

Informatics

An e-GOVERNANCE PUBLICATION FROM NATIONAL INFORMATICS CENTRE



Manipur State

Uttar Pradesh State

Budgam District

Dhamtari District

Lower Dibang Valley District

Pithoragarh District

Viluppuram District

AIMS

eGramSwaraj

NICler

Double Diamond Design Process

Intrusion Detection System

एनआईसी
NIC



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Editorial

India's entrepreneurial landscape has experienced remarkable growth in recent years, with young entrepreneurs leading the way by developing innovative solutions across various sectors. The involvement of startups has also become integral to the country's governance system in providing cost-effective solutions for government operations, by deploying an out-of-the-box problem solving approach for overcoming complex challenges.



Emerging technologies like data analytics, artificial intelligence, and machine learning play a crucial role in this transformation. Further, hyper-personalized user experiences have revolutionized the service industry, where machine-curated data provides customized experiences across various sectors, including health, agriculture, finance, and education. Lately the need for creating sustainable solutions has led to the rapid adoption of cloud technology, which is helping the solutions to stay relevant and succeed in the long run.

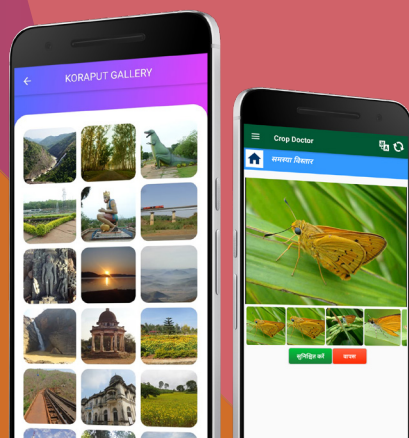
Despite innovative solutions, many startups often struggle to stabilize, and therefore, the Government has taken several initiatives to support the startup ecosystem. Startup India scheme, Stand Up India scheme, and Make in India campaign are just a few examples of the various Government measures in this space. These initiatives offer funding support, industry-academia partnerships, and incubation facilities to encourage startups to contribute to the country's development. Further, on the same lines, NIC is working on several digital platforms such as COWIN app, One Nation, One Ration Card (ONORC), and ABHA to support the government initiatives and provide startups a conducive environment, in which they can create an array of solutions that can expand the reach of public services to citizens in the farthest corners of our vast nation. The future has arrived, and it is refreshingly collaborative, assuring success when both Public and Private sectors work hand-in-hand.

Continuing the tradition of excellence, we are happy to present you with a rich assorted range of articles celebrating the impact made by NIC on the lives of common citizens. We have covered the stories of digitization from the States of Uttar Pradesh and Manipur, alongside five award-winning districts from different corners of the country. We have also covered three citizen-centric digital solutions developed by NIC viz., NICler, AIMS, and eGramSwaraj Portal, under eGov Products and Services. In the Appscape, we have covered a constellation of mobile apps, which were designed and developed by NIC to cater to the growing demands of citizens across the country. Our regular sections such as In The News, International eGov and Accolades bring you more interesting news aimed at informing & empowering you in your nation building efforts.

Behind the scenes, we are continuously enhancing the publication by improving the quality, content, and design.

Happy reading, and please take care, stay healthy and safe.

-Editor-in-Chief



Contents

Editorial	02
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Contents	03
----------	----

From the States	
Manipur	04
Uttar Pradesh	10

District Informatics	
Budgam, J&K	16
Dhamtari, Chhattisgarh	18
Lower Dibang Valley, AP	20
Pithoragarh, Uttarakhand	22
Viluppuram, Tamil Nadu	24

e-Gov Products & Services	
AIMS	26
eGramSwaraj	28
NICler	32

Technology Update	
Double Diamond Design Process	34
Intrusion Detection System	36

Appscape	38
In the News	40
International eGov	44
Accolades	45

Manipur

Digital Reach at the Lofty Heights

Edited by **KAVITA BARKAKOTY**

NIC Manipur was established in 1988 with an aim to promote the use of IT in government services. With its 16 district units, the State Centre is responsible for providing technical support to various state departments and agencies. This concerted effort by the Centre has played a crucial role in propelling eGovernance in the state forward.

ICT Initiatives in the State

NIC Manipur has created and implemented numerous digital solutions across all sectors in the state. Noteworthy products designed and developed by the institution are highlighted below:



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Since its inception, NIC Manipur has been the technology partner of the state government, designing and developing IT systems and providing infrastructure to the government, while at the same time exploring and advising the government on the use of emerging technologies. As a strong arm of the government, it has efficiently been bridging the digital divide and making the lives of the citizens better in myriad ways.

CMIS

<https://cmis.man.nic.in/>

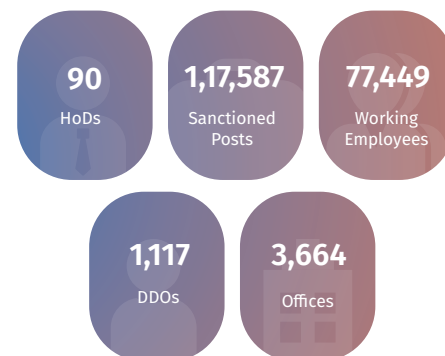
CMIS (Central Management Information System) is an integrated Personnel Management and Payroll System designed specifically for Manipur Government Employees. It is based on the Sevaarth software of NIC Pune and responsible for maintaining an updated database of all employees and sanctioned posts of the government offices as well as generating monthly e-Payrolls for state employees.

Its erstwhile version, Computerised Personnel Information System (CPIS), has won the Prime

Minister's Award of Excellence in Public Administration in 2007-2008.

Salient features

- Maintains an up-to-date database of employees and sanctioned posts
- Streamlines administrative processes and improves efficiency in government offices
- Facilitates preparation, processing, and payment of bills through a dynamic e-Payroll system
- Integrated with other systems including BEAMS, TreasuryNet, NSDL
- Improves accountability in the payroll process
- Ensures confidentiality of employee information and financial data
- Fast tracks transfer of NPS contributions to employee's accounts



▲ Fig 1.1

CMIS at glance



▲ Fig 1.2: Hon'ble Chief Minister launching Manipur Professional Tax Application at the CM's Secretariat, Imphal, Manipur

LouchaPathap

<https://louchapathap.nic.in/>

LouchaPathap is a G2C web application developed by NIC Manipur for the Manipur Revenue Department to digitize land records. The application provides land record information and aligns with the Manipur Land Revenue and Land Reforms Act, 1960. Citizens can access their Records of Rights (RoRs) information and view land tax dues using the application.

Overall, this application has fostered public confidence through enhanced transparency by enabling quick, effortless, and tamper-proof access. Moreover, it has aided the administration in safeguarding government land and preventing fraudulent transactions.

Salient features

- Generates MIS report for comprehensive information on the number of plots and their respective land types, along with total area measurements and ownership details
- Unique identifier called Factsheet Number is

assigned for every transaction

- Mandates upload of Revenue Court Orders and Registered Deeds
- Integrated with REST API provided for AgriCensus, Farmer Registry, Modern Record Room
- QR Code on Public RoR for real-time verification at LouchaPathap Server

Currently, 506 out of 603 revenue villages have been commissioned, with over 727,622 cumulative transactions recorded on the system. Moreover, NIC State Data Centre at New Secretariat Imphal has configured one staging server for BhuNaksha, and five cadastral shapefiles have been successfully imported to the staging server.

Professional Tax

<https://professionaltax.mn.gov.in/>

In compliance with the Manipur Professions, Trades, Callings And Employments Taxation Act of 1981, individuals who earn a regular income through their profession, trade, or employment

NIC has played a very crucial role in digital transformation in the State of Manipur, as a major technology partner of the State Government. Their expertise in developing and implementing eGovernance projects has helped the Government in improving service delivery and transparency. NIC has immensely contributed in the implementation of various eGovernance initiatives in different sectors such as in eTransport, eOffice, eHospital, Central Management Information System and other Integrated Financial Management Systems, also greatly benefitting the citizens. NIC Manipur in particular has been the backbone of the IT establishment in the State of Manipur stretching right from the Manipur Secretariat to all the District Headquarters for many decades now. I recall their pivotal role in the early 1990s when the District Administration had only the NIC to assist in its IT requirements and were dependent on the District NICs much like the Secretariat was upon the State NIC. I would like to extend my warm wishes and appreciation to the entire team of NIC both at the national level and particularly to those manning the State NIC in Manipur for their remarkable contributions to the State. We look forward for more engagements of NIC with the State to bring about even more significant change in the future.



P. Vaiphei, IAS

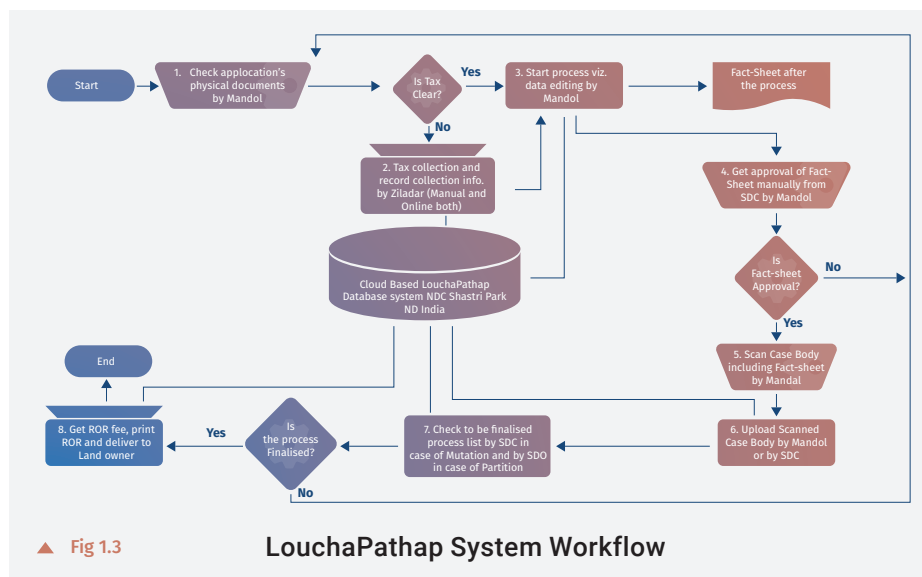
Additional Chief Secretary
Social Welfare, Cooperation and Horticulture & Soil Conservation Departments
Government of Manipur

are required to pay professional tax. To facilitate this, NIC Manipur has customized and implemented the Professional Tax Application of NIC Tripura, enabling individuals and organizations to easily register and pay their professional tax online in Manipur. The system is seamlessly integrated with the eGRAS payment system to ensure secure and efficient online tax payment. As of now, 2669 taxpayers have enrolled on to the system and a total of Rs. 26,76,336 have been collected.

BEAMS Manipur

<https://beamsmanipur.nic.in/>

Budget Estimation, Allocation & Monitoring System (BEAMS) is an online system that has been specifically designed to distribute budget and authorize expenditures. Once the budget is released, it enables departments to allocate



▲ Fig 1.3

LouchaPathap System Workflow

funds to their field officers. All expenditures are verified for budget availability before bills can be submitted, and monthly cash flows are monitored against predetermined targets. The system also allows for the re-appropriation of funds within specific limits, as well as the withdrawal or surrender of budget grants. While the system provides limited options to modify cash flows, the MIS section generates various reports on budget authorizations, cash flows, fund transfer transactions, and authorization slips

BEAMS has been customized from the application of NIC Pune and is fully integrated with CMIS and TreasuryNET. Since its implementation on 1st April 2014, the system has received over 52.88 lakh hits, and over 6.97 lakhs authorization slips have been generated.

Benefits

- Effective budget control
- Builds data bank for decision support
- Real-time expenditure monitoring through MIS
- Helps in monitoring budget and expenditure information across the departments
- Check DDO expenditure for budget availability before submission of bills
- Control monthly cash flows against pre-determined targets

TreasuryNET Manipur

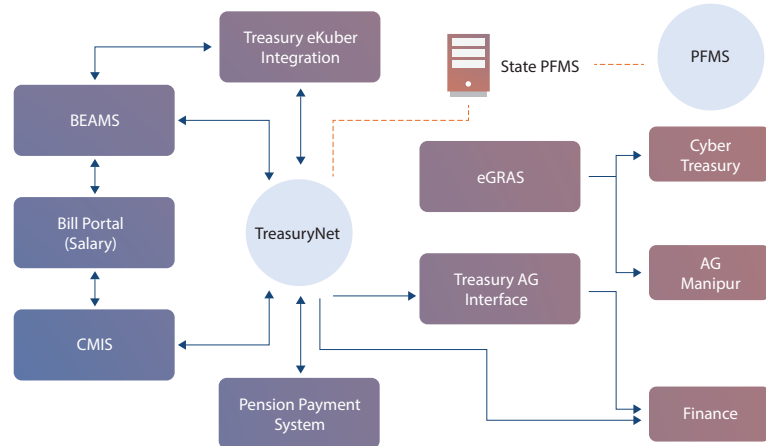
<https://treasurymanipur.nic.in/>

TreasuryNet Manipur is an online application that has been customized from the NIC Pune application to automate payment and receipt processes. Its implementation has greatly improved the internal efficiency of Treasuries while preventing misappropriation and over-drawal of funds. It processes bills that have been prepared by DDO / Departments through BEAMS and CMIS, and these bills are electronically audited at various levels within the treasury.

With its effective budget control capabilities and proper classification of Head of Accounts, the system generates comprehensive reports on the State's revenue and receipts. It has been integrated with the e-Kuber Payment System of Reserve Bank of India since 11th February 2020.

Benefits

- Compiles and classifies Head of Accounts
- e-scrolls sent by RBI on following day for accounting by treasuries
- Enhanced finalization and reconciliation of accounts with Accountant General (AG) Office
- 100% e-Payment through e-Kuber
- Generates comprehensive reports on the state revenue and expenditure
- Facilitates better management of state finance



▲ Fig 1.4

Manipur Integrated Financial Management System

- Integrates monthly compiled accounts with voucher level compilation system of AG Office

eGRAS Manipur

<https://egrasmanipur.nic.in/>

eGRAS is a web application implemented in Manipur on March 27th, 2021, to facilitate electronic transactions for online payment of Tax and Non-Tax Revenue. It is customized from NIC Pune software and enables taxpayers and remitters to make payments through the eGRAS portal or departmental portals that have integrated with eGRAS. The receipts are credited to a pooling account established with participating banks, which upload daily scrolls that are verified and processed by the Cyber Treasury Officer. eGRAS is integrated with various department portals and has collected 6,140 challans and Rs. 92,16,98,672 to date.

e-Budget Manipur

<https://ebudgetmanipur.mn.gov.in/>

Launched on 21st July 2022, e-Budget Manipur provides State Budget information to various

stakeholders through a single window. It facilitates access to budget documents, including Demands for Grants, Annual Financial Statement, Budget Speech, Supplementary Demands Speech, Manipur FRBM Ordinance, etc. It also enables digital viewing of these documents in an eco-friendly manner by legislators, officials, and the general public.

Online Pension Payment System

<https://pensionmanipur.nic.in/>

Online Pension Payment System is a G2C application that streamlines pension payments in the state and enables Treasuries, the Finance Department, and AG office communicate faster.

The system captures all necessary information from the Pension Payment Order and takes photos of the pensioners every six months as proof of liveness, to auto-calculate the monthly pension / advisory bills. It generates bills for commutation, revised commutation, gratuity, revised gratuity, and has facility for automatic recovery. It also provides various reports that Treasury Officers require, such as summaries of the number of

Fig 1.5: Hon'ble Minister for Municipal Administration Housing and Urban Development (MAHUD) and ▼ RD & PR launching Online Registration of Shops and Establishment & Renewal of Licence on 11th July 2022



pensioners, expenditure details, etc.

The system is integrated with TreasuryNET, which is operational in all treasuries and allows for direct payment of pensions to the payee's account through eKuber of RBI. With this system, the process of rendering monthly accounts to the AG Office has improved significantly.

Online GPF Information System

<https://agmpr.cag.gov.in/gpfonline/Index.aspx>

This is a web-based platform developed for Manipur AG Office to support GPF subscribers (excluding Group D employees) of the Manipur State Government. It provides annual GPF statements and SMS alerts about their contribution, deduction, and recovery status. The system also offers additional services, such as PULL SMS by DDO / STO / TO for checking previous withdrawals from Treasuries.

Benefits

- Makes the system efficient and cost-effective by reducing paperwork
- 24 x 7 availability GPF related information
- Provision to report discrepancies online
- Real-time debit / credit details through SMS
- Backlog adjustment of missing credits
- Authentication of GPF statement by DDOs / TOs through Android App, SMS or web

Pension Processing System

This system is designed to provide timely delivery of pensions and other benefits to retiring state government employees, while preventing fraudulent pension cases. It is integrated with the AG Office by sharing required XML data for pension cases, enabling them to download and import the information into their system for further processing and generation of pension payment orders.

Salient features

- Integration with CMIS to access employee details, salary, and GPF information
- Ensures authenticity and integrity of pension documents and reduces the risk of fraudulent cases by utilizing digital signatures
- Integrated with SMS gateway to provide real-time updates to pensioners regarding their pension and pending case status
- Issues Non-Accommodation Certificate (NAC) and the Termination Order by various authorities

mPension Manipur

<https://pensionmanipur.nic.in/app>

mPension Manipur app is a progressive web app developed by NIC Manipur that utilizes AI technology to enable pensioners to update their periodic photographs online through their smartphones. The system checks the liveness of



▲ Fig 1.6: Hon'ble Chief Minister of Manipur launching mPension Manipur for state government pensioners at the CM's Secretariat, Imphal

the person being photographed to prevent fraud. It also has mechanism to submit feedback to Treasuries. Pensioners receive notifications about the status of their photograph submission and responses to their queries.

Since 4th January 2021, 76,840 pensioners' photographs have been uploaded through the app. It covers all state pensioners across all 15 Treasuries / Sub-Treasuries in the state.

Online Building Permission System (OBPS)

<https://obps.mn.gov.in/>

OBPS is a state-of-the-art e-governance solution that streamlines the review of building plans, permit applications, and online delivery of building permission certificates. Developed by NIC Meghalaya, the application is equipped with cutting-edge features such as QR code generation, online payment gateways, and SMS gateways to ensure a seamless and hassle-free process. By

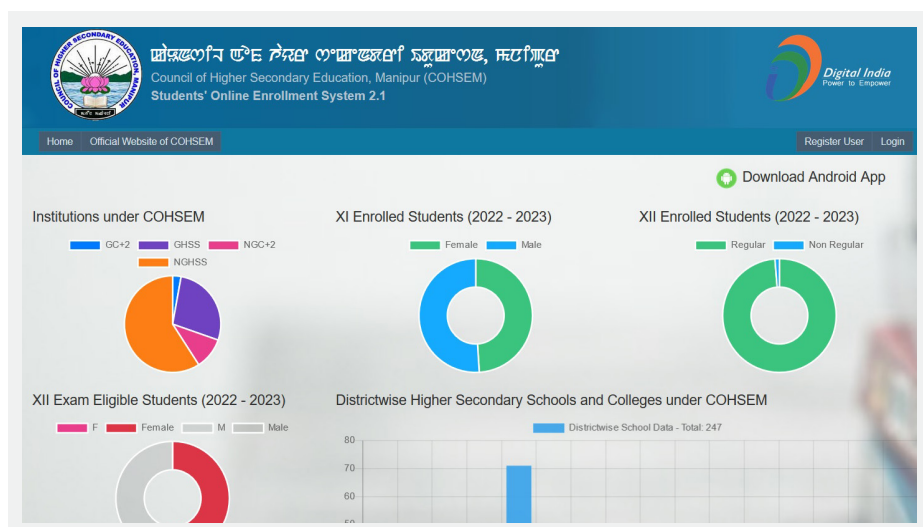
minimizing human interface, it has transformed service delivery and significantly reduced the time and cost associated with traditional processes.

The system has successfully increased local government revenue by making the overall process efficient. Additionally, It improved the quality of construction by ensuring that building plans are thoroughly scrutinized and that construction adheres to approved plans and standards.

Salient features

- Facilitates online document submission
- Facilitates online scrutiny of building plans
- Online fee payment
- Automates the workflow of building permit processing
- Provides real-time updates on the status of building permit applications

▼ Fig 1.7: COHSEM Manipur (Student's Online Enrollment System) Homepage



Face Recognition Attendance System

This is an AI-based attendance system which automatically marks the attendance of employees by recognizing and verifying their facial features. Developed by NIC Manipur, the system has been implemented at the District Administrations of Imphal East and Imphal West and around 350 officials in these districts use the system for marking attendance.

e-Municipal Services

<https://serviceonline.gov.in/>

This is an e-governance initiative undertaken by the State Centre under the aegis of the Ministry of Housing and Urban Development, along with the Manipur Town Planning Department as the implementing nodal department. It aims to digitize and streamline the delivery of municipal services in Manipur by providing citizens with access to online services. Developed on the ServicePlus platform, citizens can avail the following four services: 1. birth certificate issuance, 2. death certificate issuance, 3. dislodging of septic tank and 4. registration and renewal of shops.

Registration and Exam Processing System

This application facilitates the registration and examination processing activities of the Council of Higher Secondary Education Manipur (COHSEM) for classes XI and XII. The system is sub-divided into following modules

- Registration
- Issuance of examination roll number
- Allocation of examination centre
- Codification of roll numbers
- Evaluation
- Tabulation of marks
- De-codification
- Declaration of results
- Issuance of mark-sheets and certificates

Students' Online Enrollment System 2.0

<https://cohsemmanipur.nic.in/>

This web application is designed for the submission of enrollment data of Class XI and XII students from schools affiliated with the COHSEM. It enables schools to pay enrollment fees online for their students.

Additionally, there is an android mobile app called mCOHSEM which helps students view their enrollment details and request corrections if there are any mistakes.

Online Certified Copy Application System for High Court of Manipur

<https://hcmcertifiedcopy.nic.in/>

This is a web-based application that facilitates citizens, advocates, and litigants to obtain

certified copies of judgments, petitions, or related documents. To request a certified copy, the applicant must register on the system and submit a request by paying a nominal processing fee. The request is then digitally processed by the High Court and the final prepared documents are digitally signed and made available for download by the applicant. If a hard copy is required, the applicant must submit an online intimation through the system and pay a printing fee. The hard copy can be collected by the applicant from the Copying Section of the High Court of Manipur.

Certificate Chain Application

<https://certificatechain.nic.in/>

This system is designed to securely store the marksheets (Certificate Chain) of the Higher Secondary Examination (Class XII) conducted by the COHSEM, and can be accessed by authorized individuals or institutions to ensure that the certificates issued are genuine and have not been tampered with. This system is customized for Manipur and is based on an application developed by Block Chain Technology, CoE, NIC Karnataka, Bengaluru, which is typically used to store various certificate details like birth, death, caste, and mark-sheets. The system has already uploaded the marksheets of 28,383 Class XII students for the year 2022 of COHSEM.

Integrated Road Accident Database

iRAD is a centralized accident database developed with an aim to reduce accidents and increase road safety. It enables its stakeholders including Police, Transport, Road and Health to capture accident details from different perspectives to analyze causes and formulate policies. It was launched on 28th Jan 2022 and implemented across all 16 districts.

Other Major Initiatives

The State Centre has successfully implemented various major government projects including eOffice, eHospital, eProcurement, SPARROW, eProsecution, eChallan, Vahan & Sarathi, eCourts, ePDS, NGDRS, ALIS, IVFRT. Other initiatives include NeVA, CuBOS, Heliservices, Online Certified Copy for High Court of Manipur, Paddy Procurement Portal, School Monitoring System for Chandel District, Mid-Day Meal in Districts (Senapati District), Farmers Registry, Computerization of DBT Schemes, AI-based OCR and transliteration for Meitei Mayek-Manipur (Bengali), Veterinary Hospital Management System, Guest House Room Booking System, Inventory Monitoring System for Manipur General Administration Department and BhuNaksha.

mGovernance

- **DagShang:** This app tracks applications / letters received at DC Office, Imphal East.
- **Ngaklou:** This is disaster warning and damage reporting app developed for the citizens of Ukhrul.

The Transport Mission Mode Project, driven by the MoRTH and executed by NIC has successfully automated the operations of RTOs in the state of Manipur also. It brings efficiency, transparency, accountability and reliability in services through Vahan, Sarathi, eChallan, National Permit, mParivahan. This system has modernised the IT infrastructure and service delivery model in the entire sector of RTOs.



Dr. Nivedita Lairenlakpam

Director, Department of Transport
Government of Manipur

- **mHospital:** This app provides access to information on healthcare facilities, including details about doctors' schedules and specialties, ambulance services and bed availability.
- **mAnganwadi:** This app helps in monitoring all anganwadi centres in Bishnupur district, Manipur.
- **eYojna:** This app shows government schemes in a district, informing citizens and helping them access benefits. It also allows to check eligibility criteria and nodal officer details for each scheme.

Infrastructure Support and Network Services

NIC Manipur provides network connectivity through NICNET, NKN & SWAN across the state with more than 1100 active nodes in Secretariat. The Centre also hosts and manages several state government websites. Further, it provides VPN and mail services to state user departments.

In addition, the State Centre also extends video conferencing (VC) services at several state government offices. For this, it has set up 22 VC studios across the state. One each at Raj Bhavan, CM Secretariat, Chief Secretary Office, DGP Office, NIC District Centers (16) and two studios at the State Centre itself.

Especially during the COVID-19 pandemic, these services emerged as vital support for government agencies to carry out necessary administrative activities.

Important Events Organised

- Hon'ble Home Minister, Shri Amit Shah launched eOffice for Government of Manipur on 27th December 2020
- Hon'ble Chief Minister of Manipur, Shri N. Biren

▼ Table 1.1: Project implementation status

Project	Implementation Status	Type
eOffice	<ul style="list-style-type: none"> User Departments / Offices: 192 eOffice users: 3,482 	G2G
eHospital	<ul style="list-style-type: none"> User Hospitals: 8 Transactions: 2,63,547 OPD registrations: 22,90,842 	G2G, G2C
eProcurement	<ul style="list-style-type: none"> Total worth of projects implemented: Rs. 31000 crore 	G2B
SPARROW (Manipur Organised Services)	<ul style="list-style-type: none"> Total number of Officers onboarded: 231 	G2G
eChallan	<ul style="list-style-type: none"> Implemented in all DTO Enforcement Offices and started in Traffic Police Offices 	G2G
Vahan	<ul style="list-style-type: none"> Implemented in 10 RTOs Vehicles registered: 5,40,774 Revenue collected: Rs. 4,33,25,90,898 Permits issued : 4858 	G2C
Sarathi	<ul style="list-style-type: none"> Implemented in 11 RTOs Learning license issued: 2,72,208 Driving license issued: 3,51,803 DSL issued: 12 Revenue collected: Rs. 21.12 crore 	G2C
eCourts	<ul style="list-style-type: none"> Districts covered: 12 Court complexes covered: 17 Court establishments covered: 38 Case registered: 1,50,783 Case orders available: 11,371 	G2G
PDS	<ul style="list-style-type: none"> Ration Card Management System (https://rcmsmanipur.nic.in) Food and Essential Commodities Security Target (https://feastmn.nic.in) Automation of Fair Price Shops (https://epos.nic.in/manipur) 	G2C
NGDRS	<ul style="list-style-type: none"> Registered documents: 441 Revenue collected: 21.71 lakhs 	G2C
ALIS	<ul style="list-style-type: none"> Districts covered: 9 Weapons license issued: 12818 	G2C
IVFRT	<ul style="list-style-type: none"> Foreigner Registration at FROs 	G2G

Singh launched the Professional Tax Application at CM Secretariat on 9th November 2022

- Hon'ble Minister of Municipal Administration Housing Development (MAHUD), Shri Yumnam Khemchand Singh, launched the Online Building Permission System

- Hon'ble Minister, MAHUD, Shri Yumnam Khemchand Singh, launched Online Registration of Shops and Establishment & Renewal of Licence

- Hon'ble Chief Minister of Manipur launched mPension Manipur for pensioners drawing service pension from the government of Manipur

- Commissioner, MAHUD, launched 3 online services for 27 Urban Local Bodies of Manipur

Accolades

- Award of Recognition for eGRAS at 20th CSI eGovernance Awards 2022

- Award of Recognition for LouchaPathap at 20th CSI eGovernance Awards 2022

- Award of Recognition for eOffice at 20th CSI eGovernance Awards 2022

- 19th CIS SIG eGovernance Awards 2021 for CMIS

- 19th CIS SIG eGovernance Awards 2021 for TreasuryNet

- Best Performing State in Electronic Procurement 2019 for eProcurement

- National Award for eGovernance 2019 for LouchaPathap

- Promising Digital State of India Award 2018

- Gems of Digital NE Award (Silver) 2018 for CPIS

- Gems of Digital NE award (Silver) 2018 for TreasuryNet

- Prime Minister's Awards 2007-08 for Excellence in Public Administration – CPIS

Way Forward

NIC Manipur has introduced innovative solutions and improved productivity through its technical initiatives, which have revolutionized various sectors across the state. In the future, with the rise of new technologies, more cost-effective and sustainable technical solutions are envisaged. These include extensive use of blockchain for RoR, exam certificates, and birth and death certificates, as well as the implementation of Parichay and Jan Parichay. Furthermore, there will be integration of applications for finance, incorporation of Chatbots in applications, adoption of a mobile-first approach, and development of microservices.

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Uttar Pradesh

Driving Innovation through Information Technology

Edited by **RAJEEV JOSHI**

NIC Uttar Pradesh is using information technology to modernize the public service delivery system, providing convenient access to services and enhancing democratic values. This has resulted in greater effectiveness and efficiency in managing government initiatives. The approach is scientific and impact analysis can be conducted. Over the last 4-5 years, NIC has been successfully implemented several eGovernance projects in the state, transforming Uttar Pradesh into a picture-perfect mirror image of the modern day, progressive India. By placing both, sophisticated technologies and available resources in complimenting tandem, it harnesses some of the world best ICT innovations into good governance.



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Established in 1988, NIC Uttar Pradesh has partnered with the State Government in its endeavour to automate government processes and leverage Information and Communication Technology to connect with citizens. Over the course of more than 35 years, NIC has implemented various initiatives that utilise the latest technologies with the aim of empowering the people and promoting the state's development. These eGovernance projects have not only made government services more accessible to citizens, but they have also facilitated quick, responsive, transparent, and hassle-free administration.

ICT Initiatives in the State

NIC has presence in all 75 districts of the state and strategic departments such as Chief Minister's Office, Board of Revenue, High Court, Finance Department etc. to provide 24x7 IT support. The network connectivity through NICNET, NKN, SWAN & SCAN (Sachivalaya Campus Area Network) has more than 30,000 nodes, 80,000+ email accounts and 10 Gbps Internet bandwidth extended to all Tehsils & Block level through 885 Point-of-Presence (PoPs) of SWAN. NIC Data Centre houses more than 100 servers hosting 450+ databases and 250+ websites. NIC also extends studio & desktop based video conferencing services to various functionaries of the State Government, district courts and jails.

Some of the major ICT initiatives implemented by the NIC Uttar Pradesh are:

NeVA

National e-Vidhan Application (NeVA) is a mission mode project to digitize State Legislatures and make them paperless. It aims to bring all the legislatures of the country together, in one platform thereby creating a massive data depository without having the complexity of multiple applications wherein different modules are interlinked to one another.

This application has been successfully implemented by NIC UP in both houses of Uttar Pradesh with support from Ministry of Parliamentary Affairs, Government of India, making Uttar Pradesh Legislative Assembly (UPLA) and Uttar Pradesh Legislative Council (UPLC), the first assembly and council in the country to conduct a paperless session under the NeVA programme.



▲ Fig 2.1: Hon'ble Chief Minister Yogi Adityanath inaugurating NeVA Sewa Kendra at UP Legislative Assembly in presence of Hon'ble Speaker, Shri Satish Mahana

The application allows for smart handling of house business with access to various details such as member contacts, rules, bills, committee reports, etc.

In Uttar Pradesh, the application was officially launched by the Hon'ble Chief Minister of Uttar Pradesh, Yogi Adityanath at UPLA on 19th May, 2022 during its summer session and at UPLC on 8th December 2022 during its winter session. A tablet and an eBook have been attached on the tables of Hon'ble Members of UPLA and UPLC.

UP MineMitra

<https://upmines.upsc.gov.in/>

The Department of Geology and Mining, GoUP is responsible for allotting leases for mining minerals on leased areas, generating revenue of over Rs. 1500 Cr every year. To digitise the entire manual lease system, NIC UP developed UP Mineral Portal for the allotment of licences (lease) and issuance of e-Transit Pass to the leaseholders

(lessee). The portal also helps the department maintain the details of leaseholders, allotment of mineral-wise / plot wise leases, accounting of royalty, and MIS for providing monitoring reports.

The application comprises four modules, namely, eMM11, Transit Pass, Form-C, and Working Organisation.

- eMM11 is furnished by the Lessee to the vehicles carrying minerals out of the mining area. The vehicle driver has to carry a printed copy of the form during his journey to the destination. The delivery has to happen within the time stated in the eMM11 form.
- Transit Pass is required by vehicles bringing mineral into the state.
- Form-C is generated by the Licensee for delivery of minerals picked from a stockiest. This is generated by the stockiest. The vehicle driver

needs to carry Form-C during his journey to the destination.

- Working Organization verify all types of transit passes like eMM11, eform-C, and Transit Pass using Web API for other state and mining server database for intradistrict movements.

eDistrict Uttar Pradesh

<https://edistrict.up.gov.in/edistrictup/>

Since its inception in 2013, eDistrict has been providing citizens in Uttar Pradesh with access to a comprehensive range of government services, including the issuance of vital certificates such as birth certificates, death certificates, and income certificates. The platform also facilitates citizens in applying for a broad spectrum of government schemes and subsidies, such as scholarships, pensions, and healthcare schemes, and offers easy access to relevant information regarding government services and schemes. Moreover, it has seamlessly integrated with numerous government departments to ensure the swift delivery of services to citizens. This integration has played a pivotal role in promoting transparency and accountability in governance across Uttar Pradesh.

Salient features

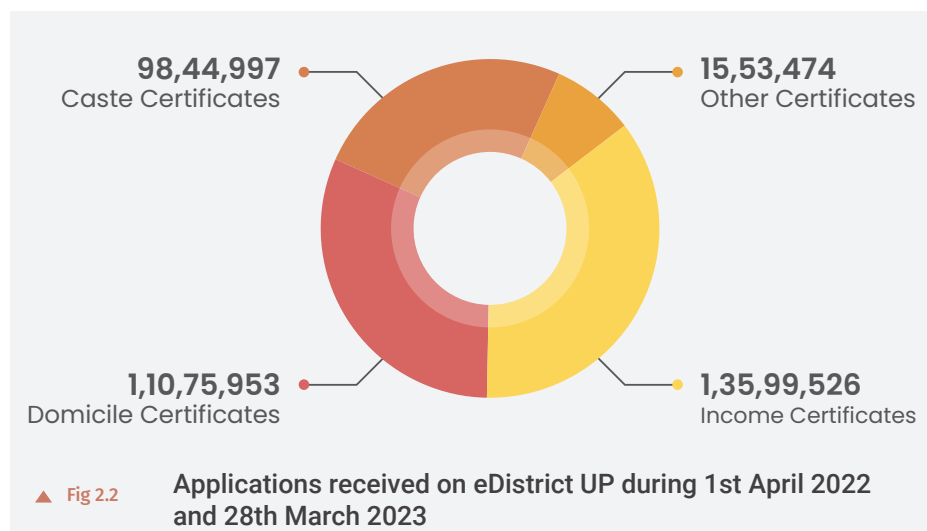
- Issues Digitally Signed Certificates (DSCs)
- Integrated with various departments for validation of supporting documents
- Integrated with electronic Service Level Agreement (eSLA) for timely delivery of services
- Facilitates online appointment booking
- SMS / Email alerts at various stages of application
- Automation of each activity involved in Service Delivery

In last one financial year, the portal has received over 3.60 crore applications. Out of which, approximately 98 lakh applications were of caste certificates, 110 lakh applications were of domicile certificates, and 135 lakh applications were of income certificates.

ePension UP

<https://epension.up.nic.in/>

ePension is an online platform that offers pension-related services to retired government employees. It provides a range of services related to pension schemes and allows citizens to apply for pensions, check their application status, and receive payments directly in their bank accounts. It has a user-friendly interface and a dashboard to track the application and payment status. The platform uses Aadhaar authentication to simplify the application process and reduce fraud. ePension has significantly reduced processing time, minimised errors, and improved efficiency and transparency in the pension system of Uttar Pradesh.



Salient features

- Online registration and application for pension by employee six months prior to retirement
- Online forwarding of the verified pensioner forms to pension issuing office by DDO within 30 days
- PPO issuance before 3 months of retirement
- Online payment of the pension by treasury to the retired employee
- Contactless, paperless and cashless pension benefits sanctioning and disbursement
- Pensioner can track status of his / her pension case and download pensioner half through portal

Integrated Social Pension System

<https://sspy-up.gov.in/>

The primary objective of the system is to facilitate the online dissemination of information and direct transfer of pensions to the bank accounts of four pension schemes (old age pension, widow pension, divyang pension and leprosy pension) aimed at benefitting over 90 lakh pensioners in our society. The system provides beneficiary-wise pension disbursement details that are accessible on the Internet, and the platform has an automated process for calculating pension amounts, significantly reducing the probability of manual errors.

As of the second quarter in financial year 2022-23, over Rs. 5000 crore has been transferred to 90 lakh pensioners across the state.

eTula

<https://etula.up.gov.in/Metrology/>

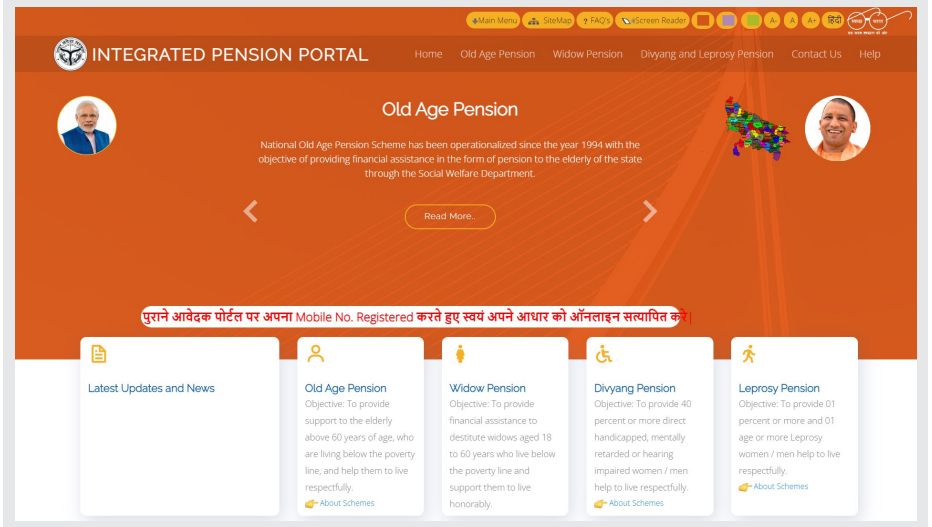
eTula is a web application launched by the Government of Uttar Pradesh to provide access to metrology services to citizens of the state. The platform is designed to simplify the process of measuring and certifying weights and measures used in commercial transactions. eTula was launched in 2019 and has since become a vital component of the government's e-governance initiative in the state. It offers a range of services related to metrology, including the verification and calibration of weighing and measuring instruments used in commercial transactions. Citizens can use the platform to register their instruments, request verification and calibration services, and receive certificates of accuracy.

Dhwani

<https://dhwani.up.nic.in/>

With the vast amount of data available in the government domain, there is an immense potential for leveraging Artificial Intelligence and Machine Learning to drive a new era of data-driven governance. Dhwani is one such small but significant step taken by NIC UP towards this goal.

Dhwani primarily aims to use the data repository for the direct benefit of citizens and



▲ Fig 2.3: Integrated Social Pension System Portal Homepage

to enhance existing e-Governance services. It offers various AI-based services through REST APIs that can be utilised by various state / central government departments, with an objective to provide services that can be resolved through the use of AI / ML algorithms.

Salient features

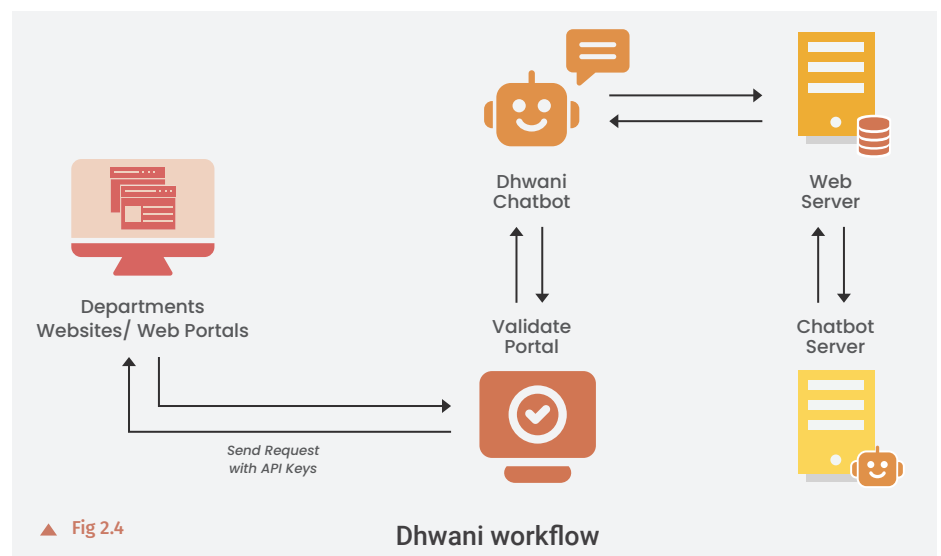
- Facilitates the integration of Chatbot Services into web portals for virtual assistance
- Detects if an uploaded image is clear enough and contains a human face
- Compares two images to identify if they contain the same objects or human faces
- Utilises OCR technology to convert text within images into editable digital documents
- Converts text from one language to another, supporting nine Indian languages

Srishti

<https://gis.up.nic.in:8080/srishti/pwd/mis/mis.php>

Srishti is a web-based Geographic Information System (GIS) portal that provides accurate, reliable, and easily accessible data for planning, designing, and implementing infrastructure projects. The portal has been developed by NIC UP in collaboration with the Uttar Pradesh Public Works Department (UPPWD) and is designed to cater to the specific needs of the state government.

Srishti has been integrated with UPPWD Road Asset Management System, Natural Resource Information System (NRIS), UP Police Examination Centre Mapping, MNREGA Works Mapping, Paddy Crop Residue Burning Incidence Mapping, and UP Village Mapping 2011 to enable the identification of potential risks and challenges in infrastructure



▲ Fig 2.4

Dhwani workflow

projects, providing real-time insights and recommendations to stakeholders.

Salient features

- Enables real-time monitoring and tracking of infrastructure projects, mapping of project progress, identification of delays, and provision of regular updates to stakeholders
- Generates dynamic maps for Blocks, Tehsils, Districts and State by clubbing village boundary polygons on respective standard codes
- Facilitates public participation in infrastructure development by providing a platform for citizens to view ongoing and proposed infrastructure projects, and submit feedback

As of now, GIS based maps of 75 districts, 821 Blocks and 1,07,410 villages has been created. Moreover, the data from Health, Education, Drinking Water, Irrigation, and Communication has been linked with the village maps. It also has data on 2 lakh kilometers of road network in the state with quality parameters such as length, width and colour of each road.

DARPAN

DARPAN (Dashboard for Analytical Review of Projects Across Nation) is a configurable and multilingual dashboard product designed for senior government officials. It presents real-time data on key performance indicators of selected schemes and projects for planning, evaluation, and monitoring purposes. By consolidating multiple data sources into one centralised platform, it enhances data analysis and allows users to personalise their view to prioritise information. The dashboard identifies trends in data to provide enhanced perspectives of the projects.

NIC UP has created DARPAN dashboard instances for

- Hon'ble Governor
- Hon'ble Chief Minister
- Chief Secretary
- District Magistrates, and
- Divisional Commissioners

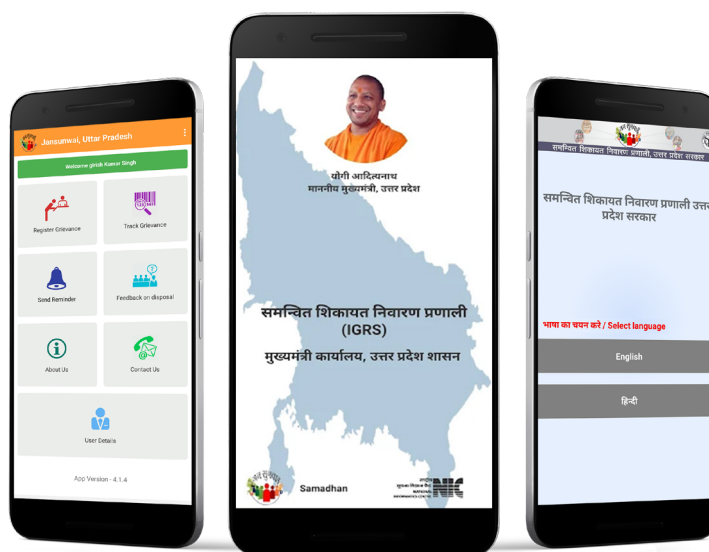
Salient features

- Provides a quick overview of project statistics through our At-a-Glance view with Drill Down Reports and Graphical Analysis
- 24/7 access to the Dashboard from any device any location, with data that is updated in real time at regular intervals
- Prioritise workload by ranking projects, so that one can focus on the most important ones first

Jansunwai Samadhan

<https://jansunwai.up.nic.in/>

Jansunwai Samadhan is an online grievances



▲ Fig 2.5 Jansunwai Samadhan App

platform that provides citizens with a forum to voice their grievances, complaints, and feedback regarding government services and schemes. Since its launch, it has become an essential tool for citizens to communicate their concerns directly to the government. It provides a user-friendly interface where citizens can submit their complaints along with relevant details such as their name, contact details, and the nature of the grievance. Once a complaint is registered, citizens receive a unique reference number that they can use to track the progress of their complaint.

Jansunwai Samadhan has also been integrated with several government departments, making it easier for officials to track complaints and take appropriate action. It enables citizens to submit complaints related to a range of services, including electricity, water supply, roads, healthcare, education, and public safety. It also allows citizens to provide feedback on government schemes and initiatives.

Features

- Allows citizens to file, track, and give feedback on application at one place
- Allows citizens to upload supporting documents such as photographs and videos to substantiate their complaints
- SMS / email alerts on every stage of deposition
- Search and tagging of duplicate references
- Request a callback from the concerned department to discuss their grievances in detail
- Provides a resolution feedback mechanism for better input
- MIS & GIS dashboard for monitoring
- Automatically generates Monthly Performance Reports for all levels of officers

- Provision to increase quality of disposal through random checking and physical verification

PRERNA

<https://igrsup.gov.in/>

PRERNA (Property Evaluation & Registration Application) is an innovative web-based application developed by the NIC UP that facilitates the online registration of properties in the state.

The application is designed to simplify and streamline the property registration process, making it easier for citizens to register their properties online without the need for physical visits to the registration office. It allows users to track the progress of their registration application in real-time, enabling them to stay updated on the status of their application. It features a document management system which enables users to upload and manage all the necessary documents required for property registration, including sale deeds, power of attorney documents, and identity proof documents.

Since its launch, PRERNA has been a game-changer for property registration in the state. In 2021 alone, the state government has raised over Rs. 18,926 crore revenue, taking the eMarket value above Rs. 2.28 lakh crore. The platform has also recorded more than 1.67 crore document generations, 3.52 lakh Digital Non-Encumbrance Certificates (NECs) generation and more than 35 lakh deeds registration.

Digital Land

<https://upbhulekh.gov.in>

Digital Land is an integrated and interoperable solution for extending e-Services related to rural areas of the state. It comprises seven online web applications: BHULEKH, Revenue Court Cases

Management System (RCCMS), Bhu-Naksha, Khasra, Online Mutation, Anti-Bhu-Mafia Portal and UP-SVAMITVA.

Digital Land has touched the lives of nearly 1 crore farmers on a daily basis. It has reduced the time taken in managing and maintaining records, increased accuracy and efficiency and enhanced safety of records maintained.

Apart from these benefits, it has increased the accessibility of all information related to land title / dispute or any other issue (whether the land is reserved for any specific purpose by the State Government or not including future plans like town planning, etc.) related to the land title to the citizens.

Salient features

- Generates a 16-digit unique code for each revenue plots
- Detects and blocks the fraudulent sale of lands belonging to non-transferable categories
- Fixes individual shares of Khatedars in Khataunis (RoRs)
- Relief funds and other benefits transferred directly into the bank accounts (DBT) of actual beneficiary
- SMS broadcasting to land owners

Other Key Initiatives

Manav Sampada

<https://ehrms.upsdc.gov.in>

eHRMS application was created as a product model to provide a comprehensive human resource management solution for government departments. Its aim is to assist in making the right decisions at the right time, with proper monitoring and manpower planning. This platform streamlines processes such as employee recruitment, postings, promotions, and transfers based on their respective skill sets.

The application has been integrated with the DDO module of the Finance Department, Government of Uttar Pradesh, and DIKSHA portal of Ministry of Human Resource Development, Government of India. An Android application mSthapana has also been developed for leave and service book management for state government employees.

As of now, over 13.8 lakh state government

employees from 83 state government departments are registered on the platform. Moreover, more than 13 lakh service books have been verified on the platform.

eOffice

eOffice aims to bring transparency and efficiency among inter and intra-government processes. It promotes accountability by increasing quality and speed in decision making. Further, it aims to promote innovation by releasing staff energy and time from unproductive procedures.

As of now, it has been implemented across following state offices and departments

- UP Secretariat
- 19 Directorates under Government of Uttar Pradesh
- UP Vidhan Sabha
- Dr. APJ Abdul Kalam University

In near future, eOffice support will be extended to other state government departments and offices including UP Legislative Council, Yamuna Expressway Development Authority, and University of Kanpur.

iRAD

Integrated Road Accident Database (iRAD) is an initiative of the Ministry of Road Transport and Highways, started with an objective to improve road safety in India by facilitating the collection and analysis of road accident data. The platform features a comprehensive database that stores and processes data on road accidents and provides tools to visualize and analyze the data to identify patterns and trends. The platform also includes cloud infrastructure, physical servers, and a helpdesk for user support, and also involves training stakeholders and users to ensure efficient use of the platform.

In Uttar Pradesh, iRAD was rolled out in two stages. In the first stage, it was rolled out in 16 districts and later in the second phase, it was rolled out in the remaining 59 districts. As of now, over 750 training sessions have been conducted by the State Centre for the success of the project.

ICJS

<https://icjs.gov.in/>

Interoperable Criminal Justice System (ICJS) is designed to enable seamless information

flow among various pillars of the justice system including eCourt, ePrison, eForensics, eProsecution, Fingerprint, and Women & Child Department (WCD), by achieving 'One Data Once Entry.'

It also functions as an interface for the various pillars of the Indian Judicial System (IJS) to perform national level searches of accused / criminals using a range of identifiers such as FIR No, CNR No, prison ID, etc. The platform also features a customizable national-level dashboard for analytics on various metrics.

As of now, NIC UP has implemented five out of seven major pillars of ICJS. These are eProsecution, eForensics, eCourts, ePrison, and NDAL-ALIS.

eHospital

eHospital is a comprehensive ICT solution for government hospitals that streamlines workflows and covers major functional areas such as patient care, laboratory services, document management, and human resources. It is a patient-centric system that captures details from registration to admission and treatment in wards, reducing the time and effort required to seek appointments with doctors in distant hospitals. It enables citizens to book online appointments in hospitals, making it easier for them to access healthcare services.

As of now, the State Centre has implemented the application in 48 hospitals with more than 4.4 crore patients in the state. Nearly, 40000 patients use this service on a daily basis.

eGranthalaya

eGranthalaya automates and networks government libraries with an integrated library management software, digital library module, cloud hosting, and a library portal. It transforms traditional libraries into e-Libraries with digital services and provides various online member services through a single window access system. Its latest iteration, eGranthalaya 4.0, is a cloud-ready application that provides a web-based solution with a centralized database for a cluster of libraries.

As of now, the State Centre has implemented the eGranthalaya software in more than 500 government libraries across Uttar Pradesh.



▲ Fig 2.6

Modules of ICJS



▲ Fig 2.7 Aapda Prahari App

UP RTI Online Portal

This portal enables any Indian citizen to file Right to Information (RTI) applications and first appeals online. It is exclusively designed to bring transparency in the system. RTI Online has two components.

- Online request and appeal filing system (Citizen Interface: <https://rtionline.up.gov.in>)
- RTI Request and Appeal Management System (Public Authority Interface: <https://rtionline.up.gov.in/RTIMIS>)

ePariksha UP

<https://pariksha.up.nic.in/>

ePariksha is an online examination platform developed by NIC UP to streamline the recruitment process for various government jobs and eliminate the need for paper-based examinations in the state. It offers a user-friendly interface and allows candidates to register, fill out their application forms, and pay examination fees online. The platform also provides various features such as mock tests, online tutorials, and practice tests to help candidates prepare for the exam. The web portal is complemented by an Android-based mobile application of the same name.

Nivesh Mitra

<https://niveshmitra.up.nic.in/>

Nivesh Mitra is a 'Single Window Portal' designed to facilitate entrepreneurs in obtaining various government clearances, licences, and NOCs required for setting up businesses in Uttar Pradesh, in accordance with the Business Reform Action Plan (BRAP) guidelines. As of now, 347 services of 27 departments are integrated. It offers a comprehensive and entirely digital solution, with no need for physical touch points throughout the process. It includes online application submission, payment, tracking and monitoring

of progress, approvals, and online access to approved certificates and NOCs.

Over the course of its existence, the system has granted over 3,74,613 licences / NOCs to approximately 4,09,627 registered enterprises who applied, all within the approved timelines.

eLottery

<https://upexciselottery.gov.in/>

eLottery System provides end-to-end process flow from application submission to the allotment of shops for Liquor and Bhang across 75 districts of the state. This initiative has not only infused the efficiency in allotment of liquor shops but has also eliminated any sort of corruption involved in the related process.

As of now, 56337 applications have been received for license, and out of which, the license has been granted to 28990.

mGovernance

Aapda Prahari

This app offers information about disaster relief schemes provided by the Government of Uttar Pradesh, allowing citizens to report disasters with photographs and location data, and receive relief payments via direct benefit transfer. The District officials can also upload details of shelter and relief camps to help allocate resources to beneficiaries.

eSathi

This mobile app allows citizens to apply for eDistrict services directly from their mobile phones. The app has been downloaded over 1 lakh times and processed over 5 lakh applications through mobile.

JAL

This mobile app geotags rural assets such as government hand pumps and borewells. It

monitors their status whether they are functional or not, monitoring their repair or rebore process. It aims to bring transparency in the water management system across the state.

mNirikshan

This mobile application is designed to enhance the efficiency of the public grievance redressal system by facilitating the transfer of complaints and providing real-time GPS-based grievance redressal. It assists the District Administration in monitoring the field activities of Lekhpal and field officers, by capturing the GPS location of field visits and images of the complainants / parties involved in the disputed land. This app aims to improve the quality of the public grievance redressal system and expedite the process.

Important Events Organised

- Provided technical support during the G20 Summit was organised by MeitY in Lucknow
- Participated in UP Global Investor Summit 2023 where NIC, DIC, STPI, and CDAC showcased their projects and products at MeitY pavilion

Accolades

- Digital India Award - 2022 (PLATINUM) for UP-MineMitra in 'Digital Initiatives for Ease of Doing Business' category
- National Awards for e-Governance 2022 (Gold) for UPMineMitra Excellence in Government Process Re-engineering Category
- State Award of Excellence (Digital Transformation) at CSI SIG eGovernance Awards 2021
- Award of Excellence (Project Category) for Jansunwai - Samadhan & Nivesh Mitra at SIG eGov Awards 2021
- Digital India Award 2020 (Silver Category) for Excellence in Digital Governance from Hon'ble President of India for State Food & Civil Supplies Project

Way Forward

The eGovernance initiatives that cover the entire spectrum of interfaces - G2G, G2C, G2B, G2E & G2S are bringing the vision of IT empowerment one step closer. Majority of these initiatives are aimed at bridging the digital divide and to extend the many 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 of the state. National Informatics Centre, Uttar Pradesh is continuously striving to drive innovation for citizens and departments alike.

Contact for more details

State Informatics Officer

NIC Uttar Pradesh
9, Sarojini Naidu Marg, Yojana Bhavan
Lucknow, Uttar Pradesh - 226001
Email: sio-up@nic.in, Phone: 0361-2237254

Budgam, Jammu & Kashmir

Building Trust through Innovation

Edited by **MUKESH KUMAR RALLI**

Since it started operating in 1991, NIC Budgam has spearheaded the charge in supporting the use of ICT in government and public service delivery. NIC Budgam is playing a pivotal role in implementing various e-governance initiatives for enhancing service / scheme delivery, providing IT-enabled services and digital platforms for transparent and efficient governance.

ICT Initiatives in the District

DIMP

<https://budgam.jk.gov.in/dimp>

District Integrated Monitoring Portal (DIMP) is an integrated monitoring tool developed for district administration, to monitor the progress related to developmental works, schemes, services, deliverables and human resources of all departments. It enables administration to analyse and provide insights to departments for improving their performance.

AurZuv

This app aims to improve healthcare in the district and provide one-click access to



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Scientist-B & DIO
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NIC Budgam has implemented many initiatives to enhance service / scheme delivery such as DIMP, SEEDS, e-Imprest, AurZuv, Covid19Exg, PRIS, Medical Migration portal, RozgarApp, TMIS, Meri-Aawaaz, Budgam-Stat, PMS, and CPMS which have transformed service delivery. Besides implementation of National / UT level initiatives such as eOffice, SPARROW, Service Plus, Revenue Plus, Gati-Shakti, PM Kisan, BEAMS have paved way for transparent, efficient, and citizen-centric governance

health information and services. It also aids in managing the health department's personnel and infrastructure.

Rozgar Budgam

<https://budgam.jk.gov.in/rozgar>

This app / portal aims to raise awareness about self-employment and employment schemes for eligible unemployed youth, and assists them in

registering with the District Employment and Counseling Center for career guidance.

SEEDS

<https://budgam.jk.gov.in/seeds>

SEEDS is a digital gateway that was developed to augment the service delivery in the district. It links all important portals that provide digital services in the district.

PRIS

<https://budgam.jk.gov.in/pris>

PRIS helps in verification of contractor registration cards for local panchayats tendering process.

Budgam-Stat

<https://budgam.jk.gov.in/stat>

Budgam-Stat offers District Statistical Handbook information in a graphical format for easy comprehension by policymakers, facilitating the understanding of developmental trends and formulation of growth strategies.

Meri Aawaaz

<https://budgam.jk.gov.in/meri-awaaz>

This is a citizen platform to provide suggestions and lodge grievances related to water bodies.

PMS

<https://budgam.jk.gov.in/pms>

Permission Management System (PMS) was developed to the issue permissions during COVID-19 restrictions to public through online mode.

e-Imprest

<https://budgam.jk.gov.in/imprest>

This app manages financial activities related to



▲ Fig. 3.1: Hon'ble Union Minister of State Dr. Jitendra Singh launching Bilingual version of official website of district Budgam developed on S3WAAS platform by NIC Budgam

Important Events Organised

- Organised Digi-Melas as the nodal agency for celebrating Digital J&K Week 2022
- Organised Bilingual District Website Launch event during 2-day visit of the Hon'ble Union Minister Dr. Jitendra Singh to the district
- Organised the launch event of multiple e-Services during 2-day visit of Hon'ble MoS Shri Rajeev Chandrasekhar to the district
- Organised awareness generation drive for online services and initiatives through Common Service Centre (CSC) van

Imprest and office telephone bills in NIC J&K.

MBBS Student Migration

<https://medicalmigration.jk.gov.in>

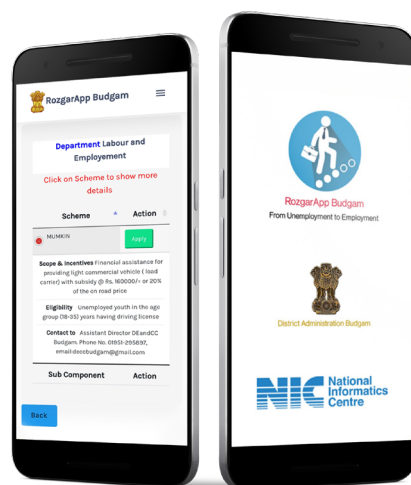
This portal enables MBBS students of J&K to avail inter-college and inter-university migration.

MPS

<https://budgam.jk.gov.in/mps>

This application facilitates NIC J&K employees to update their weekly performance for tracking and self-assessment.

Besides the aforementioned projects, NIC Budgam has also successfully implemented several major national / state projects including eOffice, PM Kisan, iRAD, Parivahan, Jan-Sugam,



▲ Fig. 3.2: Rojgar Budgam & AurZuv Mobile Apps

Revenue Plus, RCCMS, PaySys, EPM etc, for enhancing the governance infrastructure in the district.

Infrastructure, Network and Web Services

IT Support on SANJAY

NIC Budgam provided extensive support to administration during Shri Amarnath Ji Yatra (SANJAY) 2022 for coordinating and functioning of the facilitation centre and EKYC Counters.

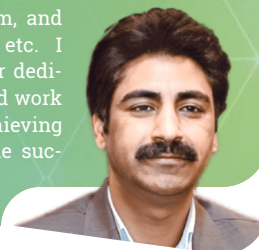
Support during COVID-19

The District Centre provided support to administration for COVID-19 sampling, transportation, and quarantine procedures of passengers at Airport through development and implementation of Transit Management Information System.

IT Support during Elections

The District Centre extends extensive support to administration for various tasks related to Panchayat / Municipal / Assembly / General elections.

I am pleased to extend my sincere congratulations to NIC Budgam for exceptional contributions towards promoting ICT in the district. Their collaborative development of innovative apps, including DIMP, has effectively addressed the requirements of the district administration and improved service delivery to citizens. NIC Budgam has been pivotal in implementing various services and projects, such as eOffice, Jan-Sugam, and Revenue-Plus etc. I commend their dedication and hard work towards achieving this remarkable success.



Syeed Fakhruddin Hamid, IAS

District Development Commissioner, Budgam

Accolades

NIC Budgam has received several awards on State-level Republic Day 2023, Independence Day 2022, Republic Day 2022 programs and Republic Day 2020 for its exceptional contribution from District Administration.

Way Forward

At NIC Budgam, we are fully prepared and dedicated to supporting the ongoing digital transformation. We are actively collaborating with the UT unit to create an ICT dashboard for the Agriculture Production Department and have plans to introduce additional initiatives in the future. Our commitment to serving citizens and the government remains unwavering, as we strive to deliver seamless digital access to government services and programs.

Contact for more details

District Informatics Officer

DC Office Complex

Budgam

Jammu & Kashmir - 191111

Email: dio-bdg@nic.in, Phone: 0951-255258



Shahbaz Ahmed Mirza, KAS

Special Secretary Revenue

Dhamtari, Chhattisgarh

Driving growth through exceptional ICT solutions

Edited by **KAVITA BARKAKOTY**

Established in 2000, NIC Dhamtari has been steadfastly committed to advancing eGovernance initiatives within the district. As a result of its unwavering efforts, the district has experienced significant progress in ICT infrastructure, along with enhanced accessibility and streamlined delivery of crucial government services to its constituents.

ICT Initiatives in the District

Dhamtari District Website

<https://dhamtari.gov.in/>

With its website, the Dhamtari district boasts a widespread digital presence that extends beyond its geographical boundaries. The website is an authoritative source of information on topics of public interest, such as development schemes, tenders, recruitment notices, weather forecasts, contact details of various district-level officials, and links to other important government websites. To reach a wider audience, the website is available in both Hindi and English.

GIS-based Water Conservation Plan

<https://storymaps.arcgis.com/stories/ef1dd4a4f19e4b8db57374fd43e36810/>

GIS-based Water Conservation Plan is a first of its kind project designed and developed by NIC Dhamtari. The plan was officially launched

The unwavering dedication of NIC Dhamtari has resulted in significant improvements in the accessibility of digital government services, playing a pivotal role in the overall development of the district. The organization has implemented various eGovernance initiatives, provided technical support, and administered government services, all of which have been of immense value to the citizens.

by the Hon'ble Chief Minister of Chhattisgarh, Shri Bhupendra Singh Baghel, during his visit to the district (Figure 4.1). The plan aims to address the issue of water scarcity and ensure the sustainability of water resources.

Some of its salient features are:

- Mapping and detailing of more than 1700 water bodies using geo-spatial tools
- Assess water table condition in pre- and post monsoon season

- Uses open-source GIS platform (Quantum GIS) to create GIS Maps including index map, geology and hydrological map, ground-water development status map, drainage pattern map, etc.

- Designed as a story map by blending geospatial and textual data in an informative way, using ArcGIS Story Map

- Easily replicable as raw data used is freely available on ISRO, NRSC, NASA, and World Hydro Shed portals

Ram Van Gaman Path App

NIC Dhamtari has always been an early adopter of emerging technologies. On Ram Van Gaman Path, it has developed an AR-based tourism application, which features prominent Ram Van Gaman sites in a highly immersive and interactive AR environment. To achieve this, it utilizes Unity 3D and the Vuforia AR engine, which has resulted in a truly engaging and unforgettable experience.

Other Key Initiatives

JSA-CTR MIS

<https://jsactr.mowr.gov.in/>

Under the Jal Shakti Abhiyan Catch the Rain (JSA-CTR) campaign, the District Centre is providing ICT support to the district administration for creation of rain-water harvesting structures and file progress report to the mission MIS portal.

JanChaupal

<https://janchaupal.cg.nic.in/>

JanChaupal is a citizen-governance system, developed at behest of the Hon'ble Chief Minister. It aims to narrow the gap between citizens and state government by creating a channel to present grievances directly to Chief Minister's Office.



Upendra Singh Chandel

Scientist-C & DIO
singh.upendra@nic.in



▲ Fig. 4.1: Hon'ble Chief Minister Chhattisgarh launching GIS based Water Conservation Plan for Dhamtari

e-Kosh

<https://ekoshonline.cg.nic.in/>

e-Kosh is developed with an aim to ease financial accounting for various state departments. With this, financial management has become seamless, ensuring proper utilization of funds and greater transparency.

Bhuiyan

<https://bhuiyan.cg.nic.in/>

Bhuiyan aims to computerise the land records at all tehsil levels. To ensure transparency, printed copies of Khatauni, Khasra and Land Map in digitized form are being delivered to citizens.

Dhamtari Police

<https://dhamtaripolice.cg.gov.in>

This is a go-to source for official District Police information. It keeps citizens up to date on Police advisories, rules, and notifications.

Vahan & Sarathi

Vahan & Sarathi are two major projects of the state road transport department. Vahan is

responsible for vehicle registration, while Sarathi provides driving licenses. The District Centre provides comprehensive technical support to the RTO office for connectivity and operational issues.

Apart from these projects, NIC Dhamtari has also implemented numerous other crucial Central and State projects throughout the district, including iRAD, eCourts, CPGRAMS, e-Hospital, NGDRS, Indian Citizenship Portal, IVFRT, NDAL-ALIS, BhuNaksha, eManec, eKarmic Sampada, Janshikayat, Samadhan, Employment Exchange, and e-Prosecution. These projects have significantly improved the lives of citizens by providing better access to services and information.

Infrastructure and Network Services

Network Services

The District Centre is connected to the state headquarters at Raipur via a high-speed 100 Mbps link, and LAN connectivity has been extended to various administrative offices within the district

collectorate, ensuring seamless and efficient communication between different departments.

Video Conferencing

The District Centre provides VC support, which is crucial in addressing public grievances and monitoring departmental activity and projects in the district. It enables the district administration to communicate with the state headquarters regularly, without the need for travel, in a cost effective manner.

Training

The District Centre regularly organises training programmes for user departments on various schemes like MGNREGA, One Nation One Ration Card, e-Hospital, Jal Shakti Abhiyan, etc.

Accolades

In recognition of ICT services extended by the

Information Technology brings about a prominent change in the field of eGovernance. It gives me immense pleasure to present the eGovernance initiatives undertaken in the district of Dhamtari, Chhattisgarh with the help of NIC. These initiatives have brought about radical change in the process of governance in the district enhancing transparency and betterment of citizen centric services. I appreciate the efforts of Shri Upendra Singh Chandel, DIO, Dhamtari and NIC team, for their regular and dedicated efforts in making eGovernance initiatives successful in the district.



Rituraj Raghuvanshi, IAS
District Collector & Magistrate

District Centre, the NIC officials from the District Centre have been awarded several awards at district and state-level events.

Way Forward

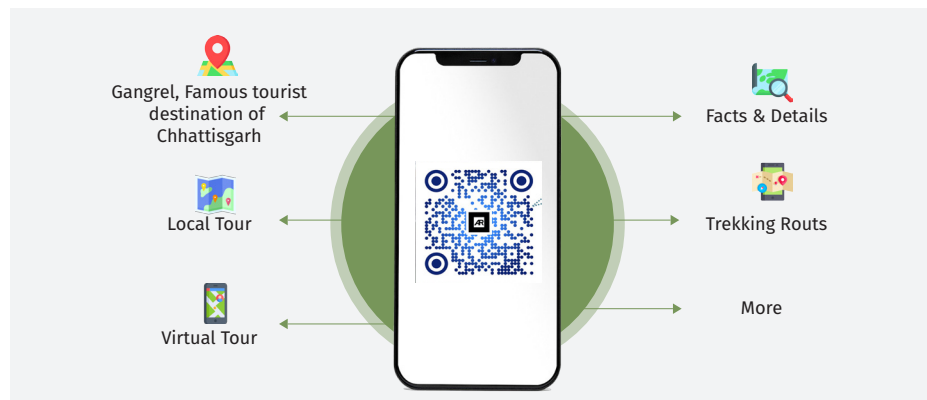
NIC Dhamtari strives to promote ICT-enabled services such as G2G, G2E, and most importantly, G2C to various stakeholders in order to bridge the digital divide. In a self-declared manifesto, it has pledged to transform the digital space of the district by providing citizens with a better, more effective service delivery experience.

Contact for more details

District Informatics Officer

NIC Dhamtari District Centre
Room No. 12- 15, Collectorate Office, Dhamtari
Chhattisgarh – 493773
Email: dio-dmt@nic.in, Phone: 07722-237147

▼ Fig. 4.2: AR based Ram Van Gaman Path App



Lower Dibang Valley, Arunachal Pradesh

Delivering IT Services at Grassroots Level

Edited by **KAVITA BARKAKOTY**

The Lower Dibang Valley (LDV) District was established as a separate entity from the undivided Dibang Valley District in 2001. Since then, it has emerged as a popular destination for tourists to partake in cultural and social activities within the state. With passage of this event, NIC Lower Dibang Valley also became an independent unit, which was earlier established in 1989 as a part of NIC Dibang Valley. The efforts by the District Centre have contributed significantly to the overall development of the district and bridged the digital divide by providing citizen-centric services to all stakeholders.

ICT Initiatives in the District

LDV Scheme Beneficiary Website

<https://ldvbeneficiary.nic.in/>

This website was commissioned by the District Administration with an aim of improving transparency in the system. Since its introduction, it has significantly reduced the number of Right to Information applications submitted to

Since its inception, the NIC Lower Dibang Valley District Centre has been dedicated to providing ICT support to the District Administration to achieve the highest standards of excellence. It is specifically focused on developing a range of web and mobile products and services that use emerging technologies to improve the lives of common citizens. Additionally, it aims to facilitate transparent, efficient, and reliable G2C services through its ICT initiatives.

government offices, as all the relevant information is now easily accessible on the website.

District e-Hospital

This app was created with an aim of enhancing access to medical services at Government Hospitals. This initiative has resulted in a substantial decrease in waiting times at registration counters and contributed to improved crowd management.

Jansuvidha

This app streamlines the issuance of certificates and licenses from the Deputy Commissioner Office, offering a one-stop-shop for various services. With this, citizens can simply visit the delivery counter with their e-receipts to have their needs met. Further, several certificate services are directly accessible online.

LDV District Website

<https://roing.nic.in>

This website acts as authoritative source of information on public utilities, citizen services, administrative structure, and recruitments across the district. The website is built on S3WaaS platform and regularly updated.

eOffice

The District Centre has successfully implemented eOffice across various government departments and offices in the district in a phase-wise manner since April, 2022.

Arunachal Pradesh Payroll System

This is an on-premises standalone solution that helps in managing, maintaining and automating the payments to employees. The system has been successfully implemented by the District Centre across all government departments in the district.

Elections

The District Centre provides its full support to State and District Administration during all General, Assembly and Panchayat elections

Other Key Initiatives

Vahan & Sarathi

The state road transport department has



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Fig. 5.1: Shri Bilatee Pertin, IAS (Retd. Commissioner, GoAP) in presence of Smt. Soumya Saurabh, Deputy Commissioner and Smt. Mamta Yadav, Assistant Commissioner launching LDC Scheme Beneficiary Website on the occasion of Good Governance Day

NIC through its technological solutions has been able to reach out to the masses ensuring seamless and speedy delivery of services. Now we should strive to reach out to the last man.



Soumya Saurabh, IAS
Deputy Commissioner

undertaken two significant projects, namely Vahan and Sarathi. Vahan facilitates vehicle registration, while Sarathi provides driving licenses. Recently, the District Centre has become the first district in the state to implement Sarathi 4.0, a web-based system for acquiring driving licenses.

eDAR

e-Detailed Accident Report (eDAR), erstwhile known as iRAD, is a project initiated by the Ministry of Road Transport and Highways, Government of India to tackle the problem of road accidents nationwide. Initially, it was rolled out in five major districts including LDV District, but later expanded to 17 districts. It aims to collate data related to road accidents. This data forms the basis for in-depth analysis and necessary policy intervention towards road safety.

IVFRT

IVFRT seeks to digitise and streamline the visa application and foreigner registration processes. It enables foreign visitors to digitally apply for various types of visas and permits and enables the government to track their movements within the country. The Online Form-C module of

IVFRT application has been implemented at the Foreigners Registration Office at the District SP Office.

NDAL-ALIS

National Database of Arms Licenses has been implemented for generation of Unique Identification Number for the Arms Licenses and data has been ported to Arms License Information System (ALIS) and various services are being provided to the license holders.

Jeevan Pramaan

Jeevan Pramaan helps pensioners to submit their life certificates digitally. It simplifies the process of submitting the life certificate by eliminating the need for physical presence. It has been implemented by the District Centre at various levels of the treasury for both Central and State Government pensioners.

Network and Internet Services

Video Conferencing

The District Centre has been offering Video Conferencing (VC) services to all district departments. For this purpose, a VC Studio has

been established at the District Secretariat. The District Centre also provides technical support to District Administration and other departments for Network and VC services in remote locations during VIP events.

Internet & Email

Since its inception, the District Centre has promoted the use of Government eMail services across all departments and offices in the district. As the result, these services are being used for eOffice and APAR by the state officials.

Initiatives during COVID

COVID-19 pandemic had disrupted life in an unprecedented way. It required efforts from both Government and Citizens to tackle the situation during the lockdown and beyond. During the pandemic, the District Centre played an instrumental role in providing infrastructure services in terms of Internet / Email / Bulk Messaging / Web / Mobile based applications and VC facilities to the District Administration on a 24 X 7 basis.

Important Events Organised

- Coordinated the online inauguration of Ex-po-cum-Kisan Mela under RKVY-Raftaar 2021-22, which was virtually inaugurated by the Hon'ble Chief Minister of Arunachal Pradesh Shri Pema Khandu.

Way Forward

NIC Lower Dibang Valley has and will continue to be a crucial contributor to the development and provision of digital services to all stakeholders. Its implementation of various ICT projects within the district will aid in enabling effective digital governance and supporting the administration.

Contact for more details

District Informatics Officer

NIC Lower Dibang Valley
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Lower Dibang Valley, Arunachal Pradesh – 792110
Email: dio-ldv@nic.in, Phone: 03803-222619



Fig. 5.2: Shri K. N. Damo, then Deputy Commissioner, in presence of state government officials launching District e-Hospital app for Lower Dibang Valley

Pithoragarh, Uttarakhand

Connecting Border Communities through ICT

Edited by **RAJEEV JOSHI**

Established in November 1989 by Shri RCS Negi, then District Informatics Officer, NIC Pithoragarh was created to address the ICT requirements of the Pithoragarh District Administration. Since its inception, the District Centre has played a crucial role in the implementation of numerous eGovernance applications, including national, state, and district-wide initiatives, which have enabled the administration to make informed decisions, formulate comprehensive plans, and offer better public services.

ICT Initiatives in the District

Inner Line Permit

<https://pass.pithoragarh.online/>

Inner Line Permit (ILP) is a single-window system designed to govern the movement of individuals in specific locations near India's international border. It aims to provide G2C services to citizens by connecting them to respective government departments and providing information at the point of service delivery.



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NIC Pithoragarh has been a vital partner in the development of the Pithoragarh district of Uttarakhand. Its contributions in implementing various eGovernance projects, providing technical support, and delivering government services have greatly benefited the citizens of the district. Its efforts have not only improved transparency, efficiency, and accessibility but have also contributed to the overall growth and development of the region.

In the past, the process of passing applications had become a major challenge due to rapid growth in tourism. However, after implementing the ILP System, the process became fast and transparent.

Some of the major benefits of ILP System include

- Auto-generated tourist registration at nodal level
- Real-time ILP with validity check option using QR-code

- One-click access to local weather report
- Secure payment gateway, which is connected to DeGS account, for paying online ILP fees

The system is developed using Laravel 9 for front-end and My SQL for back-end.

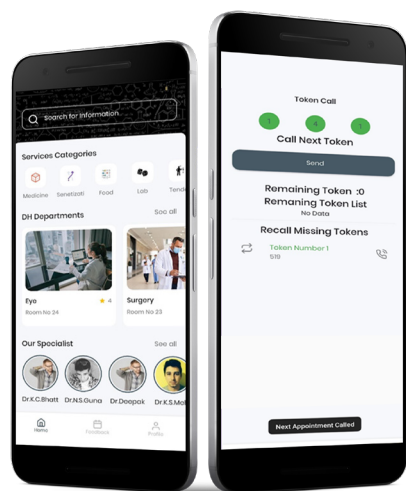
Queue Management System (QMS)

It is a challenge for any hospital to reduce patient wait times, offer timely service, and increase patient satisfaction. The most common issue observed in patient satisfaction surveys conducted at District Hospital Pithoragarh is long waiting time. Other issues which were found in the planning survey

- Waiting area cannot hold a large gathering
- More than anticipated number of patients are assigned to one doctor on duty
- Overcrowding led to patients using their personal connections with hospital staff and doctors to bypass the queues

To resolve all these issues, a token-based QMS application was launched. This application has five components, namely

- QMS Web Portal (<https://token.dh.pithoragarh.online/display>)
- QMS Doctors App Android & iOS
- Display Signages (<https://token.dh.pithoragarh.online/display>)
- District Hospital Feedback Application (<https://play.google.com/store/apps/details?id=online.pithoragarh.dh>)
- Web Portal For IPD Registration (<http://dh.pithoragarh.online>)



▲ Fig. 6.1: QMS App

Some of the benefits of QMS application are:

- Delivers real-time information such as important medical advisories and announcements
- Source of engaging with patients through personalised messaging
- Streams live videos / television for infotainment
- Shares upcoming events and disease awareness seminars

Baithak

Baithak is a meeting scheduler which enables government departments to schedule meetings conveniently and update minutes of the meeting for further reference. It has four levels of users:

- **Super admin:** state-level user who can assign admin roles on district level

- **Admin:** district-level user who can create district level departmental users, master departments and assign users to their departments

- **Department:** department-level user who can create a user for his department, can schedule / book a meeting and add other participant departments for meeting alongside upload minutes of the meeting after completion of meeting

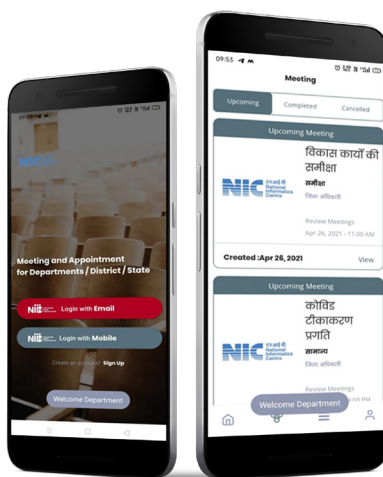
- **Public:** citizens who can self register on app and can see the meeting and minutes of the meeting

Some of the major features of this app are:

- Token-based, role-based users
- Search and find meetings
- Notification alerts regarding any new meeting and announcements
- Profile updation and feedbacks

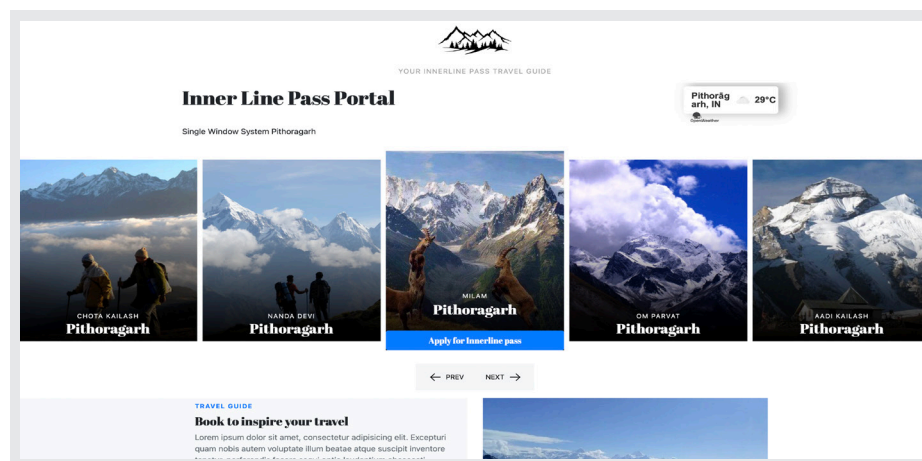
Important Events Organised

The District Centre provided ICT assistance to District Administration for agniveer, yoga



▲ Fig. 6.2: Baithak App

▼ Fig. 6.3: Inner Line Pass Pithoragarh Portal Homepage



NIC Pithoragarh has been extending excellent support to District Administration in various eGovernance applications. I appreciate their ILP pass and Hospital QMS applications. ILP pass simplify whole process to visit Om Parvat / Adi-Kailash / Chota Kailash and Token based QMS in Distinct Hospital Pithoragarh. They also sped up the ex-gratia benefits to the visitors coming to Pithoragarh under different categories. The proactive support from NIC to roll out various eGovernance projects and sharing of government information through the District website and other official websites as well as active support during General election, By-election, GP-election and ULB-election.



Reena Joshi, IAS
District Magistrate, Pithoragarh

instructors, and other district recruitment drives in the district. It also provided infrastructure facilities for the 2022 district excise and liquor licence auction. In addition, it offered ICT support during capacity building exercises for the DoPT sponsored COMMIT Project.

Accolades

- CM Excellence Award 2021 for Token-based Queue Management System at District Hospital Pithoragarh
- Skoch Order of Merit 2022 for QMS
- Skoch Silver Award and Order of Merit Certification to Baithak
- Ranked under Top 10 in DGMS Challenge programme by DG NIC for mobile apps development in 2021

Way Forward

NIC Pithoragarh District Centre has made significant strides in bridging the digital divide in the district. It has provided relentless support to the district administration and with several new state-of-the-art projects in the pipeline, it aims to take forward service delivery to a new level.

Contact for more details

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NIC Pithoragarh District Centre
H6M9+575, Tildhukari, Pithoragarh
Uttarakhand – 262501
Email: dio-pit@nic.in, Phone: 05964-22416244

Viluppuram, Tamil Nadu

Harvesting Technology to Serve the Citizens

Edited by **SANGEETHA MANJUNATH**

Since its inception in 1993, NIC Viluppuram has provided essential ICT support to the district administration for the implementation and facilitation of numerous ICT projects in the district. It has played a key role in spreading awareness pertaining to eGovernance in the district. Its support has brought a remarkable change ensuring transparency and satisfaction among the citizens.

ICT Initiatives in the District

Viluppuram District Website

<https://viluppuram.nic.in/>

Viluppuram district website is an official online platform that provides information about the district's administration, history, tourist attractions, and various government services. The website has been redeveloped using S3WaaS platform for a user-friendly experience. The website is developed in bi-lingual mode, in English and Tamil to facilitate the citizens in getting the required information at ease. The website is updated on regular basis to reflect the latest announcements and keeping in tandem with the advisories issued by government authorities.

Tamil Nilam (Rural)

<https://tamilnilam.tn.gov.in/Revenue/>

Tamil Nilam (Rural) is a web-based application which aims in collecting data of all rural land

NIC Viluppuram has been playing a pivotal role in facilitating an efficient eGovernance infrastructure and providing ICT enabled services to the citizens. The implementation of digitally empowered services such as Tamil Nilam, OAP schemes, GDP, Vahan & Sarathi, iRAD project etc., has enabled District Authorities to conduct operations smoothly, and eased the lives of citizens.

parcels within the district. In addition, a separate web application has also been launched to facilitate the generation of e-pattas for ADW / DBCW beneficiaries in the district.

Tamil Nilam (Urban)

<https://tamilnilam.tn.gov.in/Urban/>

Tamil Nilam (Urban) is a separate web-based application developed to capture details of all land parcel in urban areas of the district.

CollabWeb

<https://collabland.tn.gov.in/>

CollabWeb has been successfully implemented in every taluk of the district. It has helped in

digitization and mosaicing of land records by capturing Field Measurement Book details, which are available at respective Tahsildar office. This has brought in greater transparency and confidence among citizens regarding land related issues.

e-District

<https://edistricts.tn.gov.in/>

e-District was rolled-out in 2004, as a part of the state-wide rollout. Initially it was launched with 5 revenue services, the number of services offered on the platform has grown significantly. The District Centre is instrumental in establishment of e-Sevai centers for district related delivery of services. Currently, there are over 300 functioning e-Sevai centers, offering 22 services.

OAP and CMUPT Back Office App

<https://oap.tn.gov.in/>

This is a web-based application used by the district administration to disburse pensions under various old age pension (OAP) schemes. Under eight schemes, around 180,000 beneficiaries are registered on the portal, who directly get pension through Direct to Bank transfer (DBT) or Electronic Money Orders (EMOs).

Other Key Initiatives

The District Centre has actively participated in creating and implementing various eGovernance applications such as iRAD, NDAL-ALIS, CCMS, and others. Few are significant applications that have been elaborated for ready reference:

iRAD

<https://irad.parivahan.gov.in/>

iRAD is a centralized application implemented



M. Gunasekaran
Scientist-F & DIO
m.gunasekaran@nic.in



▲ Fig. 7.1: Hon'ble Chief Minister Thiru M. K. Stalin AVL distributing community certificates to members of the Narikurava and Irular tribal communities in Viluppuram, where NIC Viluppuram offered technical support

which has been extensively used by the District Administration. During COVID-19 lockdowns, the VC services were extended to other departments and supported on 24 x 7 basis.

NICNET

To ensure seamless operation of email, VC and other network services, the District Centre offers a high-speed network of 100 Mbps to all government departments within the district.

Support during VIP Visits

The District Centre provides necessary technical support for setting up of Internet and VC facilities

by the Ministry of Road Transport and Highways that collects data regarding road accidents. The relevant departments, including Police, RTO, Highways, and Medical, have immediate access to the accident details in order to provide victims with immediate medical care and complete all paperwork at earliest. The district has successfully implemented the project, with 4,971 accident reports submitted through the web application till date.

NDAL-ALIS

<https://ndal-alis.gov.in/armslicence/>

This platform facilitates industries to apply for licences related to manufacturing of arms and ammunitions. It also aids citizens to apply for arms licences under Arms Act, 1959 and Arms Rules, 2016. So far, 146 arms licences have been issued.

Court Case Monitoring System (CCMS)

<https://ccms.tn.gov.in/>

CCMS is aimed at capturing all types of court case details pertaining to District Collectorate. Besides CCMS, the District Centre has also successfully implemented eCourts in the district.

eOffice

To ensure prompt and efficient service delivery, the District Centre has introduced a customized version of eOffice suite. Since 2022, all documents are processed through this platform. The Centre has provided training to all officials in order to utilize the platform effectively.

Elections

The District Centre is instrumental in providing various services to ensure the seamless execution of General, Assembly, and Local Body elections pertaining to the district. The services include randomizing polling personnel and EVMS, live streaming of polling day events, and counting day processes training to polling personnel, and any other election-related activities assigned by the District Election Officer or District Collector.

Infrastructure, Network and Web Services

Video Conferencing (VC)

The District Centre has established a high-speed studio based VC facility in the District Collectorate,

NIC Viluppuram has effectively implemented many ICT applications and provided necessary technical support for Tamil Nilam ADW / DBCW e-Patta generation, Old Age Pension scheme(OAP) to the District Administration. Further, various Central and State level projects like e-Services, Service plus application, e-Sanad Application, Govt e-Mail services, S3Waas Website etc., in the District. This has enabled the administration to provide transparent, effective and efficient citizen-centric service delivery to the people of Viluppuram District.

I wish NIC Viluppuram many more success stories in its endeavors to reach expectation of the people of Viluppuram District.



Dr. C. PALANI, IAS
District Collector

in the remote regions of the district during visits of government officials and state dignitaries.

Way Forward

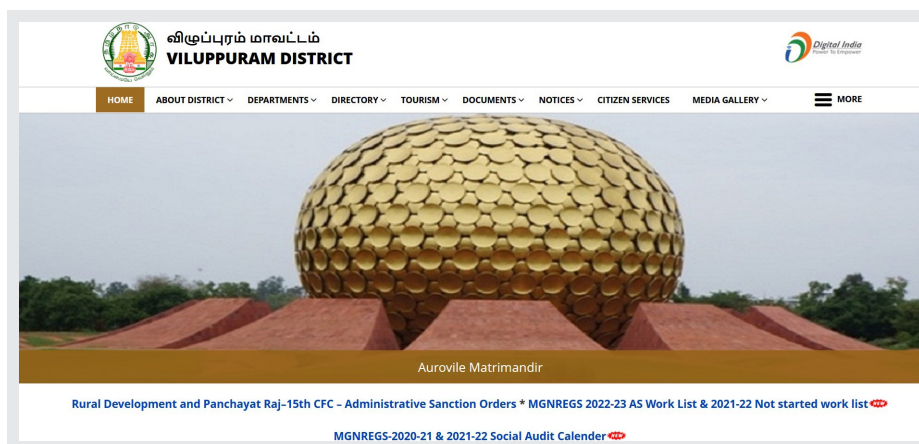
The tireless efforts of NIC Viluppuram have brought in a positive change in the lives of citizens in the agrarian district. With numerous new projects, the District Centre aims at creating opportunities for the government and citizens at the same time, to achieve sustainable digital growth, further enhancing the district's progress.

Contact for more details

District Informatics Officer

District Collectorate,
No : 29, Ground Floor, Master Plan Complex
Viluppuram, Tamil Nadu – 605602
Email: dio-vil@nic.in, Phone: 04146-222483

▼ Fig. 7.2: Viluppuram District Website Homepage



Agriculture Information Management System (AIMS)

Improving Sustainability and Profitability in Agriculture through Digitization

Edited by **SANGEETHA MANJUNATH**

The objective of the Department of Agricultural Development and Farmers Welfare was to digitize the entire Agriculture Department in order to provide farmers with online access. This initiative led to the creation of the Agriculture Information Management System (AIMS) portal, which offers farmers an all-comprehensive platform to access all departmental services such as scheme-based services, advisory services,

AIMS is an integrated digital platform, providing single window for farmers to avail different types of departmental services easily without visiting Krishi Bhavans. Declaration of land parcels and crops being cultivated by the farmer can be done online in AIMS for availing benefits under various services offered by the Government. The portal also provides support to department to deliver services to farmers more efficiently by paper-less application processing and utilizing the configurable work flow engine of the system. AIMS has been architected as an one stop solution for digitizing 400+ services offered by the Government of Kerala to farmers in the state.

certificate services, disease reporting, grievance redressal, and data collection services from field offices. Through personalized dashboards on the portal, farmers can monitor and update their cultivation progress, and directly raise any grievances or queries. As of now, AIMS portal has registered over 41 lakh farmers across all Krishi Bhavans in the state, with more than 30,000 registered groups and over 500 registered institutions.

Major services offered through the portal are:

- Assistance for crop loss due to natural calamity
- Crop Insurance Policy: facilitates premium payment as well as issues policy certificate
- Insurance claim submission for compensation
- Royalty to owners of cultivable paddy land
- Base price as per Kerala Farm Fresh Fruits and Vegetable policy to manage market fluctuations
- Land verification for PM-KISAN beneficiaries using ReLIS (Revenue land Information System)
- International Technology Exposure Tour

Features

- Bilingual farmer portal
- Mobile app for farmers and field officials
- Allows self-registration and declaration
- Online application submission & tracking
- End-to-end application processing
- Sets rules and conditions for identifying scheme beneficiaries
- Auto calculates assistance and benefits



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Technical Director
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Anil V. S.
Technical Director
anil.vs@nic.in



▲ Fig 8.1.: AIMS at glance

Technologies Used

Key technologies used for the development of AIMS portal are

- Framework : Symfony
- Language : PHP
- Database : PostgreSQL
- Caching Server : Redis
- Version Controller : GIT
- Project Management : Redmine
- Media Storage : NAS

Integration

AIMS is integrated with various applications using APIs. Some of the prominent applications are

- Treasury Information System for processing DBT claims and disbursement of payments
- NICDSign for digital signing
- eTreasury for ePayment
- NIC SMS for SMS gateway
- Service and Payroll Administrative Repository for Kerala (SPARK) for office onboarding

- ReLIS for verification of land Records
- India Meteorological Department for weather forecast and crop advisory
- PM-KISAN for building national database
- Jan Parichay for single-sign on

Innovations Applied

AIMS Platform facilitates on-boarding of services seamlessly based on the individual service requirements by defining

- Service-wise activities and actions
- Dynamic interface design
- Eligibility Engine to define eligibility conditions
- Rule Engine for subsidy / assistance calculation
- Workflow Engine - service wise work flow management
- Service and user wise Instructions, declarations, guidelines
- Service calendar to make services available for selected Krishi bhavans for selected period
- Centralized and de-centralized DBT System integrated with Treasury

- Direct Benefit Transfer through PFMS
- ePayment configuration
- Define triggers to send SMS notification

Key Benefits

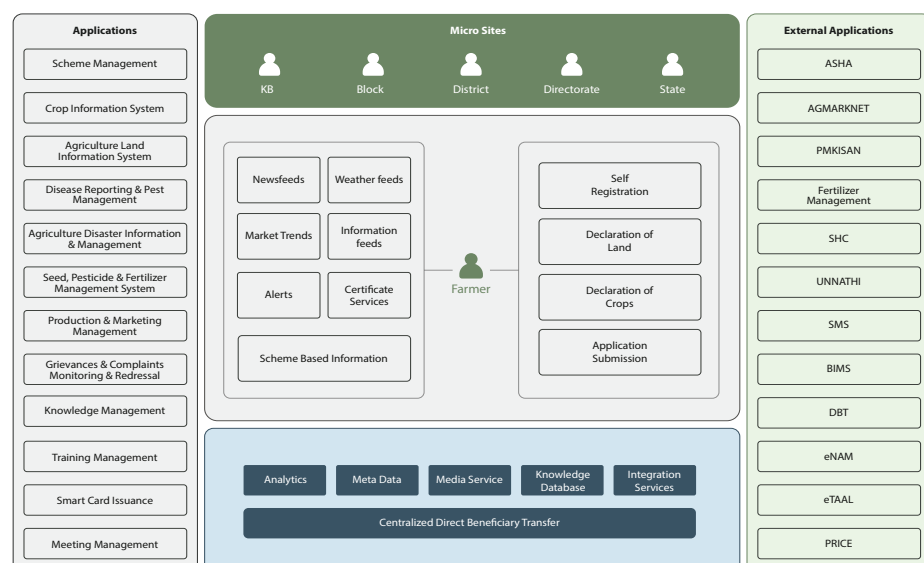
- Improves government service delivery
- Improves government interactions with farmers
- Citizen empowerment through access to information
- Creates digital record for all farmer interactions
- Increased efficiency transparency in administration

AIMS is an Integrated MIS developed for the Department to provide departmental services efficiently to farmers with the help of Information Technology. It is expected to be the most reliable and established platform which accommodates almost all the activities of the Department in a most user-friendly and effective mode. It has such an architecture that will satisfy the expectations and addresses the complexities and practical difficulties to a great extent.



K. S. Anju, IAS
Director, Department of Agriculture Development & Farmers' Welfare

▼ Fig 8.2: AIMS Application Stack



So far AIMS has processed more than 43 Lakhs applications and around Rs. 224 crores has been disbursed to the farmers through DBT system.

Way Forward

AIMS has a provision of Digital Media Library for the department to store and share multimedia content related to agricultural practices. This content will be available to the public and officials for the Subhiksha Keralam project. The system will have a 24/7 streaming facility for training and managing traffic. The library will be easily accessible and searchable with minimal delay for downloading and navigating offline content.

Contact for more details

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eGramSwaraj

Simplified Work-based Accounting application for Panchayati Raj

Edited by **MOHAN DAS VISWAM**

Panchayati Raj Institutions (PRIs) play a crucial role in the provision of various services and basic amenities to rural citizens. It is of the utmost importance that Panchayats are adequately staffed and equipped with the necessary infrastructure.

eGramSwaraj

eGramSwaraj functions as the digital collaborative platform for PRIs and all other stakeholders. It has been monumental in bringing together a tech-based, integrated system of information collection, micro-level planning, and work-based accounting for Panchayats, the grassroot level of self-governance. In less than two years, the platform has amassed about 2.75 lakh entities (PRIs or equivalent) with user base of about 7 lakh, distributed across 28 States and 8 Union Territories.

The platform is ever evolving as a result of continuous feedback from numerous key stakeholders including State Officials, PRI officials, Ministry of Panchayati Raj and other central line ministries.

eGramSwaraj has improved the functioning of Panchayati Raj Institutions, providing citizens with a platform to connect with local representatives and participate in local governance. It has enabled greater transparency and accountability in the functioning of the Panchayats, which has been essential for ensuring effective implementation of various schemes and welfare programs.

Key Modules

Following are key modules of eGramSwaraj

- **Panchayat Profile Management:** maintains a detailed socio-economic profile of the Panchayat, as well as information about its elected representatives and working committee
- **Gram Panchayat Development Plan Management:** facilitates planning of activities and development works, as well as the creation of development plans
- **Financial Resource Envelope / Fund Management:** facilitates panchayats to maintain avail-

ability of funds from different sources

- **Work Progress Reporting:** records physical and financial progress of development works
- **e-Payment System:** facilitates e-Payments of all payments being made by Panchayats using digitally signed payment orders
- **FPMS Integration:** facilitates integration with PFMS for routing payments
- **Financial Accounting:** facilitates work-based financial accounting and monitoring of funds expenditure via Treasury-PFMS integration.
- **Panchayat Asset Directory:** facilitates management of database of all movable and immovable assets

Key Features

Following are key features of eGramSwaraj

- Supports inter-operability with other Panchayat Enterprise Suite (PES) applications
- Simple and user-friendly interfaces
- Workflow enabled to manage repetitive processes and tasks
- Supports asset visualisation on Gram Manchitra
- Strong authentication mechanism
- Built upon open-source technologies
- Web-based and available 24/7

Technical Specifications

The deployment process for eGramSwaraj involves code building, committing it to subversion (SVN) repository, conducting alpha testing, and user acceptance (UA) testing before its release into production. An overview of the deployment procedure is provided in Fig 9.2.



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Software Architecture

eGramSwaraj is designed with the following 3 key target user groups in consideration:

- **Local Bodies:** both rural and urban local bodies forms the primary end user base for this application. They are the primary custodians of numerous critical processes such as work progress monitoring, vendor and employee management, formulation of Panchayat Development Plan (PDP) and financial management.

- **Line Departments:** GPDP spans across 9 themes mapped with 29 constitutional subject areas. These departments are responsible for driving various social welfare programs and schemes. Data-driven planning and monitoring, naturally, forms the foundation of successful, last-mile, service delivery, especially for a robust financial management.

- **Citizens:** Although Gram Panchayat is run by elected and designated representatives of citizens and administration, it is the right and responsibility of each citizen to be aware and vigilant of the progress and development works in their region.

Considering above user personas, the following modules form the backbone of eGramSwaraj application:

Panchayat Profile

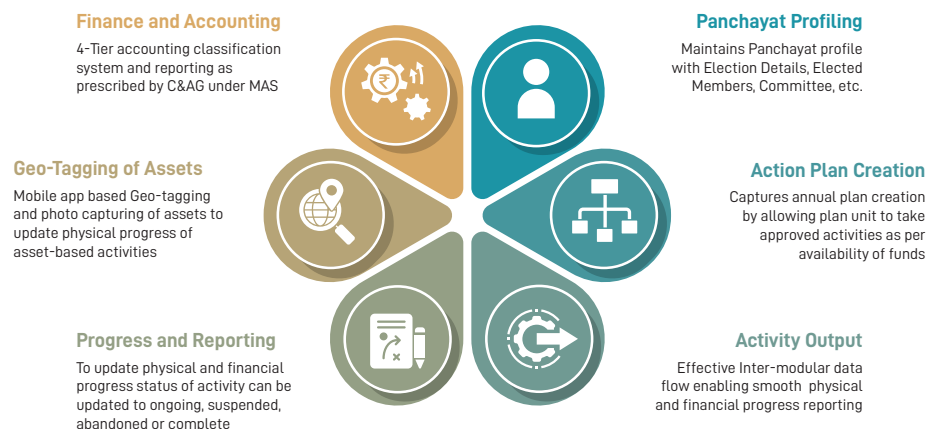
This module helps in maintaining the socio-economic profile of Gram Panchayat in addition to information related to panchayat elections, elected members, and working committees.

- Maintains a holistic profile of Panchayat, including details of Sarpanch and Panchayat Secretary
- Maintains the details of election and elected representatives
- Maintains the details of working committees and its members

Panchayat Development Plan Management

This module helps in planning project activities and creation of development plans.

- **Wish List:** captures ideas, suggestions, and resolutions presented during Gram Sabha meetings
- **Shelf of Activities:** enables planning unit to maintain a list of activities to be taken up in a year plan
- **Resource Envelope:** documents budgetary allocations of funds from a range of sources, such as government schemes at both the Central and State levels, as well as other funding streams
- **Convergence:** pools funds from multiple sources to support the activities of panchayats. This ensures that available resources are fully utilized, reducing the risk of critical projects being abandoned due to inadequate funding



▲ Fig 9.1

Key features of eGramSwaraj portal

- **Action Plan:** creates annual plan by allowing the planning unit to take approved activities as per available fund in different schemes. Activity funding can be shared by multiple schemes. Priority can be set for each activity

Work Management System

- **Technical Approval:** analyzes and captures the technical aspect for an activity approval
- **Administrative Approval:** captures administrative approvals for an activity with respect to source of funding

Geo-tagging based Progress Reporting

This module records the physical and financial progress of approved activities.

- **Progress Reporting:** updates physical and financial progress of activities. Activities can be marked as ongoing, suspended, abandoned, or completed
- **Geo-tagging:** captures location-based information and photos of assets created, which makes it easier to track the progress of asset-based ac-

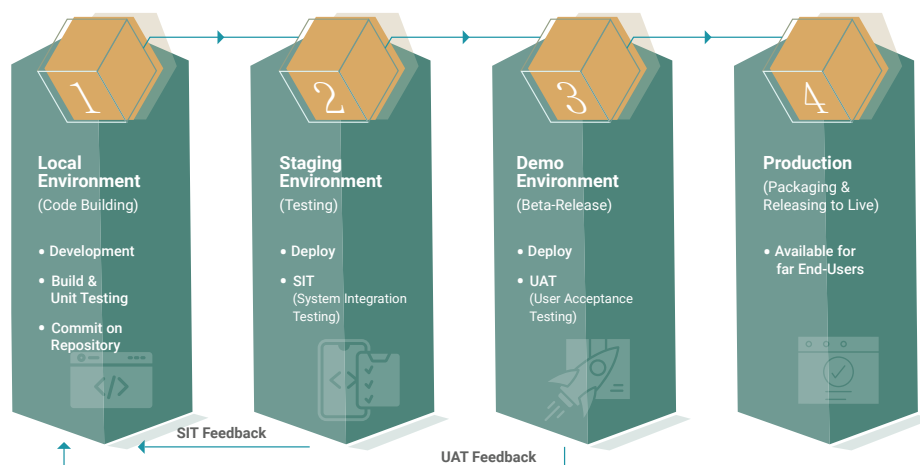
tivities. This sub-module is supported through a unique mobile app named as *mActionSoft*.

It also allows for inter-module data flow for smooth physical and financial progress reporting.

Financial Accounting

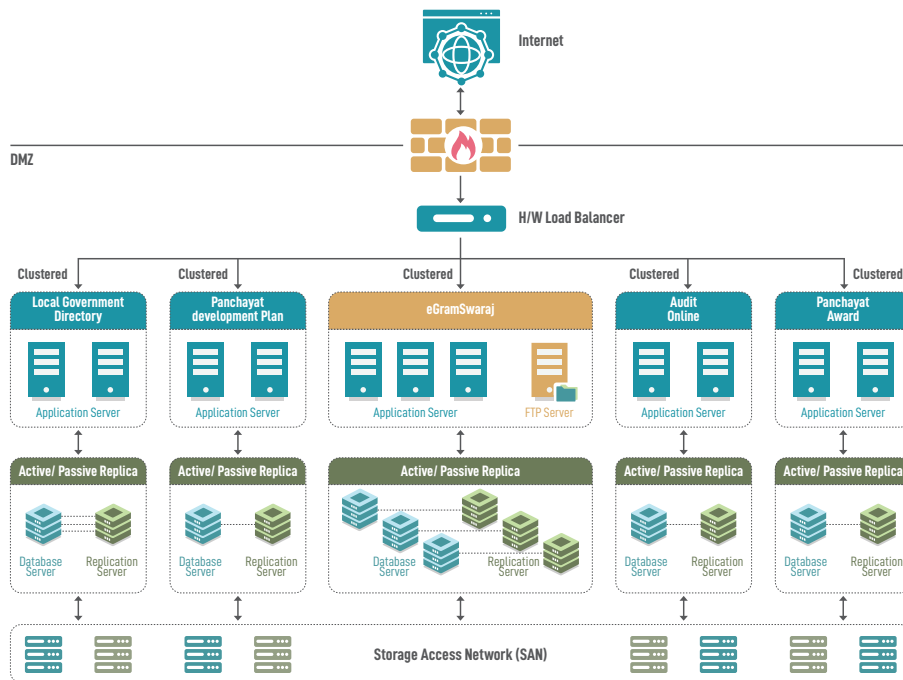
This module facilitates work-based financial accounting and monitoring of funds expenditure.

- Complies with the 4-tier accounting classification system and reporting formats prescribed by Comptroller and Auditor General (C&AG) under Model Accounting System (MAS)
- Follows double-entry system of book-keeping wherein both the credits and debits are recorded for a transaction
- Captures details of work, expenditure incurred on the work, advances given under a work etc.
- Integrated with PFMS to register vendors under different Central and State schemes for payments
- Facilitates closure of daily, monthly and yearly book of accounts and ensures necessary steps are taken to carry forward accounts to next cycle
- Records transaction details through 4 vouch-



▲ Fig 9.2

Overview of deployment procedure



▲ Fig 9.3

Technical architecture of eGramSwaraj portal

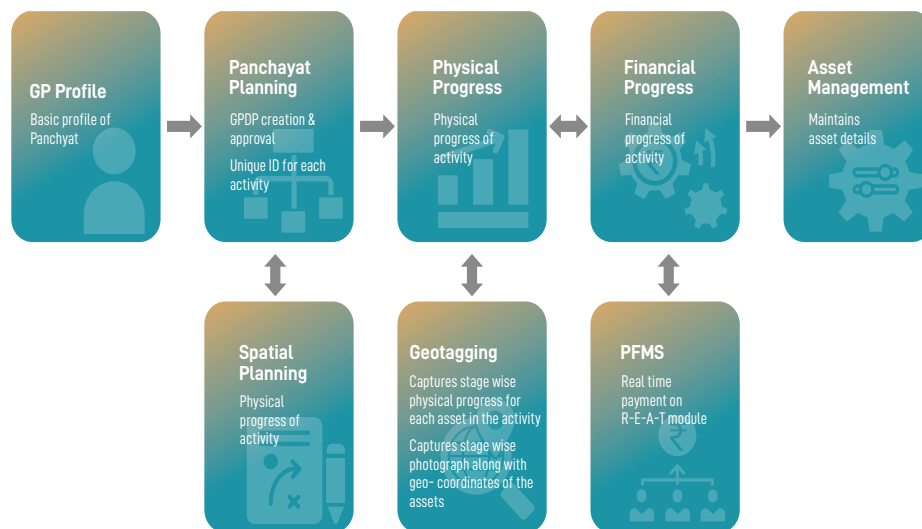
ers: 1. **receipt voucher**: captures inflow of funds; 2. **payment voucher**: captures outflow of funds; 3. **contra voucher**: captures inter account transfer of funds; and 4. **journal voucher**: captures any rectification /book adjustment.

Panchayat Asset Directory

This module enables the prompt update of an asset's status as changes happen. It acquires comprehensive asset information, such as the revised status (such as abandoned, active, demolished, damaged by natural disasters, out of use due to seasonal conditions, or theft), the ratio-

nale for the update, and the date of the status revision. The subsequent summary highlights its functions

- Generates a unique Asset ID for identification of assets created / maintained / controlled by a planning unit
- Captures asset details such as location, status, ownership, etc.
- Displays the activity and voucher details linked with the completed asset
- Provision to locate assets on Gram Manchitra GIS



▲ Fig 9.4

Software architecture of eGramSwaraj portal

mActionSoft

After commencing the activity, the assets are ready to be geo-tagged through the mActionSoft mobile app. Panchayat users have the ability to geo-tag any assets and take real-time photographs of the resulting assets. Geo-tagging is compulsory for payment and expenditure purposes related to the activity within the accounting module of eGramSwaraj.

User Management

It enables system administrators to manage user accounts and their extent of access to various modules and functionalities of the system, including managing user credentials for privileged access. Based on these modules and their functionalities, eGramSwaraj facilitates end-to-end digitization of the works planning and monitoring lifecycle for Gram Panchayats. This includes development plan creation, geo-tagged physical progress monitoring, and financial progress tracking, as well as PFMS-linked online disbursement of funds. Thus, eGramSwaraj serves as a one-stop solution for all critical stakeholders in the Gram Panchayat development ecosystem.

IT Landscape

eGramSwaraj is built upon best available open-source technology stack in the industry. Its architecture is multi-layered and modular as per the design principles, with components organised into multiple layers, and abides by the following architectural guidelines identified as global best practices:

- Multi-layered and modular
- Scalable and extensible
- Adaptable architecture
- Separate Interface layer with option for integration automation
- Customisable user experience management
- Separate sub-systems
- Separate security and access control layer ensuring only authenticated role-based access
- Data layer and access separated out and encapsulated
- Tools for system and people learning

The illustration (Fig. 5) depicts the functional architecture and various components of eGramSwaraj application.

Impact

Since the launch of eGramSwaraj in April 2020, majority of the states and UTs have adopted eGramSwaraj for carrying out various aspects of Panchayat functioning. As of now,

- 2,53,605 Panchayat Development Plans created for 2022-23 across 3 tiers of Panchayats
- 2,37,058 year-books closed for FY 2021-22 across 3 tiers of Panchayats
- 2,07,405 month-books closed for FY 2022-23



▲ Fig 9.5

Functional architecture and various components of eGramSwaraj application

across 3 tiers of Panchayats

- 2,03,612 PRIs made online payments through eGSPi for 2021-22
- 1,78,854 PRIs made online payments through eGSPi for 2022-23
- 1,15,608 Audit Reports generated across 3 tiers of Panchayats for audit period 2019-20
- 1,62,179 Audit Reports generated across 3 tiers of Panchayats for audit period 2020-21

Accolades

eGramSwaraj has won the Gold Icon National e-Governance Award by Department of Adminis-

trative Reforms and Public Grievances, Government of India under "Excellence in Government Process Re-engineering for Digital Transformation" category for 2021-22.

Way Forward

The increasing adoption of eGramSwaraj in Panchayats presents an opportune moment to strengthen and enhance digital governance at the grassroots level.

In keeping with national trends, eGramSwaraj is being integrated with the Government eMarket-place (GeM) to provide Panchayats with a seamless procurement and accounting experience,

while promoting transparency through standardized pricing and contract award processes.

To further enhance transparency and accountability, the Ministry is planning to develop eGramSwaraj 2.0 with additional features to address current challenges faced by stakeholders. The Ministry has also launched a data sharing initiative, which involves porting Panchayat-wise beneficiary and asset details of various Central Ministries' schemes / programs into the eGramSwaraj application. This initiative aims to make beneficiary / asset details available on a public portal, which will be further discussed in Gram / Ward / Mahila Sabhas for developmental discussions in the presence of Line Department officials. Currently, data from 8 Central Departments / Ministries and 20 schemes have been successfully ported.



▲ Fig 9.6

Data Statistical figures

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NICler

Reimagining Education through Technology

Edited by **KAVITA BARKAKOTY**

NICler is an assessment tool developed by NIC Chhattisgarh that enables teachers to conduct Multiple Choice Question (MCQ) quizzes in a traditional classroom setting without electronic devices. Traditionally, capturing individual student answers in a classroom of 40 students has required either paper-based assessments or providing each student with an electronic device, which can be expensive. However, NICler uses ArUco markers and OpenCV to capture students' answers without electronic devices. Students are given NICler IDs, which are printouts of ArUco markers that can be positioned to answer MCQs (e.g., placing the marker with option selected at the top to select that answer).



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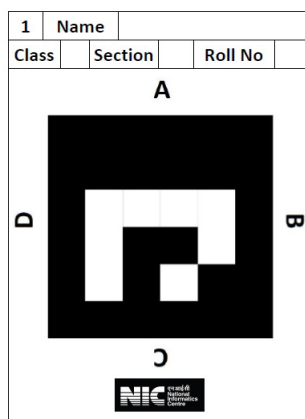


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NICler is an innovative assessment tool that has been designed to gamify learning and promote adaptive learning. This highly cost-effective tool is being widely adopted in over 30,000 schools across Chhattisgarh, and has proven to be a valuable addition to the education system. It has increased student engagement in the classroom and made learning more interactive.



The teacher only needs an Android smartphone with the NICler app to capture the answers from more than 20 feet away by identifying the marker's position. This system allows teachers to capture all students' answers in a matter of seconds, and the data is synced to the server.

Objective

Primary goals that NICler aims to accomplish:

- Develop a cost-effective tool that can capture students' responses to MCQs
- Create a tool for teachers to use for formative assessment
- Enhance student engagement during assessments
- Reduce the amount of time teachers spend in grading papers and provide feedback to students

What are NICler IDs?

NICler IDs consist of ArUco markers printed with the letters A, B, C, and D on all four sides. These IDs can be printed using a laser printer, pasted onto cardboard, and distributed to each student in a class once a year. Students can write their names on the cards and keep them in their bags.

During an MCQ test, students can respond by displaying their NICler ID in the appropriate orientation. Teachers can then identify the student's ID and their answer from a distance of up to 20 feet. This eliminates the need for manual correction and grading, making the assessment process more efficient.

A teacher can create three types of MCQ tests. In the first option, a quiz can be created from the central question bank by selecting class, subject

As Mission Director, Samagra Shiksha, I was actually searching for suitable tools for assessment. As soon as NIC has come out with NICler tool, we have adopted the tool in all our 30,000 schools for remediation. Our teachers are finding NICler very useful tool to increase the students' engagement in the class room. I am thankful to NIC, Chhattisgarh for their support.



Dr. Narendra Kumar Dugga
Mission Director, Samagra Shiksha Abhiyan

and chapter. In the second option, teachers can create their own custom quizzes. A teacher can also conduct a quiz by simply displaying the questions through a projector. In case of no display device, a teacher can ask questions by either writing the questions on the blackboard or playing pre-recorded questions in audio format using a Bluetooth device. Finally in the third option, a standard assessment test can be given from the state board. After the test, a teacher can review individual student performance by taking previous performance into consideration. NICler can also be used for taking daily attendance of students by scanning their NICler IDs.

Features

Following are the prominent features of NICler

- One-time mapping of students of a class with NICler IDs

- Can generate customized quizzes for a selected class

- Helps teachers to review and assess individual student performance by taking previous performance into consideration

- Can be used for taking daily attendance

Advantages

NICler provides following advantages over other assessment tools

- Economical as it costs just ₹ 40 for a forty student class for an year

- Increases the student engagement by gamifying the learning process

- Teacher's time is saved in correcting the answer sheets

- Captures lakhs of student-wise question-wise records on server without manually entering a single data item

- An individual learning profile is generated for each student to make adaptive teaching feasible

Gamification

For centuries, we, as a society, have been rewarding those who achieve high rankings with prizes. While these prizes may motivate students who fall within the top ten percentile and have a shot at achieving a ranking, they do not have the same effect on below-average students who feel they have no chance of reaching that level. To address this issue, Chhattisgarh is conducting an experiment by offering gifts to even below-average students. After a student answers a question correctly, one lucky winner is randomly selected from the group of students who answered the question correctly to receive class applause. This initiative has proven successful in engaging all students in the classroom, as even below-average students now have an opportunity to receive a gift if they answer a question correctly.

NICler is best suited tool to our government schools as it is very economical to implement costing not more than Rs. 40 for a forty student class room. We are implementing it throughout the state and found teachers are very happy with the tool as it is saving their time in correction of the quiz. Students are found to be very engaged in the class room. I congratulate NIC team for innovating such a useful tool.



Dr. S. Bharathi Dasan
Secretary, Department of School Education Chhattisgarh

Limitations

- NICler works perfectly in a class of 40 students while the maximum limit of students is 75 in a class.

- Even though the network is not required while conducting the quiz, for downloading and uploading the results the internet is required.

- Currently, NICler is not available on the IOS platform.

Awards

- Digital Technology Sabha 2022 Award for Innovative Assessment Tools

- CSI SIG e-Governance Award of Excellence 2022 for innovation in the field of education

- mBillionth Award 2022-23 for mobile innovation for sustainable social change

Way Forward

NICler is designed as a product and can easily be implemented for any state. The state shall give school, student and teacher data through API and also should create question bank. NIC Chhattisgarh is ready to extend support for any state for implementing NICler.

▼ Fig 10.1: A teacher scanning Aruco Codes for student feedback



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Double Diamond Design Process

An Advanced Framework for a Successful UX Design

Edited by **AJAY SINGH CHAHAL**

User Experience (UX) design has become a critical element in the modern product development, with organisations realising the value of creating user-centric products that delight and engage users. UX designers use various design processes and frameworks to ensure that the products they create meet the needs of their users. However, the UX design process is not fixed, and one should always evaluate the project, define its goals, and choose appropriate tools.

In the application design and development community, Agile and Lean UX are two prevalent approaches to UX design that aim to increase the efficiency and efficacy of the overall development process. The Agile UX approach prioritises continuous iteration and feedback, with a strong emphasis on collaboration among designers, developers, and stakeholders throughout the development process. On the other hand, Lean UX approach prioritises the creation of products that can be quickly validated by users and adapted to their needs, utilising a rapid experimentation approach.



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Double Diamond Design Process involves understanding user needs by exploring and gathering information, collaborating with different disciplines to uncover challenges and opportunities, and refining the core problem. The design approach allows to generate multiple ideas, improves them through feedback and collaboration, and creates prototypes for testing. The whole process is iterative in nature, with a focus on continuous improvement, and involves loops of learning to increase the chances of success.

However, both Agile and Lean UX approaches have limitations that require exploring new methodologies. The Agile UX approach can be complex and unpredictable, while the Lean UX approach requires a significant investment and may be met with resistance. This is where the Double Diamond Design Approach comes into focus. Developed by the British Design School by taking inspiration from Béla H. Bánáthy and Nigel Cross' model for solving complex social, economic, and environmental problems, this approach seeks

to create more intuitive and engaging designs by leveraging the best tools from both Agile UX and Lean UX approaches.

The approach divides the design process into two phases: the problem phase and the solution phase. Each phase is represented symbolically by a diamond, reflecting the divergent and convergent thinking that occurs at different steps of each phase. In the problem phase, designers explore the complex nature of the problem and come up with a clear definition. It is where the majority of the design characteristics and values are defined. In following solution phase, the ideas are generated, visualized, and tested through prototypes. The final product is created and delivered to the end user at the end of this step.

For optimal utilization of this framework, it is essential to adhere to four key principles that augment its agility. These guiding principles are as follows:

- **Collaboration** — working with others to be inspired
- **People-centered** — understand users and their needs
- **Iterate** — listen to your users and make changes as needed
- **Communicate** — speak to your users and team members in languages they understand, and use visuals as needed

Steps in the Double Diamond Design Process

The Double Diamond Design Process is divided in two phases. Each phase again consists of two steps. The problem phase includes Discover and Define, while the solution phase comprises Design and Delivery.

Discover

In this step, the focus is on comprehending the problem space, exploring feasible solutions, and gathering valuable insights. Teams perform field research and employ diverse tools to gather extensive information about the challenge. This step is characterized by divergent thinking, where all feasible concepts and information are examined and integrated, and akin to the Agile and Lean UX processes, uncertainty is embraced. Examples of tools used in this step are-

Mind maps: These are used to explore different ideas about a core problem. The main topic or issue is written in the centre and expanded upon and connected. Mind maps can be drawn on paper, whiteboards, or through the use of online mind mapping tools.

Brainstorming and Reversed Brainstorming: Brainstorming is a group meeting designed to explore ideas based on group discussion and the use of different perspectives. Conversely, reversed brainstorming is used when the team is experiencing a lack of ideas. In this tool, the team worsens the problem to shift their perspectives towards opportunities that can ignite solutions.

Consumer Journey Mapping: In this method, the design team observes the user experience while using the product or service. For example, the team can observe the user while making online ticket bookings or reservations, and use this information to improve overall user experience.

How Might We Questions: The "how might we..." question can be used to generate tangible statement of what is to be done or solved within a specific area of action.

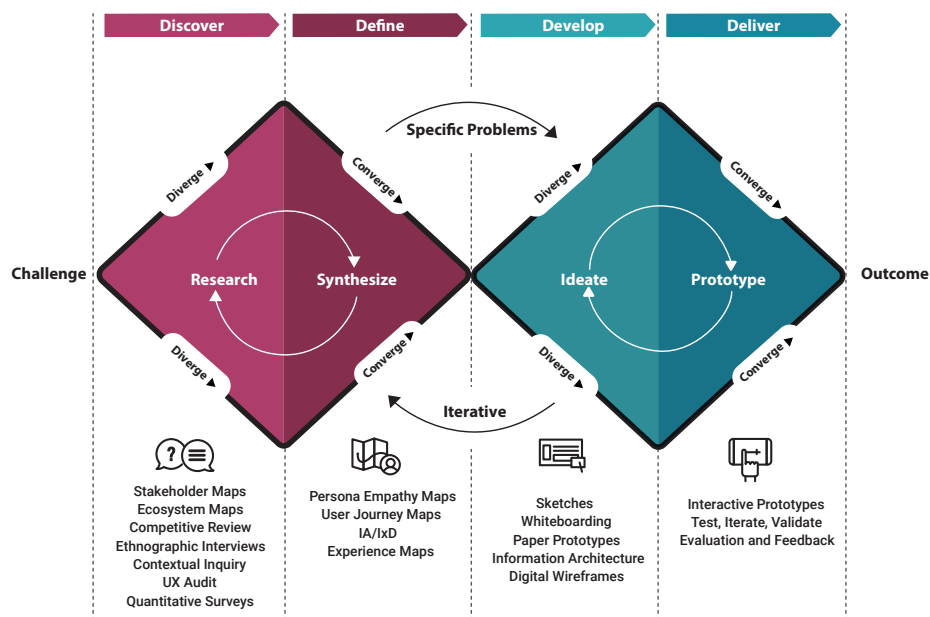
Define

This is the convergent part of the problem phase. In this step, the team converges their ideas and narrows down the problem definition

The Double Diamond Design Process is an outcomes-based Framework which encourages creativity and innovation while focusing on the core issue and its impact on end-users. It is a widely institutionalised methodology today for identifying a problem and developing a solution. The article describes this modern framework and how designers and developers can apply the principles to deliver successful UX design projects.



Mohan Das Viswam
Dy. Director General, NIC



Double Diamond UX Design Process

to move on to the next steps of prototyping and testing. This step involves analysing the evidence collected in the previous step and filtering ideas to reach a clear workable brief. Some tools that can be used in this step include:

Root-cause analysis: This tool helps in examining collected information and identifying the underlying cause (root problem) in order to find a sustainable solution. It investigates the data in terms of six key areas: Measurements, Materials, Personnel, Environment, Methods, and Machines.

Affinity diagram: It allows you to organise the data and prioritise these data based on its importance. Then, you can set your problem description based on the data priority recorded.

Develop

In this step, prototypes are built and tested through a divergent approach. For this, a team creates a persona for each target user. A persona is a virtual character representing the user and helps the design team consider the user's characteristics during the prototype and development process. Several tools are used in this process:

Minimum Viable Product (MVP): It is a scaled-down version of the product with only essential features to make it workable. This allows users to test the product, and the team can evaluate it in a real-life scenario, using feedback to improve the final product.

Consumer Journey Mapping: Similar to aforementioned usage in Discover step, a team can use this tool to test the application and evaluate it.

Deliver

The relationship between the designer and the product extends beyond the product release. Once the product is released, the team seeks to gather user feedback and expert evaluations, which are used to enhance future versions. This step represents a crucial stage where concepts are refined to arrive at the final product. Tools that can be employed in this step:

Surveys: They are the most common tool to get feedback through users' comments and opinions about the product.

Think Aloud: In this tool, the consumer uses the product while describing the experience loudly. Designers take notes of the consumer experience.

Shadowing: Another testing tool is where one design team follows the user (as a shadow) and takes notes as the user uses the product.

Conclusion

Double Diamond Design Process incorporates the best practices of Agile and Lean UX methodologies. It recognizes that the design process is non-linear and the process of forming, visualising, and evaluating ideas does not follow a linear process. This allows teams to jump directly back and forth to any step depending on the finding through frequent user testing.

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Intrusion Detection System

A powerful tool to identify and respond to potential security threats

Edited by **MOHAN DAS VISWAM**

Introduction

An Intrusion Detection System (IDS) is a device or software application used to monitor network traffic for indications of malicious activity. It analyses incoming network traffic, compares it to known attack signatures, and generates alerts when it detects malicious activity. As the volume and sophistication of cyber threats continue to increase, organisations require a reliable method to detect and respond to potential security breaches. An IDS provides the organisation with this capability.

Types of Intrusion Detection Systems

IDSs come in a variety of flavours and use a variety of detection methodologies to identify suspicious activities. They can be broadly classified into the following groups, on the basis of deployment environment:

- **Network Intrusion Detection System (NIDS)** is deployed at a strategic point or points within

In the modern age of interconnected technology, where businesses and organizations rely heavily on networks to store and transmit sensitive information, the importance of a robust and efficient Intrusion Detection System (IDS) cannot be emphasized enough. An IDS is a critical security tool that aids in the detection and response to potential threats and attacks on an organization's network infrastructure. It helps in maintaining the confidentiality, integrity, and availability of the sensitive information and ensures the overall security of the network infrastructure.

the network, where it can monitor inbound and outbound traffic to and from all the devices on the network

- **Host Intrusion Detection System (HIDS)** runs on computers or devices in the network with direct access to both the internet and the enterprise's internal network. A HIDS has an advantage over an NIDS in that it may be able to detect anomalous network packets that originate

from inside the organization or malicious traffic that an NIDS has failed to detect. A HIDS may also be able to identify malicious traffic that originates from the host itself, such as when the host has been infected with malware and is attempting to spread to other systems

Beyond their deployment location, IDS solutions also differ in how they identify potential intrusion and threats

- **Signature-based Intrusion Detection System (SIDS)** monitors all the packets traversing the network and compares them against a database of known signatures or attributes of known malicious threats, much like antivirus software. Attack signatures are patterns of network traffic that are associated with specific types of attacks. For example, an IDS might recognize that a certain pattern of network traffic is associated with a SQL injection attack or DNS poisoning and generate an alert when it detects that pattern.

- **Anomaly-based Intrusion Detection System (AIDS)** monitors network traffic and compares it against an established baseline to determine what is considered normal for the network with respect to bandwidth, protocols, ports and other devices. This type often uses machine learning to establish a baseline and accompanying security policy. By detecting threats using a broad model instead of specific signatures and attributes, the anomaly-based detection method improves upon the limitations of signature-based methods, especially in the detection of novel threats. For example, if an IDS detects a sudden spike in traffic from a particular IP address, it might generate an alert, as this could be a sign of a DoS (Denial of Service) attack or an attempt for DNS poisoning.

Modern IDSs often employ a Hybrid approach which uses a combination of two or more



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detection techniques to increase their accuracy as well as range and scope of detection.

Once an IDS has detected suspicious activity, it will generate an alert. The alert will typically include information about the nature of the activity, the time it occurred, and the source and destination of the traffic. Security personnel can then use this information to investigate the incident further and take appropriate action to mitigate the threat.

Benefits

Intrusion Detection System offer organizations several benefits, starting with the ability to identify security incidents. IDS can be used to help analyse the quantity and types of attacks. Organizations can use this information to change their security systems or implement more effective controls and improving compliance. An Intrusion Detection System can also help companies identify problems with their network device configurations. These metrics can then be used to assess future risks and subsequently take preventive steps.

Intrusion Detection Systems can also help enterprises attain regulatory compliance. Businesses can use their IDS logs as part of the documentation to show they are meeting certain compliance requirements. Many industries are subject to strict data protection regulations, such as HIPAA (Health Insurance Portability and Accountability Act) in healthcare or PCI DSS (Payment Card Industry Data Security Standard) in finance. IDSs make it easier for organizations to meet these security regulations.

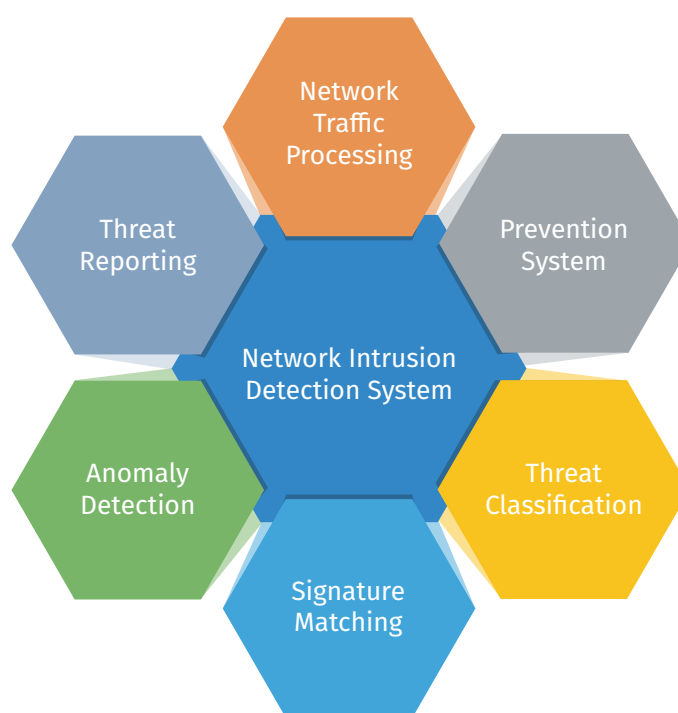
IDSs can also improve security responses. Since IDS sensors can detect network hosts and devices, they can also be used to inspect data within the network packets, as well as identify the services being used. Using IDS to collect this information can be much more efficient than manual censuses of connected systems to prepare SOPs and contingency plans.

Challenges

IDSs are prone to false alarms or false positives. Consequently, organizations need to fine-tune their IDS products when they first install them. This includes properly configuring their Intrusion

Detection Systems to recognize what normal traffic on their network looks like compared to potentially malicious activity. However, despite the inefficiencies they cause, false positives don't usually cause serious damage to the actual network and simply lead to configuration tuning and improvements.

A much more serious IDS mistake is a false negative, which is when the IDS misses a threat and mistakes it for legitimate traffic. In a false negative scenario, IT teams have no indication that an attack is taking place and often don't discover until after the network has been affected in some way. It is better for Intrusion Detection System to be over-sensitive to abnormal behaviors and generate false positives than it is to be under-sensitive, generating false negatives.



Network Intrusion Detection System

False negatives are becoming a bigger issue for IDSs -- especially SIDSS -- since malware is evolving and becoming more sophisticated. It's hard to detect a suspected intrusion because new malware may not display the previously detected patterns of suspicious behavior that IDSs are typically designed to detect. As a result, there is an increasing need for IDSs to detect new behavior and proactively identify novel threats and their evasion techniques as soon as possible.

IDS Vs. IPS

Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS) are two types

of security solutions that are designed to protect networks from potential cyber threats. While they share some similarities, there are significant differences between the two.

An IPS is a security solution that goes beyond the capabilities of an IDS. In addition to monitoring network traffic, an IPS can take action to prevent potential threats from being executed. It does this by blocking traffic that is identified as potentially malicious, based on the policies and rules that are configured. IDSs are typically less expensive and less complex to deploy than IPSs.

However, IDSs require trained security personnel to investigate alerts and take appropriate action.

An IPS works by comparing network traffic against a database of known attack signatures, much like an IDS. However, when it detects a potential threat, along with generating an alert, it takes immediate action to prevent the threat from being executed. This action can include blocking traffic, dropping packets, or resetting connections.

Finally, there is a difference in the level of granularity between IDS and IPS. IDSs can be configured to monitor specific types of traffic, such as web traffic or email traffic, or they can be configured to monitor all network traffic. IPSs, on the other hand, are typically configured to block specific types of traffic, such as malware or phishing attempts, or they can be configured to block all traffic that is identified as potentially malicious.

Conclusion

An Intrusion Detection System is an essential component of modern cybersecurity and act as a powerful tool for protecting against cyber attacks. To ensure that

an IDS is effective, it is essential to regularly update its signatures and ensure that it is configured correctly. IDSs are not foolproof and can generate false positives, so it is important to have trained personnel who can investigate alerts and can tune IDS policies accordingly.

Contact for more details

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Appscape

Showcasing latest mobile apps developed by National Informatics Centre

Mobile technology has emerged as a primary tool for governments to serve their citizens. It has bypassed the need for traditional physical networks for communications and collaborations. Additionally, it is far more affordable and accessible, therefore strengthening the nation through better citizen-government interaction. To further nourish this interactivity, NIC has created a repository of more than 230 mobile apps available through both the Android and iOS platforms. This issue of Appscape covers some of the more popular mobile apps launched recently. These apps belong to different sectors such as Agriculture, Administration, Development, Finance, Public Distribution, Transportation, Tourism, Social Welfare, Health and Education.

Mera Vetan

Developed by NIC Jammu & Kashmir, Mera Vetan app facilitates government employees in the UT of Jammu & Kashmir to access their salary-related information. The app allows employees to view their monthly payslip, income tax statement, general provident fund (GPF), national pension scheme (NPS), service level indicator (SLI) and other related information. It also allows employees to update their personal details and contact information. To use the Mera Vetan app, government employees need to register and create a login account using their employee identification number (EIN), date of birth (DoB) and GPF / NPS details. Once registered, employees can access their salary-related information securely and conveniently from their mobile devices. They can also see their total deductions, total allowances, net and gross amount of salary along with other details.

Mera Vetan app is a part of Jammu & Kashmir government's efforts to promote digitalization and streamline the administrative processes for government employees. It frees the UT government employees from their dependence on DDO, and in doing so, it will save a lot of paper in the process.

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Visit the Mobile App Store at

<https://apps.mgov.gov.in/>

PANI

PANI mobile app is developed analogous to Portal for Assets and Navigational Information (PANI) system. It aims to provide transparency in river navigation and infrastructure information for making timely decisions based on a single source of truth and facilitate the transportation of cargo and other vessels on inland waterways.

The app provides detailed information on the National Waterways and their terminal assets, including fairway, basic infrastructure (jetties, pontoons, cargo handling equipment, and storage facilities), cross river structures (bridge locations, locks, and barrages), connectivity at jetties, and emergency services to facilitate the transportation of cargo and other vessels through inland waterways.

The app uses GIS-based Bharat maps to facilitate visual comprehension of the above information and navigation. By simulating historical data against required draught, vertical and horizontal clearance, it assists users in evaluating the viability of transportation on a planned date of travel.

Thus, the app allows internal stakeholders to make well-informed and timely decisions and facilitates business on inland waterways by providing a single point of contact for voyage planning and authorization.

 **Shri Amaranatha Mishra** (anmishra@nic.in)

Crop Doctor

Crop Doctor is an all-comprehensive app designed to help farmers and agricultural professionals diagnose and manage crop diseases quickly and accurately. The app provides users with a database of diseases that can affect different crops and provides detailed information on how to identify and treat them. Its database has information on all major crops of paddy, vegetables, pulses and oil seeds.

The app provides users with a platform to interact with agricultural experts, who can provide personalised advice and guidance on managing crop diseases. Users can ask questions and seek guidance from experts, who can provide quick and accurate solutions to any problems faced by farmers. It also provides a calendar "eKrishi Panchang", where users can get crop specific advisory on the basis of crop cultivation cycle.

The app is unicode-supported and available in both Hindi and English, making it accessible to farmers and agricultural professionals across the state.

The app also provides users with information on best agricultural practices, agricultural machinery, agriculture-related news, and various government schemes making it a comprehensive tool for managing crop production.

 **Shri Tej Narayan Singh** (sio-cg@nic.in)

Koraput Tourism

Located in the southern part of Odisha, Koraput is a beautiful district with a rich cultural heritage and diverse natural beauty. To promote tourism in the district, the Koraput district administration has launched "Koraput Tourism" mobile app that provides tourists with all the necessary information about the district.

Koraput Tourism app is a comprehensive guide for tourists who wish to explore the district's natural and cultural splendour. It offers information on popular tourist destinations, accommodation options, transportation facilities, and other important information that can help tourists plan their trip.

One of the main features of the app is the "Explore" section, which provides detailed information on various tourist attractions in the district, including waterfalls, historical monuments, temples, and natural parks. Similarly, the "Stay" section offers information on various accommodation options in the district. The app also includes an interactive map that allows tourists to explore the district and locate various locations easily.

The app also offers information on various transportation facilities available in the district, including buses, taxis, and rental cars. The app provides information on the nearest bus stops and railway stations, and also offers guidance on the best routes to take while exploring the district.

 **Dr. Ashok Kumar Hota** (sio-ori@nic.in)

Jansunwai Samadhan

Jansunwai Samadhan is an initiative by the Government of Uttar Pradesh for promoting transparency and accountability in governance. It ensures citizens have a voice in the administration of government services as it provides a platform for citizens to register complaints and grievances related to various government services. These services include electricity, water, sanitation, roads, public transport, and law and order. One of the key features of the app is the ability to track the progress of complaints in real-time. Users can track the status of their complaints and receive updates on the actions taken by the concerned authorities to resolve the issue. The app also allows citizens to provide feedback on the quality of government services and rate the performance of government officials. Similarly, the Departmental Nodal Officer can also easily view the application and send them and take action for their proper disposal. They can reopen the application if not satisfied with the solution given.

The app is linked to the Jansunwai portal, where grievances / suggestions can also be registered through web (jansunwai.up.nic.in).

 **Shri Rizwan Ul Haq Khan** (sio-up@nic.in)

Panchayat Darpan

Panchayat Darpan app is designed to provide information and services related to rural governance in Madhya Pradesh. It enables citizens, especially those living in rural areas, to access various services and information related to their local governance.

The app provides a wide range of services, such as access to data on the functioning of Panchayat Raj institutions, details of elected representatives, and various schemes and programs launched by the government. It also allows citizens to access various reports and documents related to their local governance, such as the gram panchayat development plan, and details of the funds allocated and spent on various projects.

One of the key features of the app is the ability to provide feedback directly to the concerned authorities. Citizens can use the app to raise grievances related to issues such as sanitation, drinking water, roads, and public infrastructure, and track the progress of their complaints.

Panchayat Darpan app is a valuable tool for promoting transparency, accountability, and citizen participation in rural governance and ensures that the citizen voices are heard.

 **Shri Vijay Kumar Vishwakarma** (sio-mp@nic.in)

AurZuv Budgam

AurZuv Budgam is an initiative of the District Administration of Budgam aimed at enhancing the district's health care facilities. It provides information on nearby health centres and medical facilities, as well as information on their basic infrastructure, including staff, services offered, and other basic amenities. This can help citizens make informed decisions about which medical facility to choose in the event of an emergency.

These details are provided directly by health institutions. The collected data will also aid in the planning, expansion, and upgrading of the district's health institutions, thereby contributing to the enhancement of the district's health facilities. All the health care facilities in the app are geo-tagged and the citizens can reach there with the help of inbuilt interactive maps.

The app provides information on health-related emergency quick dials and e-services. Further, It provides a public notice board for all health advisories issued by the senior health officials. It also has a separate notice board facility for medical staff, where they can get information regarding any important provisions.

 **Shri Syed Mujadid Muzamil** (dio-bdg@nic.in)

Hon'ble Union Minister of State for Electronics and IT unveils Grievance Appellate Committee Portal



Hon'ble Union Minister of State for Electronics and IT unveiling Grievance Appellate Committee Portal at a post-budget seminar in New Delhi

Shri Rajeev Chandrasekhar, Hon'ble Minister of State for Electronics and Information Technology, launched the Grievance Appellate Committee (GAC) portal in a post-budget session on 28th February 2023 in New Delhi. Shri Alkesh Kumar Sharma, Secretary, MeitY, & Chairperson, GAC, Shri Amit Agrawal, Additional Secretary, MeitY, Senior officers from MeitY, NIC and representatives from Social Media platforms were present during the launch ceremony.

Hon'ble Minister interacted with the representatives of the social media platforms and expressed hope that the GAC platform will help in protecting the interests of users and act as a bridge in resolving their issues.

The Grievance Appellate Committees (GACs) are established under the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 [IT Rules], made under the Information Technology Act, 2000. The IT Rules require social media and other intermediaries to observe due diligence by making reasonable efforts to cause their users not to host, display, upload, modify, publish, transmit, store, update or share any information as specified in rule 3(1)(b).

The IT Rules and GAC aim to ensure a safe, trusted and accountable Internet for Indian users. The GAC deals with the appeals of Digital Nagriks aggrieved by decisions of Grievance Officers of social media intermediaries on complaints of users against the violation of the IT Rules and any other matters pertaining to the computer resources made available by the intermediaries. The entire appeal process, from filing to decision, is in digital mode, and GAC endeavours to resolve appeals within 30 days. It has three interfaces, namely for Citizens, Intermediaries, and three GAC Committees. For Government officials, the portal is SSO enabled. A mobile app for citizens will be added to the portal to facilitate easy filing of appeals, and a Hindi version will also be added.

The portal is designed and developed by NIC Himachal Pradesh in consultation with MeitY and NIC Headquarters, and it can be accessed at <https://gac.gov.in/>.

-Ajay Singh Chahal, Himachal Pradesh

Govt. of Punjab plans to roll out NextGen eHospital across the State

During a meeting on February 14, 2023, chaired by Smt. Alaknanda Dayal, Secretary of the Directorate of Medical Education and Research (MER) in Punjab, it was decided that the NextGen eHospital will be implemented to improve the state's healthcare systems and expand tele-consultation services to all districts. Senior NIC Officers and representatives of government medical colleges and hospitals were in attendance to discuss the implementation of the system.

During the meeting, a demo of the software was presented and the deployment sequence of activities was discussed. Secretary MER emphasized that the eHospital will be a major reform in the healthcare sector that will enhance service standards, accountability, and transparency. The officers were encouraged to maintain smooth coordination and synergy among all stakeholders to ensure successful project implementation within the set timeframe.

Further, a dashboard is proposed to be created for the Chief Minister and Secretary MER to have real-time access to inventory and patient information.



NIC Officials conducted a demonstration of the NextGen eHospital at the Punjab State Directorate of Medical Education and Research prior to its deployment in the state

-Parminder Kaur, Punjab

Hon'ble Minister of Skill Development, Employment & Entrepreneurship, Assam launches Digital ITI

Hon'ble Minister of Skill Development, Employment & Entrepreneurship, Government of Assam, Shri Jayanta Malla Baruah launched the Affiliation and Physical Verification Module of the Digital ITI application on 18th March 2023 in Guwahati. This will help in the computerization of all processes of ITI in the State and enables online contactless affiliation. Shri B. Kalyan Chakravarty, Principal Secretary, SEED; Shri Haneef Noorani Director, DECT; and Smt. Kabita Roy Das, DDG & SIO, NIC Assam, were among others present on the occasion.

Speaking on the occasion, the Hon'ble Minister said that the launch of Digital ITI would hugely complement the Government's effort to generate more avenues for employment in Assam by enabling online contactless affiliation of ITIs. He also praised the efforts by the State Centre behind successful launch. The application has been developed by an NIC Assam Division headed by Shri Rubaiyat Ul Ali, ASIO under the aegis of SIO NIC Assam.



-Kavita Barkakoty, Assam

Hon'ble LG Delhi unveils Unified Portal for Licensing of Eating, Lodging and Boarding Establishments

A modified unified portal for the licensing of Eating, Lodging, and Boarding Establishments in Delhi was unveiled by Hon'ble LG Shri Vinai Kumar Saxena on February 28, 2023, at the NDMC Convention Center in Delhi. The new portal serves as a one-stop shop for applying for licenses for eating, lodging, and boarding establishments in Delhi. Its objective is to promote these establishments in Delhi by facilitating ease of doing business through a transparent and timely disposal process. The portal is completely online and faceless, allowing individual and simultaneous processing of traders' applications by all relevant agencies such as Delhi Police, MCDs / NDMC, Fire, and Delhi Pollution Control Board. The licenses / NOCs issued by these agencies can be downloaded from the portal.

During his address to the gathering, Hon'ble LG highlighted that the entire licensing process has been simplified and timelines have been established. The portal also features a status tracking system that enables applicants to keep track of their applications at all times. He praised the contributions of all stakeholders, particularly those of NIC-MHA and NIC-MCD.



-Amar Singh, Delhi

CS Punjab launches eAWAS Portal for allotment of Punjab Government Houses

A portal for the online allotment of Punjab government houses in Chandigarh has been launched by Shri Vijay Kumar Janjua, IAS, Punjab Chief Secretary on 16th December 2022. The system was developed and customized by NIC Punjab. During the launch event, the Chief Secretary announced that in the first phase, 1257 government houses of various categories of Punjab pool located in Chandigarh would be allotted online. In the second phase, government houses of Punjab pool located in various districts of the state would be allotted. According to Shri Kumar Rahul, IAS, Secretary, General Administration, information on how to apply for housing will be available at <https://eawas.punjab.gov.in>. Government officials can apply for available houses based on their preferences by browsing the portal's list.

Shri Vivek Verma, SIO, and DDG, NIC Punjab, expressed that this system would make the entire process of house allotment easier for employees. The portal has been integrated with various applications to ensure its smooth operation.



-Parminder Kaur, Punjab

Jammu & Kashmir becomes the first State / Union Territory to launch Online Statutory Audit of Government Departments

The Chief Secretary, Dr. Arun Kumar Mehta, IAS, launched an online application for conducting statutory audits of the accounts of the Jammu and Kashmir Government's line departments on 23rd December 2022. This application is yet another step in the process of making financial management in the UT of J&K more transparent, following closely behind other NIC J&K initiatives such as Online Budgeting (BEAMS), e-Treasuries, Online Billing and Clearance (JKPAYSYS), Government Receipt and Accounting System (JK GRAS), and Jan Bhagidari (which puts the details of budget sanctioned and the status of public works in the public domain). Dr. Mehta praised the local Audit Department and the NIC J&K for creating this facility. It was stated that it is an integrated single platform tool for accessing financial information from government departments, with access to and use of data from BEAMS / JK-PaySys as an additional tool.

It was also revealed that this web-based audit provides understandable insights at all stages in an accessible and analytical manner. It aids in the seamless mapping of both Auditor and Auditee, as well as the management of audit teams and the definition of audit schedules. Furthermore, it generates audit reports based on configurable report templates that are available in PDF and can be shared with users via email.

As previously stated, email-based alerts on regular update(s) are also sent to auditees for their information and necessary compliance. The online audit platform enables auditing in accordance with the defined process. The software also serves as a repository for audit-related records and is an effective financial audit tool that significantly improves transparency and accountability. All audit-related communications must go through this system, which will bring much-needed accountability.



CS, Jammu & Kashmir, Dr. Arun Kumar Mehta launching Online Statutory Audit Application

According to the Chief Secretary, it will make the process easier and more focused. He advised the department to maintain a healthy balance of post-audit and concurrent audit of accounts. The Chief Secretary stated that the system would be improved in terms of dependability and productivity. He requested that the departmental officers distribute the new audit manual, which includes e-audit, to all offices so that they are aware of the new systems. The Chief Secretary also instructed them to connect it to eOffice so that officers can view relevant reports and pending audit paras. He insisted that this mechanism would ensure that the audit was more thorough and comprehensive even if the auditors did not physically visit the auditees.

-Mohd. Saleem Khan, Jammu & Kashmir

eTransport Project hosts successful Third Zonal Workshop in Thiruvananthapuram

eTransport Project showcased its new systems and services at the Third Zonal Workshop, eTrans2023, held from 2nd to 3rd March 2023 in Thiruvananthapuram, Kerala. The event was organised by the NIC eTransport Central Team in collaboration with the Ministry of Road Transport and Highways (MoRTH), Government of India and coordinated by the NIC Kerala State Centre.

Hon'ble Minister for Road Transport, Motor Vehicles, Water Transport, Government of Kerala, Shri Antony Raju, inaugurated the workshop in the presence of several officials, including Shri Mohan Krishnan P. V., DDG & SIO Kerala, Shri Pawan Kumar Joshi, DDG & HoG (eTransport), Shri S. Sreejith, Transport Commissioner, and Shri Piyush Jain, Director, MoRTH.

The workshop aimed to increase awareness among various stakeholder departments regarding the new systems and services developed in recent years under the eParivahan platform. It was attended by the participants from 12 States / UTs namely Chhattisgarh, Maharashtra, Goa, Daman Diu Dadra Nagar Haveli, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Pondicherry, Andaman & Nicobar Islands, Lakshadweep and Kerala.

On the first day, the focus was on the new initiatives in Vahan, Sarathi, eChallan, and PUCC modules of the eTransport Project. The second day concentrated on the eDAR / iRAD application. The NIC eTransport Team demonstrated various features and functionalities in Vahan, Sarathi, eChallan, PUCC, eDAR / iRAD, VLT&EAS, RVSF, and AFMS during the workshop. Discussions and brainstorming sessions with state-level officers of User Departments were held, which helped NIC understand their views, issues,



Hon'ble Minister for Road Transport, Shri Antony Raju, inaugurating the eTrans2023 on 2nd March 2023 in presence of several senior officials and other dignitaries

and suggestions. Doubts / issues raised by the Stakeholder Departments were clarified by MoRTH and eTransport Team. The event concluded with a vote of thanks by Shri M Asir Edwin ASIO/DDG & HoD(eTransport, NIC Kerala).

-Ahamed Shaheer J., Kerala

NIC Maharashtra implements Seaport Back Office Module at the Mumbai Seaport

The Mumbai Seaport is a significant transportation hub in India, handling a large number of passengers and crew every year. To facilitate immigration clearance, the Central Immigration Control System (CICS) has been used in the past. However, the COVID-19 pandemic caused a sharp increase in passenger traffic, necessitating the development of a new software module that could capture detailed information about passengers and crew members.

Under the guidance of Smt. Alka Misra DDG & HOG (IVFRT), Shri K. P. Pariselvan, DDG & SIO, NIC Maharashtra, and the NIC-IVFRT Mumbai team, which included Shri Sanjay Matthey, Sr. Technical Director, Shri Prasanna Chidambaram, Technical Director, Shri Kamala Kannan Gandhi, Scientist-B, and Shri Saravana Kumar, Scientist-B, the "Seaport Back Office Module" was created.

The primary aim of the Seaport Back Office Module is to improve efficiency and accountability, leading to increased productivity. It was launched at the ICP Seaport Mumbai on 20th February 2023 and will be implemented at all ICP Seaports across India in a phased manner.



NIC IVFRT team convened a meeting with the Mumbai Port Officials at the ICP Mumbai Port Office to facilitate the implementation of the Seaport Back Office Module

- Vedula Srinivas, Maharashtra

NIC Bhubaneswar organises Tech-Bootcamp on Enterprises Architecture and IndEA Framework



Speakers and Participants at Tech-Bootcamp on EA and IndEA framework organised by NIC Bhubaneswar

A tech bootcamp-cum-workshop on Enterprises Architecture (EA) and IndEA Framework on 9th February 2023 for senior government officials was organised by the NIC Bhubaneswar. Inaugurating the workshop Shri Bhaskarjyoti Sharma, IAS, Commissioner-cum-Secretary, Social Security Department emphasized the importance of adopting an enterprise-level approach to governance. He highlighted that e-governance solutions are often developed independently, and stressed the need for interoperability across departments, with a clear vision, goals, and objectives. An enterprise framework provides a comprehensive study of the system, enabling the development of e-governance solutions that are resilient, cost-effective, and able to meet growing public expectations, government processes, and dynamic business requirements.

Dr. P. Gayatri, Sr. Technical Director and Head of Collab-Files and EA Resource Division, NIC Hyderabad informed that NIC has taken substantial lead in developing and preparation of enterprise artefacts. Some of the initiatives include designing of architectural framework like University Enterprise Architecture Framework involving 107 universities, Public Service Commission-Enterprise Architecture for Himachal Pradesh, Digital NIC Architecture, Ministry of Drinking Water and Sanitation Enterprise Architecture, Document Registration System, Pune and Land Hub Enterprise Architecture (LHEAP) module of ePragati, with the recent one being development of State Enterprise Architecture for Meghalaya Government etc.

-Hara Prasad Das, Odisha

Quad Nations jointly launch Quad Cyber Challenge to enhance Cybersecurity in the Indo-Pacific and beyond

The Quad Nations have recently announced the launch of the Quad Cyber Challenge, a public initiative with the goal of enhancing cyber security measures across the Quad nations. This program is designed to encourage internet users to participate by pledging to engage in safe and responsible online behaviors, not only in the Indo-Pacific region but globally as well. The Quad Cyber Challenge is a reflection of the Quad's ongoing efforts to promote cyber security awareness and encourage action among individuals and communities. The initiative also seeks to bolster a more secure and robust cyber ecosystem on a global scale. Starting from April 2023, the program will feature various events, including cybersecurity training and resources for users ranging from individuals to educational institutions, small businesses, and large corporations. The Quad partners aim to ensure that everyone has access to the necessary information to make informed decisions when using the internet and mobile devices.

Those interested in joining the initiative and taking action to promote a more secure, resilient, and safe online environment for all can visit the website <https://www.cyberchallenge.tech/>. In India, the National Security Council Secretariat and the Office of National Cyber Security Coordinator are coordinating the initiative.



Source- <https://pib.gov.in/>

India and Australia join forces to drive innovation in areas of national challenges and shared priorities

Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia, and Atal Innovation Mission (AIM) under NITI Aayog have signed a Letter of Intent (LoI) to strengthen their collaboration on shared needs. The announcement came before a meeting between Hon'ble Prime Minister of Australia, Shri Anthony Albanese, and Hon'ble Prime Minister of India, Shri Narendra Modi, on March 10, 2023, in New Delhi.

The LoI is a part of a bigger program, India Australia Innovation and Technology Challenge (IA-ITC), which aims to unite India and Australia's innovation ecosystems to address shared environmental and economic challenges by supporting businesses in commercializing innovative tech-based solutions. This program includes areas such as circular economy, energy transition, and food system resilience. AIM and CSIRO are currently developing a delivery model for IA-ITC program to ensure its success. The program is scheduled to launch officially in July 2023.



Source- <https://pib.gov.in>

India-UAE sign MoU on digital currencies, will collaborate on developing CBDCs

The Reserve Bank of India (RBI) and the Central Bank of the United Arab Emirates (CBUAE) have signed a Memorandum of Understanding that aims to enhance cooperation and innovation in financial products and services. As part of this agreement, both Central Banks will jointly run a pilot program on Central Bank Digital Currency (CBDC).

CBDCs are a type of digital currency that is issued by a country's central bank. They are similar to cryptocurrencies, except their value is fixed by the Central Bank and equivalent to the country's fiat currency. Proof-of-concept (PoC) and pilot projects of digital currencies will be carried out jointly to facilitate cross-border CBDC transactions of remittances and trade. It is anticipated that this bilateral CBDC bridge will help in increasing the efficiency of cross-border transactions as well as reduce the overall transaction cost.



Source- <https://www.wionews.com>

NIC Punjab honored with Technology Sabha Award 2023 for exemplary work

NIC Punjab has won the coveted Technology Sabha Award 2023 in the Enterprise Applications category at the Technology Sabha Conference 2023, which was held in Kochi (Kerala) from 23rd to 25th February 2023. This award was given for their successful implementation of the eAbkari project, an end-to-end Supply Chain Management System for Beverage Alcohol, Industrial Alcohol, and Medicinal Alcohol. The award was jointly shared with the Excise Department Punjab.

The eAbkari project offers over 50 workflow-based e-services for Grant & Renewal of Licences, Packaged Liquor Brand Registration, Issuance of NOC / Permit / Passes for Import / Export / Transport of Bulk Spirit & Packaged Liquor, Real-time management of Spirit / Packaged Liquor Inventory and Excise Revenue, and Management of Excise Offender Cases and Enforcement Activity.

The project has been seamlessly integrated with modern ICT technologies such as the web, QR codes, PUSH / PULL SMS, eMail, eReceipt, Geo-Tagging, Sandes Messaging Service, and Mobile Apps. Since 2019, this project has resulted in betterment of EoDB services, plugged revenue leakage points, achieved 100% compliance of BRAP and EoDB regulations. The project has been replicated in 9 other states, and due to the similarity of the functioning of Haryana State Excise Department, the Excise Department of Haryana has also shown interest in implementing eAbkari-Punjab.



The team working under Shri Vivek Verma, DDG and SIO Punjab, consisted of Shri S. S. Duggal, Sr. Technical Director, Shri Anil Dogra, Sr. Technical Director, and Shri Devendra Kumar Singh, Scientist-C

NIC Chhattisgarh's NICler app recognized with prestigious mBillionth Award 2022-23



The NICler app, developed by NIC Chhattisgarh for the Department of School Education in the Chhattisgarh Government, was recently awarded the prestigious mBillionth Award 2022-23 by the Digital Empowerment Foundation. The award recognizes mobile innovations that drive sustainable social change across eight South Asian countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. The award was received by Shri A. K. Somasekhar, Sr. Technical Director, on behalf of NIC Chhattisgarh in New Delhi on March 6th, 2023.

The NICler app is an innovative assessment tool that allows students to answer multiple-choice questions without using electronic devices. The app was developed by Ms. Lalita Verma, Scientist-B, with guidance from Shri T. N.

Singh, DDG & SIO and Shri. A. K. Somasekhar, Sr. Technical Director.

The app utilizes ArUco marker technology from OpenCV, allowing it to recognize an ArUco marker from more than 20 feet away and read the number stored within it. This allows the app to accurately capture students' answers based on the direction of the marker. The Government of Chhattisgarh has decided to implement NICler in its 30,000 schools to aid in remediation. NICler has been developed as a flexible product that can be configured for use by any organization or state. The project proposal for the rollout of NICler in any state has been approved by the PAC of NIC. Interested states can contact Shri. T. N. Singh, DDG & SIO, NIC, Chhattisgarh for technical support.

NIC shines at CSI-SIG eGovernance Awards 2022

NIC and its teams working across various projects and technologies throughout the country have won multiple awards under different categories at the 20th Computer Society of India - Special Interest Group (CSI-SIG) eGovernance Awards 2022, which were recently held at Delhi Technological University, New Delhi on the eve of Saturday, 25th March, 2023.

CSI-SIG eGovernance Awards is a series of awards instituted by the Computer Society India to recognize the contributions towards eGovernance by the State, Departments, Districts and Projects. Under the Central Projects category, NIC Pune Software Development Unit received the Award of Excellence for the (a) National Generic Document Registration System (NGDRS), while NIC eTaal Division and NIC Quality Assurance and API Infrastructure Management Division earned the Award of Appreciation for the (b) eTaal 2.0 application and (c) NIC API eXchange Platform (NAPIX), respectively.

Moving to the states, NIC Himachal Pradesh received five awards in different categories, including the Award of Excellence for (d) Works MIS Web Application for Jal Shakti Vibhag, the Award of Appreciation for its PSCSoFT (Public Service Commission Software for Transformation) and Himachal Pradesh Real Estate Regulatory Authority – MIS, and the Award of Recognition for HPAPPP (Himachal Pradesh Agriculture Produce Procurement Portal) and HP Large Dams Safety Analysis MIS.

Similarly, NIC Chhattisgarh won the Award of Excellence for its groundbreaking education app, NICler, while its sister state centre, NIC Madhya Pradesh, has won Award of Excellence for (e) GeoReach (Geomatics based Rural Roads Enterprise Application for Connecting Habitations), and Award



of Appreciation for MP Farm Gate App. Likewise, NIC Uttar Pradesh has won the Award of Appreciation for (f) UPREAT-OJDS (Uttar Pradesh Real Estate Appellate Tribunal - Online Justice Delivery System) and NIC Rajasthan has received the Award of Excellence for Rajasthan Agriculture Statistics (RajAS) portal.

In addition, NIC Bihar has won (g) the Award of Excellence for Jal-Jeevan-Hariyali Abhiyan Portal of Bihar and the Award of Recognition for the Post Matric Scholarship Portal of Education Department. Similarly, NIC Punjab has won the Award of Excellence for Invest Punjab Business First Portal. NIC Jharkhand received the Award of Recognition for (h) Jharkhand electronic Government Receipt Accounting System (JeGRAS). NIC Haryana bagged awards for Haryana (i) Online Release Orders and Billing System and Comprehensive Integrated Suite in different categories.

Furthermore, NIC Karnataka has won the Award of Recognition for (j) GST Prime under State Government category. NIC Manipur has won Award of Recognition for (k) LouchaPathap, e-GRAS Manipur and eOffice Manipur. Finally, under the District category, NIC Hardoi received the Award of Appreciation for (l) Sampada application.





NIC Haryana earns Atal Bihari Vajpayee Good Governance Award



On the occasion of Good Governance Day, 25th December 2022, the Hon'ble Chief Minister of Haryana, Shri Manoharlal Khattar presented the Atal Bihari Vajpayee Good Governance Awards to three State Mission Mode projects designed and developed by the NIC Haryana State Centre. The three projects are Digitally Signed Online eFarad-integrated with payments gateway, Parivar Pehchan Patra and Auto Appeal System of RTSA (Right to Service Act) Commission.

The Good Governance Award is instituted by the Government of Haryana to mark the birthday anniversary of former Prime Minister Shri Atal Bihari Vajpayee and promote his ideals for making the Government accessible to the last mile citizens.

These awards are given each year in various categories such as health, education, agriculture, water conservation, e-governance, and innovation. The selection process involves a screening committee, which shortlists the nominees, followed by a jury comprising eminent personalities from various fields, who select the final awardees.

As per the Hon'ble Chief Minister, the awardees have made significant contributions towards implementing digital reforms in their respective departments. Their efforts have further strengthened the State Government's persistent endeavors to use e-Governance to provide timely and hassle-free citizen-centric services, helping the state to advance towards progress.

Audit Online Application brings laurels to the Nation during ITU WSIS 2023 Award

Audit Online, an application developed as part of the Panchayat Enterprise Suite (PES), has won the prestigious WSIS Prize. Shri Sunil Jain, DDG, NIC-MoPR Division, received the award virtually on behalf of the whole organisation.

The WSIS Prize is an international award that was instituted by the International Telecommunication Union (ITU) to recognize exceptional contributions made by individuals, organizations, and governments in promoting the use of information and communication technologies (ICTs) to achieve the United Nations' Sustainable Development Goals (SDGs). The award is presented annually to outstanding initiatives in various categories related to the use of ICTs, including e-government, e-business, e-health, and e-learning.

This year, the award were given away virtually on 14th March 2023 during World Summit on Information Society from the International Conference Centre Geneva (CICG) in Geneva, Switzerland.

The Audit Online application facilitates financial audits of accounts at all three levels of Panchayats, including District, Block, and Village Panchayats, Urban Local Bodies (ULB), and Line departments by auditors (State AG/LFA). The software enables both online and offline audit of accounts and main-



tains records of past audits with a list of auditors and audit teams involved. It serves as a useful financial audit tool, enhancing transparency and accountability. Additionally, the information is available in the public domain and can be used by other PES applications.