir lauded the VC facilities of NIC after the natural calamity.

INFRASTRUCTURE & SERVICES

Network Operations Centre (NOC) Jammu: A NOC is established at Civil Secretariat Jammu, to keep a round the clock vigil on the network infrastructure to ensure 24*7 services all through the year. Specialist team of NOC guarantees a fast response time to all critical issues thus providing full uptime.

DATA Centre: NIC J&K has a Data Centre with storage capacity of 2 TB.

District Centres: LAN established at all the 14 Districts Offices in J&K and all Centres are connected through 2 Mbps leased line.

Video Conferencing: VC setup has been established and is operational in the 14 old Districts of the state and is in full use for day to day interactions.

Accolades

Recently NIC J&K has bagged the prestigious **Wisitex ICT Ratan 2010** award for providing excellent e-Governance services and spreading ICT culture in the state of J&K.

For further information

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Excerpt of the letter from Commissioner/Secretary IT of J&K, SH. ATAL DULLO, IAS

IN THE STATE OF JAMMU & Kashmir, the NIC has been actively participating in various e-Governance projects. They have done lot of good work in conceiving and implementing the projects in different sectors which needs to be appreciated. They have also been assisting the IT Department in a number of e-Governance projects.

At present the state of Jammu & Kashmir is focusing on implementation of core infrastructure projects like Data Centre, SWAN etc. as well as on delivery of Citizen Centric Services. In this endeavour, NIC is expected to play an important role in helping the state to achieve these objectives. I wish the NIC team all success in their efforts in facilitating the implementation of e-Governance projects.

Uttar Pradesh: Focusing on Rural e-Governance



Uttar Pradesh is the most populous state accounting for about 17 percent of the country's population. It is the fourth largest state in terms of size covering nearly 9 percent of the country's geographical area. With 72 districts and nearly 1 lakh villages the state is also larger than many countries of the world. However, it is a little known fact that UP was one of the first states to kick start ICT initiatives in eGovernance. UP already has a fully automated treasury system; the land records information is available on internet, land registry, transport, rural development, industry and many other sectors are already at advanced stages of computerization. UP is also leading in implementation of a number of NeGP projects such as eDistrict & SWAN.



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UTTAR PRADESH AT A GLANCE

Area	2,40,928 sq Kms
Population ('01 census)	16.62 Crore
Districts	72
Cities	689
Nagar Nigams	11
Tehsils / Sub-divisions	312
Development Blocks	820
Panchayat	52,000+
Villages	97,000+
Literacy	56.3 %
MLAs (Vidhan Sabha)	404
MLCs (Vidhan Parishad)	100
MPs (Lok Sabha)	80
MPs (Rajya Sabha)	31

Source: <http://infotech.up.nic.in/egov-hindi.pdf>

DRIVEN by an aim to develop the state by empowering the masses, Uttar Pradesh has rolled-out a number of initiatives using Information and Communications Technology (ICT). These eGovernance projects are not only making the lives of the citizen easier by taking government services to their doorsteps, but have also made the administration quick, responsive, transparent, hassle-free, and easily accessible.

The e-Governance projects cover

the entire spectrum of interfaces - G2G, G2C, G2B, G2E & G2S. Majority of these initiatives are aimed at bridging the digital divide and to extend the potential benefits of ICT to people residing in remote and far flung areas of the state, in particular, to improve their social, economic and cultural well being.

eDistrict - 'service at the doorstep of citizen'

eDistrict is the key initiative under the National e-governance Plan (NeGP) of Ministry of Communications & IT. Based on the fact that districts are the primary delivery channel for government administration and delivery of

bulk of citizen centric services, the main objective of e-district is to radically improve the way districts work and provide services to citizens. This entails re-designing of the existing processes and delivery mechanisms, back-end computerization of the government departments and district administration to enable efficient delivery of government services and simple user interfaces to ensure easy and hassle free access to information and services to the citizen's right at their doorstep through a single window system. The front-ends are built in form of eDistrict Centre at district, Tehsil Computer Centre & Lokvani Centre at tehsil and block, while the village-level front-ends are being established through Common Services Centres (CSCs).

The eDistrict project had a tremendous impact for the citizens who otherwise have to run to different officials for getting their work done. The project also helps in facilitating district

administration to efficiently monitor the functioning of various departments and help in generating efficient MIS for better decision making at all levels.

e-Scholarship & e-Pension - 'social empowerment'

'eScholarship' is a first of its kind project in the country to have used IT based initiative for electronic transfer of scholarships to the beneficiaries and was initiated as a project of hope for children belonging to the weaker sections of the society and uphold their right-to-education. The project was aimed to reach the right and deserving candidates within time frame and without leakages, increase transparency in distribution of scholarships to the students and build a comprehensive MIS for the Government & devise a tool for proper monitoring, control & planning for the state government. It is a web based



SH. S.B. SINGH
Dy. Director General
& State Informatics
Officer, NIC, UP

NIC, Uttar Pradesh is committed to use IT for the betterment of people across the state. Our aim is to design and build efficient, robust, scalable and secure IT systems for the rollout of eGovernance in state and help the state government in acquiring IT leadership in country.

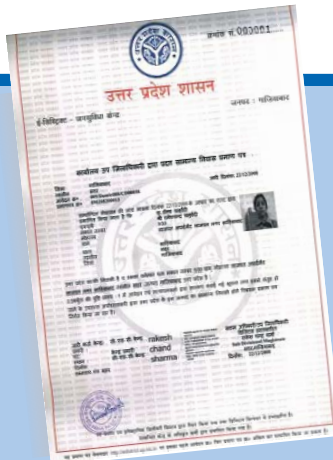
e-District

Uttar Pradesh is the first state in the country to roll-out eDistrict in six pilot districts -Sultanpur, Raebareilly, Sitapur, Gorakhpur, Ghaziabad & Gautam Budh Nagar. More than 23 services pertaining to Certificates, Pension, Public Distribution System, Revenue Court, Employment, Grievances etc., from eight line departments have been covered for complete automation and delivery. Implemented in December 2008, more than 15 lakh digitally signed certificates/services have already been delivered through the system both from urban and rural areas.

Some of the unique features of e-District, Uttar Pradesh are -

- The 100% electronic workflow ensures single point of interaction for the citizen for filing of application and delivery of service.
- Improved service levels due to verification of citizen details based on digitized data (typically, one-third time required now).
- Digitally signed certificates issued on pre-printed stationery with photographs.
- Online status tracking of application by the citizen and government officials.
- Verification of authenticity of certificates over NET based on unique identification numbers printed on the certificate.
- SMS alerts sent at the time of receipt of application and once the certificate is ready.
- MIS reports at every level to monitor the workflow.
- The complete automated process has made it paperless & reduced the infrastructural requirements for physical movement of documents.

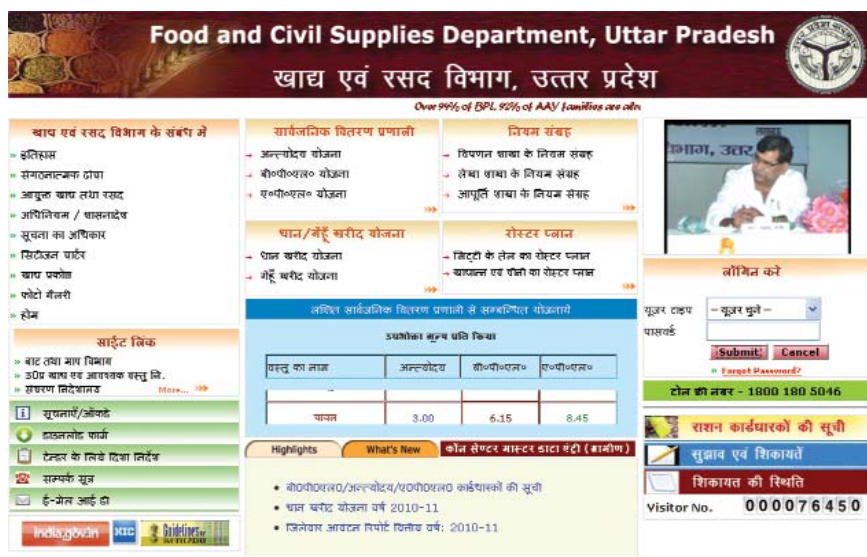
The success of the pilot project has prompted the State Government to initiate the process of extending the project in remaining 66 districts of the state. While, Government of India, has decided to roll out eDistrict in all the 500+ districts of the country.



solution which allows direct transfer of the scholarship to the bank account of the beneficiary. It has already benefited more than 4.2 crore students of the state. The project has also helped the government in saving more than 700 crore by minimizing frauds and misappropriations.

The **old-age pension scheme** is aimed to benefit more than 40 lakh senior citizens of our society through online dissemination of information and direct transfer of pension to their bank accounts. The project has had a positive impact on all stake holders. Existing processes have been simplified which makes it easier and convenient for the pensioners. While the government too has benefitted in terms of savings on finance & manpower, less strenuous work, higher productivity and fewer errors in computation & calculations.

The **Uttar Pradesh Mukhya Mantri Mahamaya Gharib Arthik Madad Yojna** is a scheme for the people of weaker section of the society. The aim of the scheme is to provide financial



been made to extend this computerization to the block level. Many technological innovations have been incorporated and transparency is being insured by information sharing with the citizen directly through website and SMS system.

A major task of digitization of 4.5 crore card holders has already been accomplished which is one of the largest in the country. This data is available on the website <http://fcs.up.nic.in>. The SMS system informs the citizen as soon as the ration of his/her area is lifted from the godown by the Fair Price Shop Owner. A pilot project for SMART card based Ration Card System has also been completed in district Sitapur and very soon the system will be rolled out for the entire state. Online Complaint Registration System and a call centre based helpline system are some other features that have increased transparency and improved the citizen and department interaction.

eProcurement - 'enhancing transparency'

eProcurement is one of the key mission mode projects defined under NeGP. The e-Procurement portal designed

assistance to people, particularly women, who could not be covered under any other government benefit scheme. The target group is around 30 lakh beneficiaries. Under the project a massive survey has been done at Gram Panchayat level to identify the genuine beneficiaries. The computerization of the scheme is underway and the project will be completed by October 2010.

Food & Civil Supplies

The Department of Food & Civil

Supplies is implementing a comprehensive IT based plan to computerize the complete food grain supply chain in Uttar Pradesh right from paddy procurement from farmers, its storage, milling and distribution of rice and other commodities to 4.5 crore ration card holders through its 72000+ Fair Price Shops (FPS). As a part of this project, 3742 Paddy procurement centres, 7000+ storage centres or godowns and all district offices are being computerized. Plans have also

ONLINE SYSTEMS

Many online systems have also been deployed by different government departments of the state. Some projects that are unique in their concept, and are benefitting citizens immensely include -

VYAS (VanijYakar Automation System) - is a web-based solution designed to automate almost all the activities related to VAT system. It is a unique user-id/password based single window system to cater to the needs of the traders. The entire activity wise work flow is being captured through front office and back office modules of the system such as Receipt, Registry, Return, Challan, Help-desk, Assessment, Administration. The application allows eReturn filing, online tax payment through NET Banking, online generation of Transit Declaration Form (TDF)/'Bahati' to facilitate the traders and business community.

Nivesh Mitra (Investment Friend) - is a single window system for entrepreneurs willing to setup industry in the state. The portal has facility for online submission and updation of all

forms by the applicants desirous of setting up an enterprise in UP and facilitates faster and time-bound issuance of various approvals by the government. The project was launched by the Chief Secretary, GoUP on 6th July 2009.

Online Counseling & Result dissemination - UP was the first state after IIT and IEEE to conduct the online counseling for admission to various Medical Colleges, Engineering, Management, Pharma & Architecture Institutes of the state and in B.Ed courses conducted by different Universities. The application caters to the requirements of more than 1 lakh candidates seeking admission in about 200 Institutes, Medical Colleges & Universities in different streams. The UP Result Portal benefits more than 50 lakh students every year by publishing online results of various examinations. This has really helped the students of remote areas in getting their results in a short time.

There are many other online services such as eSuidha in Lucknow for house tax & other utility bill payments, online submission of applications for UP Public Service Commission etc.

and implemented by UP allows qualified and registered users to look for buyers and sellers of goods and services. It integrates the components of computerized supply chain management and the entire life cycle of the procurement process has been computerized. The main modules implemented include Registration, Tender Management, Bid Opening & Bid Evaluation and Award of contract. Till now more than 1000 tenders have been published through the eProcurement system.

Tehsil Divas & Lokvani - 'exemplary examples of good governance' -

Both these projects are aimed to simplify the grievances redressal mechanism with kiosks being setup in remote areas and automated monitoring mechanism to track the complaint till their redressal. This pioneering work has set an example of rural eGovernance in the country and has also generated local employment in the rural areas.

Of course, there are challenges to be met, as Uttar Pradesh is the most populous and one of the largest states in the country. It faces temporary impediments in the present circumstances with fast changing technology and high implementation costs involved in rolling out applications in the entire state. Yet e-Governance implementations in the state have had a successful signaling effect for the outside world. It has effectively showcased how modern-day UP is progressing, how new infrastructure that is being added complements the existing resource base, and how ICT is being harnessed for implementing some of the best initiatives of good governance.

For further information

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SH. CHANDRA PRAKASH

IAS
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What is your vision of e-Governance for the State?

Government of Uttar Pradesh is committed to leverage IT to build citizen-centric, inclusive and development oriented information society by transforming its functioning to provide services to the common man in a cost-effective, transparent and easily accessible manner. This will allow citizen-government transactions at any convenient time or place throughout the day or year & most government services will be available 24 hours of the day.

How is IT in UP different from other states?

Unlike other states where ICT applications primarily have an urban-centric focus, Uttar Pradesh has ensured the delivery of Government services to reach its farmers and the predominantly rural population. The unprecedented popularity of projects like eDistrict, Lokvani and Tehsil Divas in the state amply demonstrate the acceptability of eGovernance initiatives among the rural masses. It also shows how such rural-centric applications are in line with the overall eGovernance and ICT strategy of the state.

What is the status of IT infrastructure in the state?

The state is faring very well on the infrastructure development front too - UPSWAN is already in place which will work as a network backbone for egovernance projects, more than 5000 CSCs out of planned 17000+ have already being established which will work as front-end for government service delivery in the villages. Work on State Data Centre (SDC), SSDG & State Portal is in advanced stage which will provide a secure stable infrastructure for delivery of services.

Uttar Pradesh also has four Software Technology Parks at Noida, Allahabad, Kanpur and Lucknow. The export of IT related services through STPI in 2009-10 was about Rs.13545.94 crores (4th most preferred destination), while the estimated increase in 2010-11 exports is 20% and the figures will touch Rs.17000 crore.

What are the key focus areas of e-Governance?

Efficient service delivery to the people is our key focus and our attempt is to reach even the remotest villages of the state. Agriculture, social services, education, health and grievance redressal are some of the key areas where we are using ICT tools in a major way. Up-gradation of projects like eDistrict, Jan Suvidha Kendra & State Web portal is also planned.

Eucalyptus Cloud to Remotely Provision e-Governance Applications

Cloud computing can be defined as on-demand, scalable and elastic web services on public or private fabric consisting any of grid, cluster, virtual machines and physical machines. Ensuring high reliability, scalability, high availability of citizen centric e-Governance services is very important. Cloud computing makes it possible to accomplish this task cost effectively.



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THE open source Infrastructure as a Service (IaaS) cloud based on Operating System virtualization (Xen, KVM, VMWare, HyperV) allows leasing computing as a utility.

IaaS Cloud allocation is

- Set of Virtual Machines
- Set of storage resources
- Private network to minimize security vulnerabilities
- Application Virtualization

IaaS Benefits:

- Share under-utilized software, network, storage resources
- Efficient Server provisioning
- Effective Data Persistence

CURRENT STATUS OF PROTOTYPE

The Govt. of India, Department of Information Technology, has initiated National e- Governance Plan (NeGP) for the execution of e-governance projects in the country, both at Central and State levels. It has identified "Mission Mode" Projects at both the levels. The NeGP proposes citizen service delivery up to the village level through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man. The citizen services to be delivered could be based on the Service Oriented Architecture paradigm (as against the present web enabled services). These services expect adequate networking and

computing resources for effective and efficient service delivery.

National Informatics Centre (NIC) of the Department of Information Technology is providing network backbone and e-Governance support to Central Government, State Governments, UT Administrations, Districts and other Government bodies. It offers a wide range of ICT services including Nationwide Communication Network for decentralized planning, improvement in Government services and wider transparency of national and local Governments. SAN (Storage Area Network) Data Centers and SWANs (State Wide Area Network) have been established in all 35 states/UTs through NIC as a part of NICNET.

Presently SAN and SWANs are individually connected and are independently operating without any resource sharing or even without any replica or mirroring storage elsewhere. By connecting all these Data Centers (SAN) into a cloud, all the computational resources such as the CPUs, disk storage systems, specialized software systems, etc., can be provisioned to all the users connecting to the cloud, including sophisticated users needing advanced capabilities like remote application hosting space, data storage on cloud, persistent transaction states, and distributed data mining.

Also, NIC is having various applications which are running under different platforms and operating without any resource sharing. These applications often need to interact with each other and may also need additional resources temporarily, for a small duration of time. There are many critical mission mode applica-

tions where the services of computer are continuously required for any kind of citizen services. Under these circumstances, breakdown of any machine or operating system or database server or application server brings the services to the citizens to a standstill. Hence, it is required to plan a business continuity model for such applications. Using the enabling technologies enumerated below, the applications can be deployed as web services in the container to make them interoperable and solution for business continuity plan (BCP) and disaster management and recovery (DR) can be provided.

HIGH PERFORMANCE ARCHITECTURE FOR A TYPICAL e-GOVERNANCE SERVICE

To ensure high reliability, availability and business continuity following empirical architecture is suggested for e-Governance applications.

The architecture has been devised based on the experience gained in launching several e-Governance applications by NIC. The architecture comprises following layers.

- Governance Content Management Layer
- Application Frameworks Layer
- Service Mediation Layer
- Process Service Layer
- Interface Integration Layer
- Client Layer
- Management and Monitoring Layer

ENABLING TECHNOLOGIES

Given below are the cloud technology platform, grid and grid based cloud platform, data mining platform over grid and cloud.

Introduction to Eucalyptus

Elastic Utility Computing Architecture for Linking Your Programs To Useful Systems (EUCALYPTUS) -- is an open-source software infrastructure for implementing Elastic/Utility/Cloud computing using computing clusters and/or workstation farms. Eucalyptus is a distributed computing system

implemented using commonly available Linux tools and basic Web-service technologies. Eucalyptus implements private/hybrid cloud. A Eucalyptus cloud setup consists of five types of components. The cloud controller (CLC) and "Walrus" are top-level components, with one of each in a cloud installation. The cloud controller is a Java program that offers EC2-compatible SOAP and "Query" interfaces, as well as a Web interface to the outside world. In addition to handling incoming requests, the cloud controller performs high-level resource scheduling and system accounting. Walrus, also written in Java, implements bucket-based storage, which is available outside and inside a cloud through S3-compatible SOAP and REST interfaces.

Top-level components can aggregate resources from multiple clusters (i.e., collections of nodes sharing a LAN segment, possibly residing behind a firewall). Each cluster needs a cluster controller (CC) for cluster-level scheduling and network control and a "storage controller" (SC) for EBS-style block-based storage. The two cluster-level components would typically be deployed on the head-node of a cluster (in fact, this is required if the cluster is behind a firewall). Finally, every node with a hypervisor will need a node controller (NC) for controlling the hypervisor. CC and NC are written in C and deployed as Web services inside Apache; the SC is written in Java. Communication among these components takes place over SOAP with WS-security.

Euca2ools are command-line tools for interacting with Web services that export a REST/Query-based API compatible with Amazon EC2 and S3 services. The tools were inspired by command-line tools distributed by Amazon (api-tools and ami-tools) and largely accept the same options and environment variables. Euca2ools use cryptographic credentials for authentication. Two types of credentials are issued by EC2- and S3-compatible services: x509 certificates and keys. Euca2ools are used to learn about

installed images, start VM instances using those images, describe the running instances, and terminate them. Eucalyptus versions 1.5 and higher include a highly configurable VM networking subsystem that can be adapted to a variety of network environments. There are four high level networking "modes", each with its own set of configuration parameters, features, benefits and in some cases restrictions placed on local network setup.

Features of Eucalyptus 1.6.1 include:

- Deployment on multiple clusters
Deployment of components (Cloud controller, Walrus, Storage Controller, Cluster Controller) on different machines
- Enhanced maintenance support: components are now "crash consistent," maintaining state across process restart or machine crash
- Enhanced concurrency management: cloud requests are serviced asynchronously with minimal locking using eventual consistency for scale.
- Networking improvements, including multi-cluster support
- Building and installation improvements

ISSUES

Some of the business-cases include:

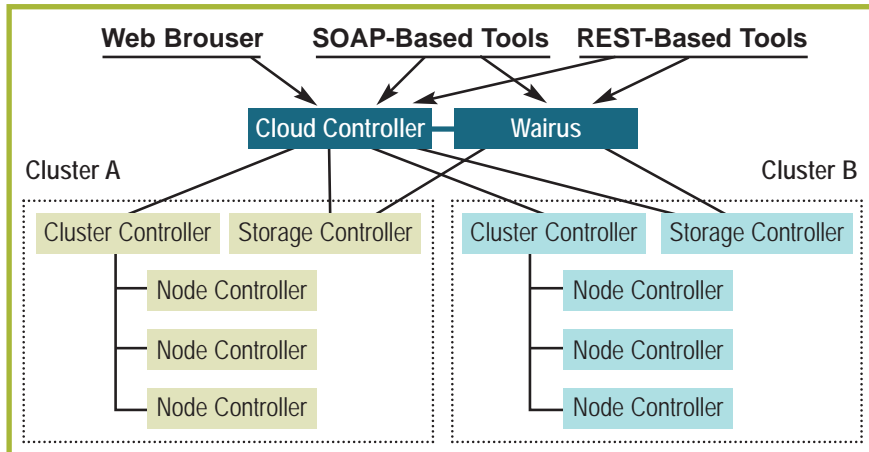
Remote provisioning of Virtual Servers for application development and hosting :

The virtualization technologies in Eucalyptus, Nimbus allow efficient resource usage of the servers by decoupling an operating system and the services and applications supported by that system from a specific physical hardware platform. Given specifications, suitable virtual machine can be created and maintained at the national and state data centers where required hardware, network exist. These virtual machines are remotely accessible by the users from interior areas of the states without the need to

have the same facilities as those in state capitals. The provisioned virtual machines can then be used for application development and prototyping, hosting production environments consisting of operating systems, application servers, database servers, middle-ware systems.

grate processes, create web service wrappers for existing application software. Develop new applications within the framework of SOA (Service Oriented Architecture) with the above mentioned layered architecture.

- Setup IaaS cloud at national, state data centers. The resulting virtual



Eucalyptus Architecture

Cloud Storage :

Eucalyptus distributed file system Walrus allows use-cases as diverse as effective backup of data securely, snapshots of virtual machine states for persistence, seamless addition of load balancers and application servers through snapshots, elastic IPs, VLANs and Security Groups.

Application Virtualization in Cloud :

From a value-add standpoint, application virtualization is more than cost effective hardware use and remote software hosting. Given an enterprise service registry, cloud layer abstracts enterprise infrastructure to dynamically provision network, storage, applications according to user specifications. Cloud layer of architecture interfaces with other application layers through web services, thus enabling on-demand scalability, availability, interoperability of applications.

RECOMMENDATIONS

- To ensure interoperability and inte-

grate processes, create web service wrappers for existing application software. Develop new applications within the framework of SOA (Service Oriented Architecture) with the above mentioned layered architecture.

- The virtual machines can be further utilized for application hosting, data and server migration over the cloud.
- The Cloud can also be used for BCP (Business Continuity Planning), DR (Disaster Recovery), BPM (Business Process Modeling), Risk Management, Performance Management, Change Management etc.
- Specialized e-Governance applications involving data persistence across transactions and distributed data mining systems can be further explored.
- Requirement based analysis of SOA Governance, On-Demand BPM and BPEL in IaaS cloud.

PLAN OF ACTION

The follow up Plan of action is proposed for implementation:

- Web Services have to be developed wrapped around existing (legacy) e-governance applications. For new applications SOA can be adopted.
- Web Service Repositories can be developed at Central, State and District level.
- Simultaneously Eucalyptus may be installed in each data centre (on a cluster of at least two Servers) to create virtual machines (locally or remotely) clusters.
- Virtual Platforms (such as PostgreSQL) can be installed on all Virtual Machines as desired and made available as services.
- Web Service Repositories can be hosted on Virtual Machines using Virtual Platforms in the data center. Such artifacts shall have pre-configured application servers, database servers etc.

Thus, we will have all the three components of a cloud infrastructure:

- IaaS
- PaaS, and
- SaaS (Web Services)

POC

The implementation of the above plan has been initiated in various States in the country. Initially at Hyderabad Data Centre of NIC Eucalyptus Cloud as IaaS is created and certain applications (in open source platform) have been hosted as IaaS model. At Pune Data Centre of NIC Eucalyptus Cloud as IaaS has been created and e-Procurement application is proposed to be hosted and managed from NIC, Chennai. Similarly Eucalyptus Cloud as IaaS is being created at NIC, Bhopal Data Centre, NIC Trivandrum Data Centre and NIC, Haryana Data Centre, Chandigarh. In other remote locations as NIC Sikkim Data Centre Gangtok, NIC Tripura Data Centre Agartala and NIC Assam Data Centre, Guwahati, the initial steps are being taken towards the installation of Eucalyptus Cloud and hosting applications in SaaS model.

Continued on page 33

Self Healing Software System to Fix Post Release Errors

Availability & Reliability are the two critical terms used basically to describe the robustness of any software system but these two parameters are affected mostly by post released errors. The biggest loophole in current system is the lack of adequate intelligence in the software to response reactively at the time of failure. Self Healing System is a reactive protection technique resource to the higher level software components without human intervention for the post release errors with an expansion from lower level hardware & network.



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A VAILABILITY & Reliability are the two basic objectives which every system irrespective of whether a software or hardware eager to achieve. Instead of adopting latest and innovative testing process, tools & remarkable R&D works in the area of fault tolerance as well as reliability, the software remains notoriously susceptible to crash and post release errors.

In the current approach after experiencing a post release error in any software, only a subset of total users reports to the vender about the specific error. Then the vender engages it in identifying the root of the error and the team develops a fix in the form of a patch file. The release of the new patch file to fix the particular error used to be informed through e-media to all the users. Now again the subset of all users who received the information and have connectivity upgraded their system with latest patch. But sometimes installation of one patch solves a particular vulnerability issue while creating some new issues and forms a loop of action as shown below. According to the statistic on an aver-

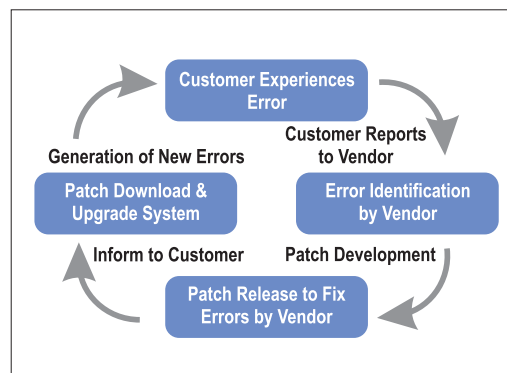
age this error-fix cycle usually takes one to two weeks time, which in the galaxy of IT is normally considered as quite enough for unaffordable damage to the system.

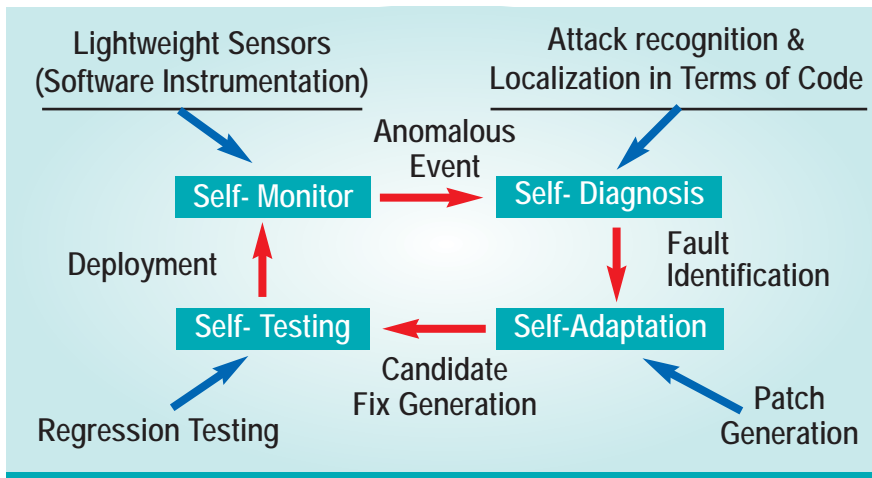
SELF HEALING SOFTWARE

SHS is a reactive protection techniques for the post release errors with an expansion from lower level hardware & network resources to the higher level software components without or very minimal human intervention and automates the self recovery at run time system failures. It attempts to "heal" themselves in the sense of recovering from faults and regaining normative performance levels. The concept of 'Self Healing' derived from the manner in which a biological system heals a wound. Through billions of years nature has created extraordinary mechanisms to perform robustness and self-healing. Various biological features have inspired development of computational models to create problem-solving techniques. Among those various characteristics of nature, immune systems of biology have inspired researchers to model 'Self Healing System' at various levels.

ARCHITECTURE OF SHS

Specialized SHS systems differ with each other on the basis of their area of implementation, required attributes and respective context of design. Every vender of SHS have their own specialized design patterns to full fill their respective commercial requirements but in this article a more generalized view of SHS components has been presented.





SHS SYSTEM CONSISTS OF FOUR BASIC COMPONENTS

Monitor: This component acts as a light weight error sensor and monitors continuously the heartbeat of the software system. The responsibility of the component is limited to sensing the error and throws an event with parameters to diagnosis component.

Diagnosis: The basic responsibility of this component is to identify the fault and extract as much as information with respect to its cause, symptom impact, sequence of events that lead to the error, region of code where fault occurs and other information necessary to develop the patch.

Adaptation: In this component system will create one & more possible patches to fix the error to the particular instance of the fault. The common strategies for error fixing are snap shots-rollback, processes isolation & rescheduling etc.

Testing: Several form of testing in isolated environment takes place on all patches generated from the Adaptation phase to verify the efficiency & the side effect on the system like performance degradation, downtime etc. Based on the test result the patches are prioritized. The most suitable patch is identified & updated accordingly.

SHS & OPERATING SYSTEM

The most basic level of implementation of SHS is at OS Level and many steps has been taken up to build Self Healing GRID enabled OS. The first self-healing features are available as part of the Solaris™ 10 Operating System (OS).

SELF HEALING FEATURES

Automatic monitoring and diagnosis of CPU, memory, and I/O subsystems

- Automatic off lining of faulty resources while the Solaris OS is running
- Administrator tools to view self-healing logs
- Standardized messaging for all self-healing diagnosis results
- Knowledge article Web site linking to online diagnosis messages

SHS & GRID COMPUTING

Grid computing is typically a very promising computing area, which caters to industry needs. In a Grid, number of nodes may vary from very few to thousands. Any number of nodes in the Grid may be removed, malfunction, stopped in between the operation, so Grid applications must self-heal themselves dynamically to changing environments. The heterogeneous nature of the network and the running modules, the dynamic load balancing requirements, and the ever changing user needs make adaptation an important necessity for grid appli-

cations. The mechanisms of the system must continuously adapt to additions, removals, and failures of nodes in large scale Grid. This is an important property since the human interventions to efficiently restore failed resources for large numbers of nodes is not feasible.

SHS & WEB PORTAL

Many of the web portals are currently integrating various new features on an iterative manner. This kind of approach attracts the user as well as facilitate more services at one place but the performance degradation is always remains an issue for the developer. Some time during heavy traffic hour a web application may fail to load and behave abnormally to show graphics. To deal with this situation many

Implementation of SOA, GRID Computing, and Web Portal technology in e-Governance are on top notch. So to make the system more robust the role of Self Healing System in e-Governance can't be avoided.

web application now being released with Basic, Standard and professional mode, so that user can select any one of the mode based on its hardware & network resources. In this scenario the SHS may play major role by monitoring such kind of load error, low bandwidth, network traffic etc and automatically switching from professional to Standard or Basic optimizing the portal to minimum functionalities. This will reduce the chance of failure and provide high availability to web application.

SHS & SERVICE ORIENTED ARCHITECTURE

Service Oriented Architectures (SOA)

is a flexible coordination paradigm that enables components to export and discover services over the network. With popularity of SOA, there are future threats about its effective management & real time binding which may cause to crash many applications at a time. In this scenario SHS may be used to make robust SOA based framework. During the process of service binding failure can happen at any interoperable point. A system may unable to find a service due to network or server failure as a result of which it may crash. In this case the evolutionary SHS concept can play a major role by modifying the process to

obtain the "same" results, but in a different way, that is, through a different composition of available services. A SHS can be implemented to provide alternatives of three strategies called retry, rebind, and restructure.

SELF HEALING DATABASE SYSTEM

On attacks by malicious transactions, a Self-Healing Database System can automatically estimate, locate, isolate, contain, and repair damage caused by attacks in such a way that the database can heal self on-the-fly and continue delivering essential services in the face of attacks. But the traditional secure

database systems rely on prevention controls. The database system is a five phase process. Phase I can detect intrusions, and locate and repair the damage caused by the intrusions. In Phase II isolate attacks so that the database can be immunized from the damage caused by a lot of attacks. Phase III dynamically contains the damage in such a way that no damage will leak out during the attack recovery process. Phase IV has ability to adapt the self-healing controls to the changing environment so that a stabilized level of healthiness can be maintained. Phase V it deliver differential, quantitative QoIA services to customers.

Continued from page 30

CONCLUSION

The Govt. of India, Department of Information Technology, has initiated National e- Governance Plan (NeGP) for the execution of e-governance projects in the country, both at Central and State levels. National Informatics Centre (NIC) of the Department of Information Technology is providing network backbone and e-Governance support to Central Government, State Governments, UT Administrations, Districts and other Government bodies. SAN (Storage Area Network) Data Centers and SWANs (State Wide Area Network) have been established in all 35 states/UTs through NIC as a part of NICNET. By connecting all these Data Centers (SAN) into a cloud, where in all the computational resources such as the CPUs, disk storage system, specialized software systems, etc., will be provisioned to all the users connecting to the cloud. Using the enabling technologies enumerated, e-governance applications can be deployed as web services to provide interoperability, business continuity, transaction persistence, server provisioning etc.

UPCOMING ICT EVENTS

2011 International Conference on e-Commerce, e-Administration, e-Society, e-Education, and e-Technology

18 to 20 January 2011

Tokyo, Japan

<http://www.e-CASE.org/2011>

GreenTech 2011

19 to 21 January 2011

Kerala, Idukki, India

<http://www.marianresearch.org/greentech/>

International Conference on e-Government and e-Governance

11 March 2011

Ankara, Turkey

<http://www.icegeg.info>

World Congress on Sustainable Technologies

21 to 23 March 2011

London, England, United Kingdom

<http://www.wcst.org>

11th European Conference on e-Government

16 to 17 June 2011

Ljubljana, Slovenia

<http://academic-conferences.org/eceg/eceg2011/eceg11-home.htm>

Amravati: Using ICT to Reach the Poor Directly

Amravati is also known as Amrawati or Amraoti. It is believed to be the city of Lord Indra, the king of gods. The city boasts of historical temples of goddess Amba, Lord Shri Krishna and Shri Venkateshwara. But today the district is known for its robust ICT implementations, advanced communication technologies and effective e-Governance support to the citizens. All this has helped to usher in the required transformation in government to ably meet the challenges of the new millennium.



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Sh. Moiz Hussain Ali, SIO interacting with the Collectorate staff

NIC District Unit, Amravati was set up in 1988 and since then it has developed and implemented many Management Information Systems and Decision Support Systems for the District Administration. The centre is also extending ICT support to other government departments in the district through software development, implementation support, training etc.

edited by
Anshu Rohatgi

SOFTWARE DEVELOPED AND BEING IMPLEMENTED BY NIC AMRAVATI

Project Affected Information System: This system has been designed to compile the data of people affected by some large projects in the district such as construction of dams, industrial projects etc. The

software maintains the details of all such affected people, their name, address, qualifications, project name and category. The information is later used by the district administration during the recruitment of project affected people in various departments of the district. The software has enhanced the transparency in the system and has facilitated both the district administration and the general public.

GIS of Amravati District: A Geographical Information System (GIS) has been developed in Amravati to maintain the information of the district and all its fourteen tehsils. The software has linked most of the indicators of the census data such as population, sex, area, literacy rate, rainfall, family details etc., and other attributes such as caste, income to the tehsil and village code. This information can be displayed in the form of graphical images, maps or text as and when

required by the district administration for planning purposes.

Clerk Recruitment Information System:

This MIS has been designed to automate the recruitment system for the post of clerks. The complete details of the candidates are fed into the system. The marks obtained during the written and oral examinations are updated and a plethora of reports are generated during the recruitment process. The system is very useful for the district administration and has been replicated in a number of other districts as well.

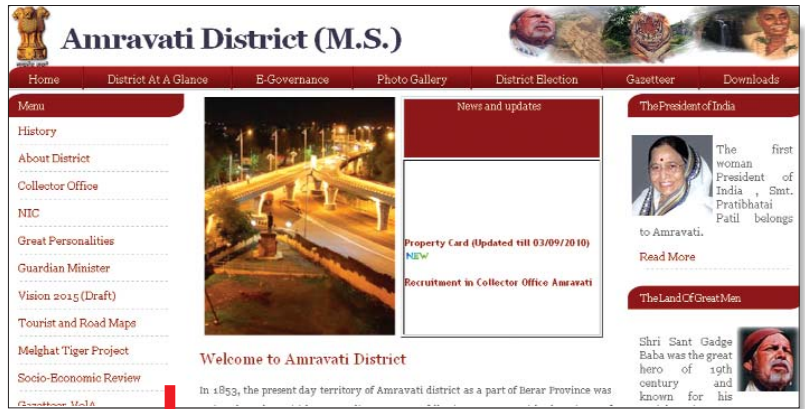
Counting Staff Randomization : This system is used for the selection and deployment of counting supervisors, assistants and static observers randomly during the parliamentary elections. It involves collection of data from different state and central government departments, randomization in presence of returning officer & observers and generation of orders for assigning officials to the polling stations and during counting of votes.

VNSS Mission Web Portal: The objective of Vasantrao Naik Sheti Swavalamban Mission Portal (<http://vnss-mission.gov.in>) is to provide information of various schemes & special packages being implemented by the Maharashtra Government and the Central Government for farmers of the Vidarbha region with a hope that it will help in solving the problem of suicide by farmers in the seven districts of the region. Both, the High Court and the state government are constantly monitoring the implementation status of various schemes on the VNSS portal. The data is being updated fortnightly using VPN connectivity.

Amravati District Web Portal: The official web site of Amravati (<http://amravati.gov.in>) provides detailed static and dynamic information of district including its history, tourism, vision for future, great personalities from the district etc. Recently new sections have been added to provide information on district BPL list, details of beneficiaries under different schemes and packages, waiting list of Indira Awas Yojana and information pertaining to RTI.

MAJOR NATIONAL AND STATE E-GOVERNANCE PROJECTS

Rashtriya Swastha Bima Yojana (RSBY): RSBY has been introduced by Ministry of Labour and Employment, GoI to provide health insurance to the BPL families. In first phase the scheme is being implemented in Amravati along with seven other districts of Maharashtra. The system involves three stages - enrollment, hospital transactions and monitoring. As part of implementation activity a dis-



Amravati District web Portal

trict level workshop was conducted for all SDO, Tahsildars, BDO, Medical officers, Talathi and Gramsevak.

BRGF - Planplus: As part of the BRGF and Planplus implementation in the district three workshops have been conducted for the officials and staff of DRDA, Panchyat Samitis, DPO and Municipal councils. Village level plans are also being prepared with technical support of NIC, Amravati.

e-Post: e-Post is a National project for computerization of post by using various applications such as iMO, Speed Post Track & Trace, Public Grievances etc. It is a service under which printed or even handwritten messages of customers are scanned and transmitted as email through internet. At the destination offices, these messages are printed, enveloped and delivered through postmen like other letters. For this purpose, e-post centers have been set up in Amravati and Parathwada Post Offices with the help of NIC, Amravati.

OTHER SIGNIFICANT CONTRIBUTIONS

In addition to these, many other applications are being implemented in the district such as CIPA, NREGA, Confonet, Agmarknet, CODISS, Panchayati Raj Portal etc. ICT support is extended to Commissioner of Revenue and Police, Zilla Parishad, SP office, District Court, Treasury, Transport, Employment and other offices. Training programmes have been conducted for e-Governance projects & technologies and web services have been extended to various departments of the district.

For further information

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Imphal East: e-Governance Deep Rooted with Land Records & CICs

With the computerization of "Land Records" i.e. Loucha Pathap, covering sixty five villages, and the establishment of Community Information Centres (CICs), the district stands apart from others. The computerization effort by the district administration in association with NIC in the areas related to Election, Rural Employment, Court and Transport has strengthened e-Governance in the district.



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edited by
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HE establishment of NIC in the year 2000 in the district paved way for computerization and setting up of LAN & internet connectivity at government offices which has acted as a backbone for implementing e-Governance Projects. Offices of Land Records, DRDA, Census, Employment Exchange, PMGSY, Planning, Jilla Parishad etc., were the initial beneficiaries. The Official website of East Imphal District, <http://imphaleast.nic.in>, provides important information regarding administration, census, public utilities and various welfare schemes etc.

LAND RECORDS COMPUTERIZATION (LOUCHA PATHAP)

Imphal East was the first district in Manipur to implement Land Records computerization at circle Porompat. The land records details of

all the circles were captured. The landowners can obtain the system generated Record Of Rights (RoR).

On-line transaction of land records such as mutations, partitions and Misc. cases through "Loucha Pathap" software at four circles were implemented which issues the computerized RoRs to the landowners.

Technology : The "Loucha Pathap" software, was developed using Microsoft Visual Studio 6.0 as the front end interface and SQL Server 2000 as the back end database. System security is provided by Biometrics authentication using fingerprints of the authorized operator as well as the administrator of the system. Leap Office Lite Version 2.09b and GIST SDK 2.05 enables scripting in regional language. Various reports are generated using Seagate Crystal Reports 7. The system operates on Windows NT Server.

Benefits : In the manual system, the process of tracing the details of a particular land was time consuming and



**The Hon'ble Chief Minister of Manipur launching Land
Records Computerization**

tiresome. But, with the adoption of the computerized system the process eased considerable promoting timely service, an important parameter for e-governance.

Loucha Pathap software provides facilities for searching a particular record by giving the owner name or Dag. No. or Patta No. It enables noting of mortgage or objection of a particular plot. The software prevents such noted plot from further transaction such as mutation, partition or issue of computerized ROR / Patta. Thus giving vital information to Banks and public for any future financial encumbrance.

Salient Features:

- The Loucha Pathap is an on-line system to carryout Mutation /Partition on the live data.
- The software records name of the official, date, timings etc. whenever a record is changed.
- Secure and efficient management of land records to overcome drawbacks of the earlier manual system.
- To provide transparency and easy access of land records to the landowners.
- Biometric based authentication system while updating the records thereby preventing manipulation by unauthorized officials.
- The new system helps in monitoring Government land from encroachments.
- Provision for interfacing the touch screen KIOSK at the office complex so as to enable public to search or query for land records.
- Provision to demand landholding tax from the landowner before updating the transacted plot.

COMMUNITY INFORMATION CENTRE (CIC)

CICs were set up in the district as a means to use ICT tools to raise the socio-economic conditions in remote area for providing the benefits of e-governance. It helps the district

administration to implement the IT based Citizen-Centric applications. CICs are intended to achieve "freedom from distance" and bridge of the digital divide by providing internet access through VSAT and connectivity to the community residing in the remote and inaccessible areas of the North East.

TECHNOLOGY

CICs were established at all the three C.D. Blocks and the district Hq. The set up includes VSAT, Servers, Desktop computers Color TV, Printers, Web Cams, UPS, Gen sets, Digital satellite receiver and LAN equipments.

SERVICES PROVIDED

- Internet access and e-mail facilities to rural youths and common people.
- Computer awareness programs at various schools at block (Hq.).
- Computer training programs to the students of the Block.
- Tele-Medicine / Consultation to doctors posted at the blocks.
- Tele-Education facility to school students.
- Audio /Video entertainments to the local youths and common people.
- Conducted IGNOU's Computer Literacy Programme (CLP) -a Certificate level course.
- CIC-Khuman Lampak and Jiribam conducted the DOEACC's Course on Computer Concepts (CCC).

Other Projects

i-Max and Tele-Education Project:

NICNET facilitated internet / email to the offices of the Deputy Commissioner, DRDA, Planning Department, Directorate of Census Operation, PMGSY, Zilla Parishad etc. Under the Wi-Max project, Tele-Education was provided to students of Class XII (Science) of C.C. Higher Secondary School, Imphal.

Election: Support to the district administration for Assembly/ Parliamentary/ Panchayat elections



Land Records Validation Work under Progress

were provided as head of the Data Management Group. Other activities included management of polling personnel (appointment, randomization etc.) as per the guidelines set by ECI, New Delhi. An application S/W was developed to perform these activities.

MGNREGA: Under this scheme the NIC district centre imparts training to the DRDA officials as well as technical support is provided for on-line data entry for villages of 56 Gram Panchayats.

Vahan and Sarathi: Vahan and Sarathi s/w were commissioned in the office of the District Transport Officer, Imphal East in 2006. Till now 2263 vehicles have been registered and out of which 1177 Smart card based Registration cards have been issued by using Vahan. 201 Learner Licenses, 692 Driving Licenses and 647 Smart card driving licenses have also been issued through Sarathi.

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Dholpur: ICT Shines on the Eastern Gateway of Rajasthan

Situated in the eastern part of Rajasthan bordering Uttar Pradesh and Madhya Pradesh, Dholpur earlier called Dhawalpur, was carved out of Bharatpur in 1982. It is famous for its sandstone and ravines which are part of Chambal legacy. The famous Dholpur House (UPSC HQ), President House and many other buildings have been built using Dholpur stone. It is well connected by roads and railways, Mumbai - Delhi line and NH 3 passes through the district headquarter.



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NIC centre was established in 1990 and has played a pivotal role in supporting District Administration in its e-Governance initiatives by making innovative use of technology to reach out to the masses.

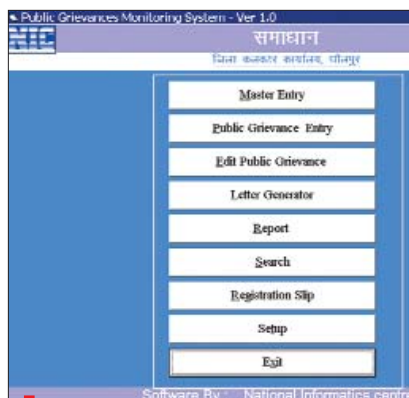
edited by
Vivek Verma

DISTRICT WEBSITE

Dholpur district's website <http://dholpur.nic.in> is a rich source of information covering history, culture, temples, industry, census 2001, accessibility and administration. Facility to lodge grievances and checking its status through "Samadhan" is also available. Forms, tenders and district news are other details which are instantly updated and are of interest to the citizens.

PROJECTS / ACTIVITIES

Public Grievance Monitoring System (Samadhan): "Samadhan", an initiative undertaken in the district, is a generalized Public Grievance Monitoring System, which has enhanced the speed of disposal



Samadhan Interface

of Public Grievances. Each complaint lodged is individually monitored and tracked until it is finally disposed. Footfall to the collectorate is also reduced as the status is available online, on telephone and through touch screen kiosks. So far more than 16500 cases have been disposed off and the software is running successfully in dozen districts of Rajasthan.



District website of NIC Dholpur

Workflow

Grievances received are entered by the Vigilance section (JAN SAMASYA PRAKOSTH) of the Collectorate. The software automatically generates a covering letter which is attached with the grievance and sent to the concerned department.

The department is also given a system generated deadline (generally 6 days) within which the matter has to be disposed. When the concerned department takes action, the details of the same are again entered into the system and a reply is sent to the concerned citizen about the action taken in his/her matter.

The software also generates

reminders for pending grievances and also generates a department wise pendency statement. A meeting, chaired by the Collector, is conducted every month to discuss the pending cases. Facility to check the status of complaint through various channels helps the complainant to avoid visits to the district HQ thus saving his precious time and money.

Salient Features

- Scan option for document scanning
- Hindi interface
- Generates covering letter, Reminder letter, Notice letter etc.
- Search option for finding grievance
- Status available online, through touch screen kiosk and telephone
- Various reports like summary report, category wise and OIC wise

Conclusion

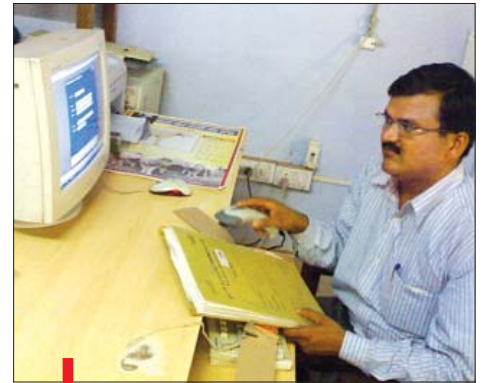
Samadhan has proved to be a rugged and successful solution in its 8 years of operations. Intended to benefit thousands of citizens, it doesn't entail any cost upon the citizens or the departments and has also been adopted by 12 districts. With citizen centricity the focus, the objective of the application to ensure a swift and concrete response to the citizen on his grievance has been very successfully met. Availability of status through multiple channels makes it very innovative and convenient for citizens. User friendli-

ness of the application makes it very convenient for the staff and citizens alike and an efficient reporting module makes it very time saving for the decision makers.

OTHER DISTRICT LEVEL PROJECTS

In addition to state level implementations, there have been many innovative initiatives taken in the district. Some of these projects are -

- **Rajasthan State Pensioners Medical Fund (RPMF):** An application to monitor pensioner's medical diaries to check for duplicity and discrepancies. It's implementation has helped in reduction of expenditure on RPMF fund by 50% and is now being implemented in other districts of state.
- **Sanctions Monitoring System:** Developed for Directorate of Pension & Pensioners Welfare to cater to requests for limit extension of pensioners and generation of sanction orders. Also, various type of reports as desired by Government for effective monitoring of pensioners medical funds, can be generated.
- **Paper under Consideration Monitoring System (PUCMS):** A workflow based application to monitor DAK (Letters) received in Collectorate which is then forwarded to concerned section. Login based access is provided to each section. District collector monitors the



NIC official at File Tracking System

disposal through his login.

- **File Tracking System:** A central repository of all files created is maintained with each file having a unique id number and a bar code. A hand held infra-red optical bar code reader is used to read the file details. The FTS system ensures that all the files and registers that have been created by the different sections have been completely accounted for and there is minimum risk of a file being lost/misplaced. The system has been extremely useful in monitoring file movement.
- **District Monitoring System:** It's an easy to use management tool where reports, databases and MPR's of various departments are stored. In addition to it some of the applications like Arms, Samadhan, establishment status etc have also been integrated. "Scrap book" feature helps in managing "To do" list and also monitoring of weekly tasks allotted to different departments.

Paramarsh Kendra Monitoring

System: Helpdesk manned by trained volunteers to aid citizens with writing applications, filling forms, informing about beneficiary schemes and monitoring Public Grievances. A software has been installed in the center to keep track of citizens, which kind of people are being helped. It has also helped in cutting down the role of 'mediators' and other middlemen who profit from citizens' troubles.



Citizens at Paramarsh Kendra

■ Smart card based Personnel

Information System: All employees have been issued digital smart cards to view their basic data related to personnel Section. It is being used to login into personalised account of employees to see important details like EL/PL, CL Basic Salary, Pan No and other useful information.



■ Citizen accessing Smart Card Personal Information System

Identity Card Generation

System: A generalized software to generate I-cards and is in use by State Unit and many other departments.

■ Arms Licenses Monitoring

System: This system is in use to process all the applications for new license and renewal. The details of around 5000 arms licensee are available.

- **Touch Screen Kiosk:** Touch screen Kiosk has been deployed in the Collectorate for the use of citizens. The public grievance database, Land record database and district profile has been linked to a touch screen kiosk with Hindi interface. Citizens can know the status of their application. Land Record database of district has been kept and Jamabandi can be viewed by citizens with various searching and sorting options. Smart Card Reader has been attached with the Kiosk and login has been created for collectorate employees, they can view their basic data related to Personnel Section.

- **Video Conferencing Services:** Video Conferencing Services are

being provided to district administration and its various departments. Senior Officers of different departments of Secretariat and HODs use this facility to review the status of various developmental schemes or ongoing projects through their officers placed in the district.

- **The Collectorate LAN:** A LAN of around 50 nodes has been established in the collectorate, which is connected to all sections providing access to various applications.

CENTRALIZED PROJECTS

Projects implemented successfully are -

- Vahan And Sarthi (District Transport Office)
- E-gram Online Information system
- E-Mitra Project
- Treasury Computerisation System
- National Land Record Modernisation Programme
- Data Depository System
- District Court Computersation
- Agriculture Marketing Network
- Pay Bill of Govt Departments
- Election Monitoring System
- Rajcrest Sub registrar Office
- Various Campaigns of State Government
- Consumer Forum Network
- Employment Exchange Monitoring System
- Revenue Court Computerization
- Web based Applications of Various departments
- Medical department, PWD, Bharat Nirman
- Mid Day Meal

For further information

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Excerpt of the message from Collector and District Magistrate, Dholpur, **Sh. V. Sarvan Kumar, IAS**

NIC DISTRICT UNIT Dholpur, an ISO 9001 certified (the first in the state) has been very effective in aiding and assisting the District Administration in its able management and decision making through its database management and staff sensitization. Commendable work has been done in land record computerization and in citizen centric grievance redressal through its 'Samadhan' initiative. As a further step, arms monitoring system is being revamped to help in avoiding any duplication and to speed up new applications along with renewal.

"Samadhan" project initiative was led by **Mr Dinesh Sharma** SSA and supported by **Mr Gaurish Kumar Vashistha**, Scientific Officer

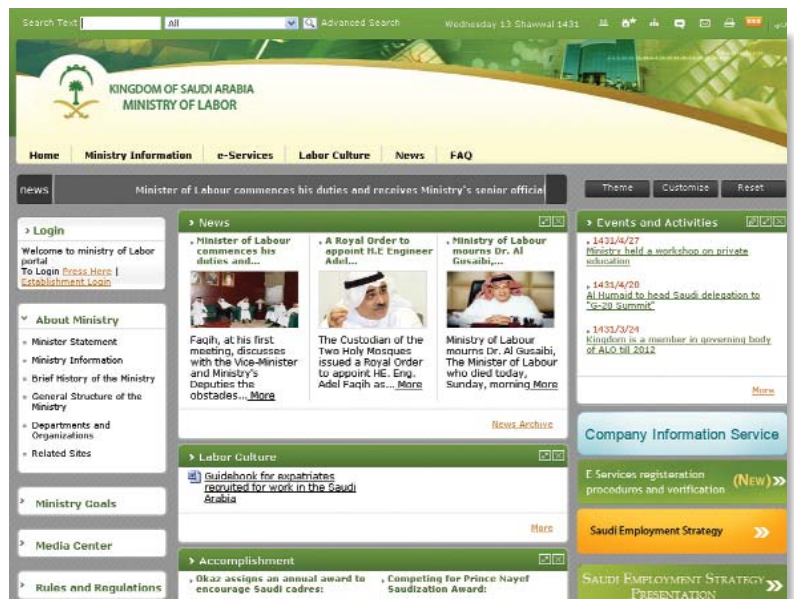
Saudi Arabia Launches Electronic Employment and Work Licenses Services

Ministry of Labour, Saudi Arabia has launched a basket of services for employment and work permits. An employment seeker can register through the Ministry's website www.mol.gov.sa and shall be then recommended in accordance with their qualifications for jobs in the various sectors.

e-Services provided include issuance and renewal of permits electronically in such a way that fees could be paid through ATMs and the rest of the procedures completed electronically through the Ministry's website, therefore there is no need to visit the Ministry or labor offices. The services also include Management of the establishment's file which enables the establishment to view its basic data such as permits and licenses, statistical data and verification of citizens and expatriates who are registered in th

The aim of registering Job seekers is the provision of suitable jobs for them according to the available job vacancies. This procedure helps in improving labor information and the building an integrated database about Labor Market that includes a register for job seekers which contains their qualifications and basic data. The efforts of the Ministry to improve the e-services accomplish the utmost cooperation between the Ministry and other government agencies in order to contribute to the implementation of Saudi Arabia's Employment Strategy.

For information: log on to <http://www.mol.gov.sa/>



Singapore offers geospatial platform Online



Built on Web 2.0 technologies, OneMap is user-friendly and convenient for users to leverage on its base maps to create new applications with their own data through the use of an Application Programming Interface (API). This allows sharing of spatial content using internet services, accessible on desktop and mobile platforms. The service is also available on mobile browsers, including the iPhone.

'**OneMap**' is an integrated online geospatial platform that provides reliable, timely and accurate location-based information and services to the public. It is a multi-agency platform built on a common base map of Singapore and provides a numerous services and functions that allow users to search and navigate intelligently for places of interest.

The portal aims to increase the use of geospatial information across the public, private and people sectors. Companies, organizations and individuals can tap on OneMap's advanced web mapping technologies to create useful and value-added services within their own websites.

For information: log on to <http://www.onemap.sg/>

Abu Dhabi Judicial Department's online survey on Customer Satisfaction

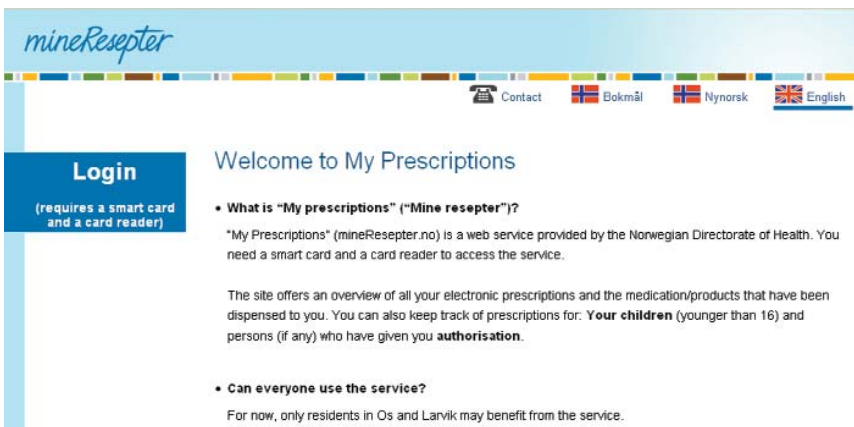
The **e-Survey** system of Abu Dhabi Judicial Department is designed to measure customer satisfaction at its premises in Abu Dhabi. The method is the latest among the Department's initiatives to develop customer service quality and performance levels.

The e-Survey system allows the public to provide their feedback and comments on the Service quality directly to the higher management levels within the department. The system is connected with the customer service management system of the Judicial Department; the e-Survey accepts customer's inputs either through touch screen or e-pen in bilingual multi-media environment. The process is very important for e-governance initiatives and as well as for developing paper-less work environment.

The direct capturing and processing of customers feedback makes it immediately available to the decision makers within the Department. The e-Survey also serves as a direct platform to run new promotional campaigns to educate the public about any new services provided by the Department.



For information: log on to <http://www.adjd.gov.ae/>



Norway launched Digital Prescription

'**MyPrescription**' is a pilot project launched by the Directorate of Health, an administrative body under the Ministry of Health and Care Services for digital prescriptions. When the patients need a prescription, their doctors send it to a central database via their computer. The only thing the patients need to do to have the medicines delivered at the pharmacy, is to provide their social security number to the chemist.

In order to access it, patients need to prove who they are by means of an electronic identity (eID) provided by Agency for Public Management and eGovernment (Difi). Electronic ID with the highest level of security makes it possible to send sensitive health information while making sure that it cannot be read by unauthorised persons.

Moreover, patients can access a secure web service - MineResepter.no - where they can find useful information on their ongoing prescriptions; they can see part of the prescription and check how long it is valid. It is worth nothing that the pages have been made accessible to the blind and visually impaired.

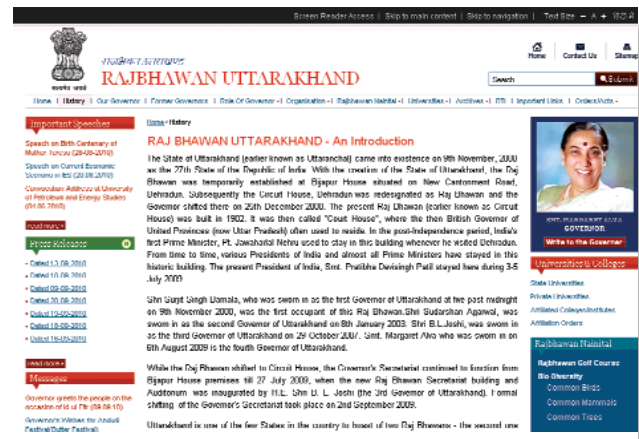
For information: log on to https://www.mineresepter.no/startside_en.html

Compiled by: **INFORMATICS TEAM**

Uttarakhand Rajbhawan Website

<http://governoruk.gov.in>

This newly launched Uttarakhand Rajbhawan Website is a CMS based bilingual website of Uttarakhand Government which is designed, developed and hosted by NIC-UK as per the Government of India Website Guidelines. The website contains important information about the history of Raj Bhawan at Dehradun, Raj Bhawan Golf Course at Nainital and the bio diversity of these two places. Information about the tenures of various Governors, major decisions and tasks undertaken by the Raj Bhawan along with important orders and acts is also published. Visitors will be able to access information about the Governor, his/her powers and role in a democratic set up. The information regarding the universities in Uttarakhand, the educational institutes affiliated to them will prove useful to the students.



Development Commissioner (MSME)

<http://dcmsme.gov.in/>

This bilingual website of Development Commissioner (MSME)-functioning under MSME, Govt. of India; is intended to serve as a comprehensive guide to public in general and prospective entrepreneurs in particular. The mission of the website is to impart superior vitality and growth impetus to the Micro, Small and Medium Enterprises (MSME) in terms of output, employment and exports and instilling a competitive culture based on heightened technology awareness. The website has updated user friendly data & statistics, annual reports, details of financial, legal and technical aspects of MSME along with the MSME cluster development reports. The Publication section contains valuable resources like the Committee reports, circulars, Trade Reports and Books and Periodicals released by the Ministry from time to time on Indian SSI sector. Endeavor has been made to make available updated, correct and accurate information.

Delhi Agricultural Marketing Board

<http://delagrmarket.nic.in>

The website of Delhi Agricultural Marketing Board is a dynamic site which is launched with the perspective to serve as a single-stop shop for details regarding the supply and demand of important agricultural commodities for the farmer, trader, transporter, end-consumer, one and all. The website also disseminates the market and price information on to the farmers for planning, production and holding stocks. The website delivers general information and compilation of APMC profiles, future projection, tenders, downloadable forms, related links etc. This professional looking and user friendly knowledge based website is updated on a daily basis. Users are bound to return in search of authentic information.



Reviewed by: **LOKESH JOSHI, NIC HQ**

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GOI Web Directory

GOI Web Directory is a single point source to know all about Indian Government Websites at all levels and from all sectors. An attempt has been made through this directory to provide comprehensive, accurate, and reliable information about Government websites in India. The content in this Directory is the result of a collaborative effort of various Indian Government Ministries and Departments, at the Cen-tral/State/District level.

GOI Directory lists the Indian Government websites under the following domains:

- Union Government
- State / UT Government
- District Administration
- Judiciary
- International
- Sectors (30 Sectors)

GOI Directory, the official website Directory <http://goidirectory.gov.in>, has been recently redesigned & published to cater to various requests received from users of the directory. GOI Directory in its new version has a lot of state of art features and services. Some of them are discussed below:

Multiple ways of Navigation: The visitors can browse GOI Directory by Category e.g. Union/State Government, Judiciary, and International etc. It can be browsed by Sectors e.g. Agriculture, Education, Health, and Tourism etc.

Search: This option enables visitors to search for a website using even keywords or phrases whereas the Advanced Search facilitates to search within a Category or Sectors.

Subscribe: The visitors can subscribe GOI Directory for new additions and updated websites information is easy by either of the following methods:

- **By Email** - to receive periodic email notifications on the mail box
- **By RSS feeds** - to receive GOI Updates on their Browser or on several online and offline feed aggregators like Google Reader, Bloglines, etc.

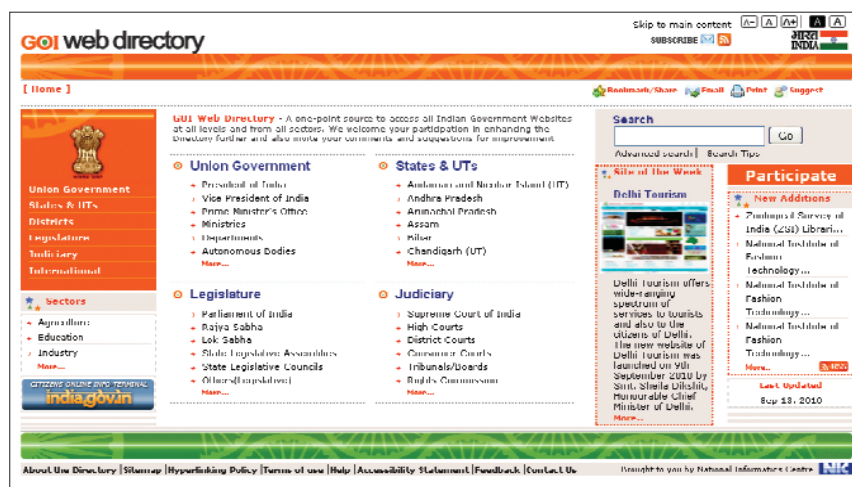
Bookmark/Share: This option makes visitors easy to add the interesting pages of GOI Directory that they are browsing to Web's top social networking/bookmarking sites like Facebook, Twitter, Google, Yahoo etc.

Accessibility: GOI Web Directory provides maximum

accessibility and usability to its visitors. This Directory is designed using HTML 4.01 Transitional to meet Guidelines for Indian Government Websites and also adheres to level AA of the Web Content Accessibility Guidelines (WCAG) 2.0.

Participate and Get Involved: GOI Directory welcomes Union and State Government organizations as well as Citizens participation in enhancing the GOI Web Directory further. Suggest-A-Site page helps them in suggesting new sites and Suggest-A-Category helps them in suggesting new categories. They can also send their ideas and wish list for new features & facilities with the Directory.

Feedback/Suggestion: It encourages visitors to comment / suggest for improvements. They can also report the problems related to content, technical issues/difficulties experienced while browsing/navigating. **Tell-A-Friend** helps them in sharing the interesting pages of the Directory with their friends by mail.



Content Syndication: The content on the GOI Directory is syndicated as RSS feeds as well as Web Services feeds (SOAP/XML), can be used by the Union Government, State Government ministries, departments and other organizations on their portals/websites.

Currently, GOI Web Directory is listed with around 7000 websites and increasing day by day. Enhancement and enrichment of this Directory in terms of website coverage, design and technology is the endeavor of the team.



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In the NEWS

ICT Facilities provided during visit of Her Excellency President of India to Karnal

HER EXCELLENCY President of India, Smt. Pratibha Devi Singh Patil recently visited Kunjpura Sainik School, Karnal to attend the Golden Jubilee Foundation Day Celebration of the Sainik School

His Excellency, the Governor of Haryana, Sh. Jagannath Pahadia, Hon'ble CM, Haryana Sh. Bhupinder Singh Hooda, and other dignitaries received Her Excellency President of India, at the Aviation Club, Karnal.

NIC was entrusted for making arrangements of ICT facilities at four locations. They were Aviation Club, Grey Cottage, Safe House and VVIP lounge. Computers with Internet & printing facilities were provided at all of these locations along with computer professionals. A media center was also established in the gymnasium hall (near the venue) to facilitate national & state media persons. A com-



The Governor and Hon'ble CM of Haryana welcome the Her Excellency President of India, Smt. Pratibha Devi Singh Patil & a Glimpse from Media Centre

prehensive LAN with broadband connectivity facility for printing, scanning, fax, photocopiers etc were set up for the function.

DIO & DIA of NIC-Karnal arranged for all above equipments and coordinated for requisition, collection, testing, installation and smooth functioning of these services at Media Centre and all four sites of ICT facilities. 24 computer professionals were trained and deputed for ensuring smooth delivery of ICT services at all points.

Poonam Gupta, Haryana



Hon'ble Minister of State for Communications and IT, Sh. Sachin Pilot in close Review with SIO & Team

DURING HIS Bhopal visit Sh. Sachin Pilot, Hon'ble Minister of State for Communications and Information Technology, Government of India chaired a meeting to review penetration of ICT infrastructure & e-Governance initiatives and Services of NIC in the State of Madhya Pradesh, besides activities of BSNL & India Post. The meeting was held at BSNL Bhawan, Bhopal and attended by Sh. M. Vinayak Rao, Sr. Technical Director & SIO along with all the HoDs & associated senior officers. Sh. M. Vinayak Rao with his team accorded warm welcome to Sh. Sachin Pilot at BSNL Bhawan, Bhopal along with the

Hon'ble Minister of State for Communications and IT, Sh. Sachin Pilot Reviewed NIC, activities in Madhya Pradesh

Officers from BSNL & India Post. Hon'ble Minister was very keen to know the status of various projects being taken up by Government of India and NIC in the State. He was willing to know the keenness of other State Government Department in implementation of e-Governance Projects.

SIO briefed on various ICT projects/applications developed & implemented by NIC, Madhya Pradesh and added that GIS projects, being taken up by NIC & progressing, makes the State special in the area.

SIO informed that after looking at State Education Portal & State Scholarship Portal, which are workflow based transparent systems (where public can view all the relevant information online), many other Departments, like Labour, Home, Tribal Development, etc., which hitherto didn't show much interest in ICT have also started showing keen interest in computerization and are approaching NIC for similar e-Governance projects in the State.

Hon'ble Minister expressed great satisfaction & congratulated on recognition and awards received for e-Governance Projects/Initiatives from various agencies dur-

ing last few years. He added that Government of India will give more awards in future also for good work in ICT field for the benefit of citizen, especially rural masses.

Hon'ble Minister mentioned that his expectations are very high from NIC (besides from BSNL & India Post) and wants to see that Government services are delivered to each & every citizen at their door-step without compro-

missing quality of service, as Internet penetration is expected to grow upto Village Panchayat level in near future. Subsequently, a Press Conference was addressed by Sh. Sachin Pilot, in which SIO, CGM, BSNL & CPMG, Post and most of the media (Electronic & Print Media) persons were present.

Santosh Kr. Shukla, Madhya Pradesh

e-Governance Module at LBSNAA, Mussoorie



A session of the e-Governance module by Dr. Shefali Dash, DDG NIC

AN e-GOVERNANCE Module was organized for IAS Professional Course Phase - I (2009 Batch) at Lal Bahadur Shastri National Academy of Administration, Mussoorie. A session on "Role of NIC" was delivered during the module by Dr. Shefali Dash, Deputy Director General, NIC HQ, New Delhi. The contents of the session were Role of NIC, Organisation Structure, e- Governance Infrastructure, National Knowledge Network, Data Centres, Network Services, Cyber Security, Certifying Authority, Support Services to the Government, Domain Name Registration, e-Governance Products, e-Lekha, e-Office, e-Procurement, e-District, Major e- Governance Projects. The session was co-ordinated by NIC Training Unit, Mussoorie.

M. Chakraborty, Uttaranchal

e-Services of Ration Card Launched in Kerala

THE E-SERVICES of Ration cards in Kerala was launched by the Hon'ble Minister for Food and Civil Supplies Sh. C. Divikaran during a function held at NIC, Kerala State Training Centre, Thiruvanthapuram. Sh. K. Jyothi Lal, I.A.S., Secretary (Food and Civil Supplies), Smt. M.S. Jaya, I.A.S., Director Civil Supplies and Dr. K. Santhanaraman, SIO, Kerala State unit spoke on the occasion.

The citizen can now avail various services of the ration card viz. Apply for new ration card, addition and deletion of members, change of address, renewal of ration card, surrender certificate etc. electronically. Citizen can apply directly or through any of the 3000 Citizen Service centres (Akshaya Centres) in Kerala. The applications submitted on-line will be processed on priority and applicant can collect the card from the taluk Supply office the next day.

Asha Varma, Kerala



Inaugural Function

PCTS Awarded at eINDIA 2010



The team of NIC Rajasthan receiving the award

NIC RAJASTHAN won accolades again at the e-INDIA 2010 held at Hyderabad (4th-6th August 2010). The Pregnancy, Child Tracking & Health Services Management System (PCTS) received the First Prize under the e-HEALTH Government Policy Initiative of the Year category at the prestigious award ceremony. SIO Rajasthan Smt. Indu Gupta, STD Tarun Toshniwal, PSA Lalit Goyal received the award from S.R. Rao Addl. Secretary, Department of IT, Ministry of Communications & IT, Government of India and K. Ratna Prabha Principal Secretary-IT, Government of Andhra Pradesh and other dignitaries at the glittering ceremony. The development team for the project also included Smt. Anju Mittal, SSA. Two other projects of NIC Rajasthan: Mukhya Mantri Jeevan Raksha Kosh (under Health Insurance Initiative of the Year) and Water Cess for Rajasthan State Pollution Control Board (under G2B) were also shortlisted for presentation in the event.

Chandan Sen, Rajasthan

Workshop on Pensioners' Portal and Centralised Pension Grievances Redress Monitoring System (CPENGRAMS)

DEPARTMENT OF Pension and Pensioner's Welfare (DP&PW) has been implementing a web based Mission Mode Project (MMP) on Pensions namely "Pensioners' Portal (<http://pensionersportal.gov.in>)" under the National e-Governance Plan in technical collaboration with National Informatics Center (NIC). In this connection, a workshop was organized by the Department at Civil Services Officers' Institute, New Delhi on 20/8/2010 and 23/8/2010 to create the desired awareness about the Portal in general, and about CPENGRAMS in particular among the representatives of various Ministries/ Departments.

Addressing the workshop, Sh. R.C. Misra, Secretary (AR&PG, Pension) emphasized the importance of redressal of Pensioners' Grievances by all Govt. Offices. It was followed by a presentation/demonstration of the salient features of the Pensioners' Portal as well as CPENGRAMS. Implementation issues related to CPENGRAMS were also focused/ discussed during the workshop.

Ms. Tripti Ghosh, Director (PP), Mr. S.N. Sowpari, Sr.Tech. Director and Mr. C.K. Vij, Tech. Director, NIC provided the required coordination and support to ensure successful organization of the workshop. NIC Officials made a detailed demonstration of CPENGRAMS and extended their help during hands-on sessions.



Members attending the workshop

The workshop was held in four batches and was attended by nearly 160 officers from various Ministries/Departments, including NIC officials coordinating with the respective Ministries/Departments.

S N Sowpari, NIC

Hon'ble Chief Secretary, Punjab inaugurates VAHAN software at District Fatehgarh Sahib

RECENTLY, THE Hon'ble Chief Secretary, Punjab Sh. S.C. Aggarwal launched the VAHAN project at district Fatehgarh Sahib of Punjab state. He handed over the first Vehicle Registration Certificate to the owner of vehicle. Appreciating the efforts of National Informatics Center in implementing VAHAN Project in the district, Sh. S.C. Aggarwal said that with the implementation of VAHAN, district will be hooked to State as well as National database of Vehicles and the details of owner of a vehicle would be available on click of mouse.

On the occasion, DC, Fatehgarh Sahib, assured that administration would soon get SARATHI implemented in the district. Latter, DIO, Fatehgarh Sahib provided a brief overview of VAHAN software and benefits that would be derived by the computerization of Vehicle Registration.

Senior officers from NIC-Punjab and Transport department were also present on the occasion. Chief Secretary also had detail discussions and demonstration of other NIC projects implemented in Fatehgarh Sahib such as SUWIDHA, Property Registration System etc.

Sarbjeet Singh, Punjab



Hon'ble Chief Secretary, Punjab Sh. S.C. Aggarwal handing over the first RC to its owner



Sh. A. Mohan DDG NIC at the Tamil Internet Conference

RECENTLY THE World Classical Tamil Conference organized by the Tamil Nadu Government from 23rd June 2010 to 27th June 2010 at Coimbatore, Tamil Nadu was inaugurated by the Hon'ble President of India on 23rd June 2010.

Tamil Internet Conference, which was organised as a part of the World Classical Tamil Conference was inaugu-

The World Classical Tamil Conference and Tamil Internet Conference 2010

rated by the Honorable Union Minister for Communications & IT, Sh. A Raja.

NIC was involved in coordination for the IT Infrastructure & Internet facility arranged for the Tamil Internet Conference and Exhibition along with ELCOT. The Exhibition had 124 stalls and NIC stall showcased the e-Governance initiatives of Government of Tamil Nadu and NIC.

The Hon'ble CM of Tamil Nadu Kalaingar M Karunanidhi, the Hon'ble Deputy CM of Tamil Nadu Thiru M.K. Stalin, Union Minister for Communications & IT Thiru A Raja, Union Minister for Textiles Thiru Dayanidhi Maran and other dignitaries visited the stall. Many important delegates and scholars, both national & international visited our stall and showed keen interest in the presentations made.

R. Gayatri, Tamil Nadu

For latest and up-to-date news and information about e-Governance activities across the Country, Visit **News online**
<http://informatics.nic.in/news online>