Digital India
Power To Empower

TechConclave 2020
NIC's Annual Technology
Meet

NIC Centre of Excellence
in Blockchain Technology
Bengaluru

| DRONE with AI / ML Innovations

| ZeroTrust Architecture

Cover Story

P. 22

Gujarat CM Dashboard

Enabling government
machinery for
strengthening good
governance

740
Webservices/
APIs

2206
Government
Projects

3400
Indicators

1530
Government
Authorities
Mapped

183
eGov Applications
Integrated

NIC

Editorial

Dashboard, as a nomenclature has an interesting origin which may not be known to many. In olden times, the horse-drawn carriage which was the primary transportation vehicle carried a protection panel in front, which had the basic purpose of preventing the mud and dirt from the horses' hooves dishevelling the driver. This original avataar term of 'Dashboard' has transformed in the current day to serve a far more evolved purpose than mere protection. The contemporary ones, whether used in spacecrafts, automobiles, or on software platforms are capable of carrying out innumerable functions and actions, ranging from displaying information, facilitating communication, enabling interaction and navigation.

The Dashboard of Gujarat Chief Minister developed by NIC, is one such system which helps in effectively measuring and displaying a large number of performance indicators across various sectors in the State at several levels. This display reflects upon not just the current performance, but also enables improvement of functioning of government departments to provide public services and to facilitate the officers who operate both at the frontline as well as behind the scenes. Such technology implementations go a long way in raising the bar for other States/UTs to emulate.

This issue of **Informatics** presents an array of interesting articles. Telangana is the State in focus this time. The three districts; Jodhpur, West Godavari and Anandnag are featured in the **District Informatics**. UAV/ DRONE with AI / ML Innovation and ZeroTrust Architecture are the articles in the Technology Update section this time. Niyukti, AeBAS in School Eduction and Teacher's Eligibility Test are the informative articles presented in the **e-Gov Products & Services** section. Besides the brief information on the prominent mobile applications recently launched by NIC at various States, the **Appscape** this time carries an exclusive write up on Cloud-based Mobile Appication development. Crime Free Himachal, Ease of Living (EOL), DHANHA, Campus Suite, Jan Samiksha HP and PMKISAN are showcased in this section. The regular sections such as **Accolades**, **International e-Gov Update** and **In The News** section bring you some interesting reads.

We do enhance the publication's contents, look and feel on a constant basis to improve your reading experience. The reader's suggestions are most valuable to us to help us improve the quality of the magazine. It would be great if you could take out some time to write to us. Suggestions and feedback may be sent to the email **editor.info@nic.in**.

Wish you a happy reading. Please take care, stay healthy and safe.

Editor

Contents

Dr. Neeta Verma
Director General, NIC

Message

NIC has delivered yet another exemplary tool in the form of the Gujarat CM Dashboard to enhance the reach and impact of eGovernance. The CM dashboard tool is the first of its kind and uses technology to empower the Hon'ble Chief Minister of Gujarat to quickly view how the State is performing on various parameters against defined KPIs across cities, districts, blocks, talukas & right to the village level. The CM can intervene and guide the concerned authority on spotting any deviations on the Dashboard from the expected levels of performance.

The Gujarat CM Dashboard has achieved a complex network of aggregation, visualization, and enforcement, by using data of 3000+ indicators for 20 government sectors from various e-Governance applications on a daily basis. Each of the indicators is displayed graphically using time series analysis on a daily, monthly, quarterly & annual basis. A star rating system measures & ensures data quality remains high for each department based on various criteria such as data verification, depth and update frequency.

The Dashboard has integrated all the key stakeholders on a single platform i.e., all Secretaries, HODs, Collectors, DDOs & SPs. Several modules exist within the CM Dashboard to enable the measurement of physical, financial and timely progress of government projects. A mobile application also exists in addition to a SMS facility that alerts & reminds Nodal officers to ensure timely entry of data. Data synchronization module ensures automatic and manual data capture using web service APIs. Performance improvement opportunities are identified easily with real-time measurement. A grading system allows dynamic bench-marking and target setting.

A meticulous ranking system allows rating the performance and classifying into groups of Toppers and Laggards etc. Dedicated call centres process the feedback from beneficiaries using detailed questionnaires, and this feedback is used for taking remedial actions. The vision of the CM Dashboard is to ensure 100% data coverage and use technologies like AI, Machine Learning to do predictive and prescriptive analysis.

The Gujarat CM Dashboard can be drawn as an inspiration for other States & UTs who are looking to adopt an efficient system for analysis and monitoring of various programmes and services of the government. But for any systems, striving for continuous improvement would be the key to enhance citizen-centric services.

-Dr. Neeta Verma

NIC TECH CONCLAVE '20

Technologies for NextGen Governance

Held on 20th & 21st January 2020, the yearly techno-event of NIC was power packed with inspiring talks and deliberations by eminent IT experts and techno-leaders from industry.

NIC TechConclave is a two-day long technology event organized by National Informatics Centre annually. With all fervour, the Conclave this year (NIC-TechConclave2020) was held on 21st and 22nd January, 2020 at Pravasi Bhartiya Kendra, New Delhi. The Conclave witnessed eminent IT experts and industry leaders making power-packed deliberations on new trends and their implementation in eGovernment services. Themed as "Technologies for NextGen Governance", the event had an enthusiastic participation by NIC officers across the country and senior officers of the Government. The event was also webcast live by NIC for a wider dissemination

NIC TechConclave 2020 began with the lighting of ceremonial lamp by Shri Ravi Shankar Prasad, Union Minister for Law & Justice, Communications and Electronics & Information Technology, along with Shri Ajay Sawhney, Secretary, MeitY, Dr. Neeta Verma, Director General, NIC, Dr. Savita Dawar, Deputy Director General, NIC and other dignitaries.

Welcoming the dignitaries and participants, Dr. Neeta Verma expressed hope that the TechConclave will help NIC to create new technology solutions for public services and will also benefit

> **Technology should be designed to make peoples' life easier and simpler. Technocrats should start dreaming big and try hard to concretize the dreams into a reality by using technology as the biggest facilitator.**

Shri Ravi Shankar Prasad
Hon'ble Union Minister for Law & Justice, Communications and Electronics & IT

policy makers to plan better eGovernance initiatives.

Shri Ajay Sawhney, Secretary, MeitY said that this Tech-Conclave sets up an opportunity to bring NIC and industry experts on common platform to explore the solutions for the problems of the society. He advised to go for integrated solutions and to also partner with the startup ecosystem for innovative solutions.

Hon'ble Minister Shri Ravi Shankar Prasad energized the event with his inspiring and visionary words. He stated that technology should be designed to make peoples' life easier and simpler. He advised technocrats to start dreaming big and try hard to concretize the dreams into a reality by using technology as the biggest facilitator. Talking on the power and impact of data as a technology driver and future governance, he narrated five corners for Data – Data Availability, Data Utility, Data Innovation, Data Anonymity and Data Privacy.

Shri Sameer Garde, President, Cisco (India and SAARC) emphasized on the importance of Artificial Intelligence and Machine Learning in building a software-driven Government to ensure effective governance. Dr. Savita Dawar presenting the Vote of Thanks hoped that the Conclave would provide the participants a great platform to understand the impact and rightful application of emerging technologies.

Dr. Lalitesh Katragadda, founder, Indihood delivered the keynote address on "Dismantling Feudal Chains Digitally" eulogized India's huge entrepreneurial strength and urged NIC to take up the challenge of transforming the citizen centric services to enable them at low cost.

In the course of the two days, there was an array of enlightening talks by Dr. Pramod Varma, Shri Kiran Anandampillai, Shri Arun Jain and industry experts

from IBM, Dell-EMC, HPE, Intel, EY, Nucleus Technology and Snapdeal. They were Shri Santhanu Roy Chowdhury, Mr. Charles Sevior, Shri Sudheep K Das, Shri Dinakar Guniguntala, Shri RP Singh, Shri Rajesh Goel, Shri Prashant Parashar, Shri Kartik Krishnan and Shri Sandeep Saxena.

The two-day event concluded on a successful note, with the expectation that the key take-away and shared experience would help NIC to provide and promote better eGovernance services through adoption of improved and advanced technologies.

Inauguration of
NIC Centre of Excellence in
Blockchain Technology
Bengaluru

The Hon'ble Union Minister of Law & Justice, Communications, Electronics and Information Technology, Shri Ravi Shankar Prasad inaugurated the Centre of Excellence in Blockchain Technology at Bengaluru, Karnataka on 18th January 2020 digitally from Delhi through video conferencing. Shri T M Vijay Bhaskar, Chief Secretary to Government of Karnataka, Shri P Ravi Kumar, Additional Chief Secretary to Government of Karnataka, Shri Rajeev Chawla, Additional Chief Secretary to Government of Karnataka, Shri S Gopalakrishnan, Additional Secretary, MeitY and Chairman NICSI were the guests of honour. A white paper on "Blockchain for Government" was released by the dignitaries.

> ❝ **Blockchain technology will open up new frontiers in the area of governance, treasury management, excise operations etc. Would like to see its use in the field such as agriculture, health and primary education.** ❞

Shri Ravi Shankar Prasad
Hon'ble Union Minister of Law & Justice, Communications and Electronics & IT

Shri Ravi Shankar Prasad, Hon'ble Minister of Electronics and Information Technology inaugurating the Centre of Excellence in Blockchain Technology virtually through video conferencing

Dr Neeta Verma, DG NIC lighting the lamp during the inaugural ceremony held in Bengaluru

Blockchain technology has drawn significant attention from the Government due to the pain areas that it promises to address. Several schemes of the Government require the verification of the documents / facts to ascertain the eligibility of the applicants which is a time consuming process. Although some of the departments use the electronic data available with other agencies to verify the applicant's claim electronically, Government has started to look at alternatives such as blockchain to provide enhanced level of confidence, immutability and provenance.

Although the decision makers in the Government are enthusiastic, the following challenges deter the adoption of Blockchain Technology:

- The technology being nascent, the departments do not have a facility to perform PoCs as they need to build the infrastructure

Release of the whitepaper on Blockchain for Government (L-R) Shri B Vinaya, Shri Rajeev Chawla, Dr Neeta Verma, Shri T M Vijay Bhaskar, Shri P Ravi Kumar, Shri S Gopalakrishnan, Shri Nagesh Shastri

Dr. Neeta Verma addressing the audience of the event

which is quite expensive.

- The expertise required to build these solutions is not available with all the system integrators.
- The cost of setting up blockchain network and its management is high and this would also require frequent up-gradation as the technology evolves.
- Identification of the areas where blockchain can be implemented and the collaboration required by the various departments.

Centre of Excellence in Blockchain Technology established by NIC with a vision to build niche applications using Blockchain technologies, is a step in the direction to overcome the above challenges and accelerate adoption of blockchain technology in Government. The CoE is expected to provide a platform that the Government departments can look to for consultancy, capacity building and as an incubation centre where they can perform PoCs, evaluate different platforms etc. and move on to production with confidence. The Centre of Excellence will facilitate development of applications in close coordination with the Government, for rolling out across the country. Departments could leverage on the services and the infrastructure provided by CoE to develop and deploy blockchain applications.

During the inauguration of CoEBCT, Shri Ravi Shankar Prasad, in his address said that NIC is the backbone of India's Digital Governance.

- With inputs from NIC Karnataka State Office

A view of the Lab of NIC Centre of Excellence in Blockchain Technology, Bengaluru

Organizing officers of the inaugural event along with DG, NIC in front of CoEBCT lab graffiti backdrop

Telangana State

Harnessing innovation with cutting-edge Technologies for Digital Transformation

Edited by **REUBAN K**

NIC Telangana State Centre is the leading solution provider of ICT services in the State by Providing several innovative citizen centric e-Governance solutions in various sectors for State and central Government organisations by designing and developing around thirty five major digital systems, several of them won awards at national level. The district websites have been migrated to S3WaaS platform.

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Formed on 2nd June 2014, Telangana is the 12th largest state and the 12th most populated state in India with a geographical area of 112,077 km. and 35,193,978 residents as per 2011 census. The state of Telangana is constituted of 33 districts.

Since inception NIC has been playing key role in the e-Governance domain in the state. Under National Knowledge Network, 181 institutes of higher learning research, etc., in the state have been networked. NIC District Centres established in 31 districts and provided high bandwidth (34/ 100 Mbps) internet leased line connectivity. Network services being provided to 97 departments. Studio based video conferencing facility has been established at 27 districts. Email services are being provided to approximately 45000 functionaries in the State.

ePDS – Targeted Public Distribution System

NIC Telangana has developed the first in-house ration cards management system, subsequently Supply Chain Management System, Aadhaar enabled public distribution system. Telangana lead the nation in implementing one nation one ration by digitizing over 88 Lakh Food Security Cards of 282.70 Lakhs of beneficiaries with 99.9% Aadhaar Seeding, Aadhaar enabled payment system integrated with banks, besides Mobile Wallets is a big achievement.

Telangana has also designed, developed and deployed successfully, a low-cost device agnostic indigenous block chain based POS and SCM solution.

ePOS- FPShop automation

ePoS facilitates to adequately distribute the esePoS facilitates to adequately distribute the essential commodities to the ration card holders without any discrepancies of third parties or wrong distribution to unauthorised persons or stock diversion by restricting them to using biometric authentication and monitoring the transactions online as well as monitor the closing balances at every point of time. Retail transactions made in Fair Price Shops are captured online in real-time. Department introduced ePoS machines in 17034 FPS across the state. Ration items are distributed to all MDM Schools and Anganwadis in the State.

Supply Chain Management (SCM) (https://scm.telangana.gov.in)

SCM facilitates movement of stocks from FCI go-downs/ Buffer go-downs to Mandal Level Stock (MLS) points and Dispatch from MLS points to the door steps of Fair Price Shop (FPS) Dealers. Application ensures the availability of stocks at every level to process the flow of stocks from go-downs through FP shops for regular distribution of essential commodities to the NFSC(National Food Security Cards) beneficiaries and reduce the time and effort for data consolidation and maintaining the day-to-day Closing Balances including generation of truck chits, gate pass and to capture the information pertaining to the receipt of goods by FPS dealer.

T-Ration Mobile Application

Mobile application facilitates common public and department officials in knowing the live position of commodity stocks and FPS information in English or local language Telugu.

Nurses Registration & Tracking System – NRTS

NRTS is National Level web based Project designed and developed for Indian Nursing Council, New Delhi to enable creation of Live Register, Passbook and National Unique ID of the nurses across the country with role based privileges to handle the services of Enrolments, Primary Registration, Renewal of Registration, Registration of Additional Qualification, Reciprocal Registration, Issue of No Objection Certificate (NOC). NRTS Portal https://nrts.indiannursingcouncil.gov.in was inaugurated by Hon'ble Union Minister of Health & Family Welfare, GOI. Enrolment of registered Nurses is being implemented in 29 states across the country. Primary Registration is piloted in Delhi Nursing Council and is under implementation in 12 other State Nursing Councils.

Telangana Samagra Kutumba Survey

Cloud and mobile based hybrid system designed developed and implemented to capture and create database of 3.86 crore citizens. APIs built for identification of beneficiaries of welfare schemes like Pensions & Food Security Cards, Single Women, 2BHK, etc.
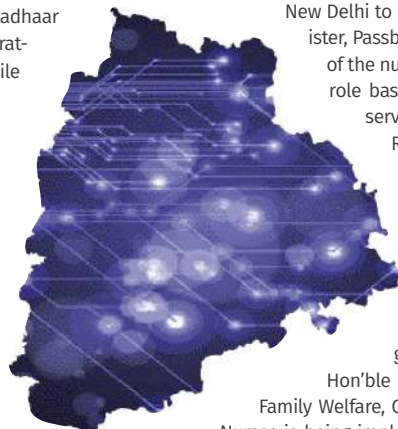
Registration and Stamps Department(CARD-CCA-IGRS)

(https://registration.telangana.gov.in)

NIC, Hyderabad has led the country in the end-to-end automation of all the state specific processes and all services in all 141 SROs, 12 DRs and 6 DIG offices across state. Approximate registrations per month are 123890, ECs issued are 138687, certified copies issued are 125000 in Telangana state and revenue generated is 4415 crores.

Financial Accounting System

Generic, re-usable, custom configurable, workflow and cloud based solution to manage the financial accounting needs of departments/ organisations/ PSUs/ autonomous bodies in State, Central Govts, UTs, PSUs of the country. It facilitates budget estimation, preparation and sanctions, Daily, Monthly and annual accounting statements, payroll and audit management, etc., implemented in Endowments Department, Gurukulam, Tribal Corporation (TRICOR) of Telangana, Andhra Pradesh states.

RBSK - Rashtriya Bal Swasthya Karyakram software

Workflow and role-based privileges web solution for the state government of Telangana to handle the services of Advance Tour Plan, Screening of Children, Referral and District Early Intervention Centre (DEIC). It captures health conditions of children in the 0-18 years age group and the child data is integrated with Child Info System of Education Department. The application has facilitated in improvement of the quality life of children through early detection of health abnormalities and its treatment. Using mobile version of application 61,24,000 Children have been screened since inception of this programme. http://rbsk.telangana.gov.in

'TS Weather App'

'TS Weather App has been developed for use of citizens and farmers of Telangana to access real time weather conditions like Temperature, Rainfall,

Shri Ch. Malla Reddy, MLA and State authorities during Inauguration of Ration distribution to Anganwadis through ePoS machine at Malkajgiri district

Shri K.Chandrasekhar Rao, Hon'ble CM, Telangana with his family members registering in the Samagra Kutumba Survey

RythuBima (Farmer's Group Life Insurance Scheme)-Agriculture Dept

Work flow based Web application has been designed, developed and implemented by Agriculture Department, Insurance companies and banks for implementation of RythuBima Scheme (farmers Group Life Insurance scheme) launched by Govt. of Telangana.

- Farmers enrolled in 2018 : 30.24 Lakhs-Claim Settled – 17,780 and Amount Disbursed in Rs. 889 Crores
- Farmers enrolled in 2019 : 32.15 Lakhs-Claim Settled – 7,144 and Amount Disbursed in Rs. 357.20 Crores

JEEVANDAN (Cadaver Organ Transplantation Programme) – Health Dept (http://jeevandan.gov.in)

Application facilitates online registration of Hospitals, Organ Transplant Centres & Non-Transplant Organ Harvesting Centres, Organ Donors, Organ Re-

RH, Wind and other related details depending on the Geo Location of users. It also provides village-wise and district-wise daily weather information and also facilitates next 24 Hours Forecast on weather.

RythuBandhu (Agriculture Investment Support Scheme)-Agriculture Dept

E-Governance solution designed and developed for RythuBandhu scheme (AISS) in Telangana, much before the introduction of PM Kisan scheme in the country, to provide financial assistance @Rs 4,000 per acre to the Farmers of Telangana in both Kharif and Rabi seasons for purchase of inputs. Extended coordination to the Bank authorities, Treasury Department, Commissioner of Agriculture, Agriculture Officials of District, Division, Mandal and Agriculture Extension Officers. http://rythubandhu.telangana.gov.in

Farmers benefitted during :

- Kharif 2019 : 44.71 Lakhs - Amount in Rs. (Cr) 5,431.45
- Rabi 2019 : 29.39 Lakhs - Amount in Rs. (Cr) 2869.87

cipients and streamlined process of Approval/ Decline for Single or Multi organ Recipients. Organ Donors and Organ recipients under Jeevandan. Mobile app for Donor Pledge provided for general public to donate organs. 32 hospitals, 740 Organ Donors, 7,392 recipients and 1,899 Transplanted. System was customised and implemented in SOT- TO Gujarat state.

Online Drug Licensing System (ODLS) (http://odls.telangana.gov.in)

ODLS is a work flow based software which facilitates online submission of Application, Licence fee Payment, Verification by officials, Grant/Renewal of Manufacture Licences, Sales Licences, approved laboratories, Changes in existing licences etc., application status tracking and monitoring etc. for the Drugs Control Administration (DCA), Govt. of Telangana, under 'Business Reform Action Plan 2017 of Dept. of Industrial Policy and Promotion (DIPP), Govt. of India.

Veterinary Hospital Management System (Vhms) (http://vhms.telangana.gov.in)

VHMS is one of the first pilot projects started in Telangana State and in India as well, for computerisation of main Veterinary hospital functions like OP Registration, Cases Treated and Drugs Utilised, Drug Inventory, Diagnostics, Billing and MIS Reporting to management for effective supervision over Hospital Services. Livestock farmers and Owners of Pet animals are the primary stakeholders its services being utilised for the welfare of around 30 lakh dairy farmers with the help of designated veterinary institutions.

E-LAABH (http://elaabh.telangana.gov.in)

eLaabh is Web based Benefit Management System for the welfare of Dairy Farmers and Fishermen for sanction and release of subsidy under various schemes offered by Government of Telangana in a highly objective and transparent manner. The dairy farmers and Fishermen need to register his/ her details as a one-time measure and then apply for various schemes as per their eligibility through this online system. The System generates Farmer Registration Number and Acknowledgement and same is sent through SMS to citizen. The applications received under various schemes through this system will be verified by the field level officers for their eligibility. Receipt of application will also be acknowledged through SMS to citizen. All the Eligible applications will be considered in a phased manner for sanction, as per budget availability and subsidy will be released to their bank accounts directly. As soon as subsidy is sanctioned, beneficiary will be intimated through SMS.

Online Web Counselling– (eCounselling)

An in-house e-Governance solution for online counselling of admissions to professional courses in the state based on its specific rules and workflow. During 2019-20 year, it has covered Engineering(EAMCET), Polytechnic Diplomas (POLYCET), B.Pharmacy/ Pharma-D (EAMCET), Diploma in Phar-

> Telangana State Government has adopted phase-wise implementation of the eOffice project. We have implemented the project in more than 70 HOD's/ 3 Secretariat Departments and 15 District Collectorates/ Police Commissionerates with 9000 users. The Government has constituted eOffice implementation team and the System Admin team for successful implementation across the State.
>
> Now, the State Government is planning to extend the e-Office facility to all the Secretariat Departments, Directorates and subsequently to all the Districts.

Jayesh Ranjan, IAS
Principal Secretary
Information Technology, Electronics & Communication Department
Government of Telangana

macy, Lateral Entry into B.E/ B.Tech (ECET) and MCA & MBA (ICET) disciplines, counseling of 3.5 Lakh students and 1.13Lakh admissions into 1200 colleges.

All India Forest Sports Meet - AIFSM

AIFSM portal facilitates capturing details of various activities in national level sports events or-

ganised by forest department like beginning from registration of participants to Awards Presentations. SMS alerts and OTP authentication on each action and display of Live Results on LED Screens at Stadium. 2469 participants from 43 Institutions in 285 sports events participated from Forest Departments across the country. Various Championship trophies are given on the basis of live data furnished by the software.

WaterSoft

The system facilitates monitoring of physical & financial progress of ongoing works, Funds accounting. It maintains the State level details of Habitations & Population, Habitations Coverage Status, Scheme wise Ongoing Works details. The Fund accounting module captures bills details.

PRAJAVANI (CPGRAMS)

The web application facilitates submission of grievances by the aggrieved citizens to any Department of Govt. of Telangana and generates acknowledgement with unique registration number. Applicant can track status of action on grievance any time, from anywhere. It has been rolled out in 33 districts, 301152 grievances received and 246029 redressed as of now. http://cpgrams.ts.nic.in/

Elections Software

NIC Telangana designed and developed Polling Personnel Management System under the guidance of CEO, Telangana and was implemented during 2018 TLSA and 2019 HoP General Elections. Using the system preparation of polling personnel database (Presiding Officers, Other Polling Officers and Micro Observers) to drafting election duties, generation of training orders, team formation and randomization of teams was done successfully.

Mission Bhagiratha - WebGIS Application

PWA application (MB-TAP) is developed to capture Geo location details and photographs of each OHSR and Household beneficiary tap connections under Mission Bhagiratha programme aimed to pro-

Hon'ble Minister Shri Eatala Rajender, Civil Supplies Commissioner Shri C.V. Anand along with others officials launching T-Ration mobile app at Civil Supplies Bhavan in Hyderabad

vide portable and safe drinking water to all households in Telangana.

Puramitra

An Integrated Service Delivery System for ULBs to facilitate Assessment, Calculation and online payment of property tax for all types of houses located in municipalities in Telangana state. The system is also integrated with Bill Collector Devices, Citizen Service Centres located in ULBs and Payment Gateway. Trade Licenses, Permissions, other taxes are in the process of integration.

Data Governance

Tools and platforms developed and deployed to help develop policies and measures on Data Governance. (1) DGMM is a self-checking tool to oversee the present practices followed in Data Management by various NIC units. (2) D4G is a digital platform deployed to facilitate quick adoption of DG principles and policies in various NIC projects. (3) SAKAL a digital platform facilitates description and sharing of context specific data in various sectors of e-Governance. (4) DRRI tool developed for use of NIC Data Centres to assess DR readiness for prevention of data losses. Best Practices on DG and eGov. services like roles, responsibilities and liabilities of users, NIC officers, other stakeholders have been prepared and shared among NIC project managers for easy adoption. (5) MDR application developed to facilitate registration of Metadata of Data elements of various entities, Master data, code directories used commonly within each sectoral domain and across the sectoral domains of governance for semantic consistency, seamless exchange and sharing of information or data. (6) DLMS platform developed to facilitate preservation, archiving of data, privileged access during its life cycle, where the data present in organisations are mostly in unstructured form. Capacity building and guidance programmes on Data Governance are being organised to various units of NIC on priority and need basis.

Unified Birth and Death Registration (UBD)

The application facilitates registration of Births & Deaths, corrections, name inclusions under the statutory provisions in Local Bodies of Telangana. Digitally signed registration records are used as legal documents for proof of age, identity, nationality, inheritance and civil status.

ECOSTAT

Web based solution for covering the activities of Agricultural, Industries, Rainfall and Prices statistics being collected by the Directorate of Economics and Statistics, Telangana State. Statistical Rain Fall Data available on the portal are being used by various departments. Integrated rainfall data from IMD, TS-DPS and DES are being captured from June'2017 onwards. Statistical Price is being collected at 68 centres across the Telangana. Crop Estimation Survey for Rabi and Kharif Seasons was completed. Index of Industrial Production (IIP) Value & Consumer Price Index (CPI) both rural and urban across Telangana is

Inauguration of TS Weather App by Hon'ble Minister Shri. E.Rajender

Hon'ble Minister Felicitating Shri K. Rajasekhar, DDG & SIO, NIC(TS)

RythuBandhu web page

being calculated monthly. Number of Industries participated are 244212.

HORTNET

Hortnet (https://hortnet.gov.in) ensures vertical and horizontal transparency in fund management as the beneficiary applies online, and is processed through a workflow based system and subsidy is released through DBT into the bank account of the beneficiary and also, integrated with PFMS portal for DBT. During the financial year 2019-20, 4972 no. of applications were filed, and 2912 no. of beneficiaries received subsidies to the tune of 1.51 Crores.

e-Hospital

Cloud-based application is a one-stop solution which helps in connecting patients, hospitals and doctors on a single digital platform. 33 Hospitals are on-boarded and nearly 25 lakh transactions have been done.

eOffice

File Management System(eFile) under eOffice Product Suite implemented in 70 departments and 19 districts. It automates the processing of files and receipts. This includes file creation, file movement in the workflow, tracking and its management.

AEBAS

145 Central Government Organisations and 130 State Government Departments have been on-boarded to AEBAS in the Telangana State.

ePrison

An online system covering the entire lifecycle of an inmate inside the prison is implemented in 3 Central Jails, 7 District Jails, 40 Special Sub Jails and 23 Sub Jails of the State.

SPARROW

SPARROW facilitates online submissions and tracking of Annual Performance Appraisal Reports (APARs) of IAS/ IPS/IFS / Defense officers and also enables filing of Annual Property Returns.

IVFRT

An online system for tracking of foreign visitor to India implemented at FRRO Hyderabad, FRO in Districts and Hyderabad Airport. NDAL-ALIS – Implemented in all districts to update and maintain centralised National Database for Arms License.

eProcurement

eProcurement facilitates the procurement process from tenders creation to award of contract. It has been implemented in 20 departments.

Awards and Accolades: NIC Telangana has won several State and Central Level e-Governance awards for its excellent applications developed and showcased.

- eIndia Certificate of Recognition Award 2014 - Electronic Public Distribution System - ePDS for the Department of Civil Supplies, Govt. of Telangana, at Kerala
- Digital Bharat Project of the Year Award 2015 ePDS: Food & Civil Supplies Department & NIC, at Digital Bharat Summit
- E-lets Knowledge Exchange project Award 2015-2015 National Food Security Cards Telangana at Goa
- Govt. of Telangana eGovernance Excellence Digital India Award 2015, National Food Security Cards Telangana Govt. of Telangana, at Hyderabad
- Skoch Gold & Skoch Order of Merit 2016 Rastriya Bala Swasthya Karyakramam, at Hyderabad
- Skoch Gold award 2016 2016 NIC electronic Point of Scale (ePoS) for Telangana Food Security Cards Skoch Conference, at Hyderabad
- Skoch Platinum Award 2016 Land Regularisation Management System (Sadabinamee) Hyderabad
- Skoch Platinum Award 2016 MaaBhoomi (public portal for Land Records Information) Skoch Conference, at Hyderabad
- Skoch Order of Merit Award 2016 Issue of Loan Eligibility Cards. at Hyderabad
- Skoch Platinum Award 2018 RythuBandhu (Agriculture Investment Support Scheme), at New Delhi
- eINDIA 13th Digital Transformation Award 2018 Initiatives for Farmers Welfare Rythu Bandhu, RythuBima and Online Subsidy Seed Distribution, at New Delhi
- Digital India Awards – Web Ratna Gold 2018 WebRatna award 2018 for S3waaS compliance district website Mahabubnagar, at New Delhi
- SKOCH Gold Award (Governance/ eGovernance) RythuBima and OSSDS 2019 Governance/eGovernance Awards, at New Delhi
- CSI SIG eGov "Award of Excellence" for JEEVANDAN 2020 eGovernance Awards – Project State Category - JEEVANDAN (Cadaver Organ Transplantation programme) to Health, Medical and Family Welfare Department, Govt of Telangana and NIC Hyderabad, at CSI Annual Convention 2020, Bhubaneswar

Summary

NIC State Centre, Telangana has been instrumental in providing assistance and technical expertise aimed towards making the lives of the citizens easier by improving access to various eGovernance schemes. With its dedicated man-power at District Informatics Centres, State Centre and other Sub centres, NIC Telangana stands committed to leave a lasting impact in e-Governance arena in the State.

Shri C. Laxma Reddy, the then Hon'ble Minister for Health, Medical & Family Welfare, Govt. of Telangana (2nd from Left) launching ODLS application

Anantnag District

The Land of countless springs of Jammu & Kashmir showcases its marvellous use of ICT for the citizen services

Edited by **SARBJEET SINGH**

Since its inception in 1989, NIC Anantnag has played a pivotal role in implementation of various ICT Projects in the district. Many G2C and G2E services like Back-to-Village, PSGA, SANJY, PGRS, ERMS/ ERONET, NSP, GeM, PMDISHA, PMKMY, Ayushman Bharat, e-Tendering, e-PDS, PMKISAN, Vahan & Sarathi, e-Court, e-Prison, DM Dashboard has made the lives of common people easier and has helped the district administration to carry out the monitoring and development tasks in a smooth manner.

The name Anantnag, according to Kalhana, has been taken from the great spring of Cesha or Ananta Naga "land of countless springs". The spring is mentioned in the Neelmat Purana as a sacred place for the Hindus and Koshur Encyclopedia testifies it. Anantnag District is in southern part of Kashmir Valley. As per census 2011, the population of the district is 10.71 lacs. The district comprises of 4 sub-divisions, 12 tehsils, 16 blocks and 387 villages. Anantnag has largest number of tourist places in whole of Jammu & Kashmir. World famous tourist place Pahalgam lies in district Anantnag. Kolie Glacier and some famous Mughal Gardens like Achabal, Kokernag, Verinag, Daksum etc are also located in the district. Some important religious places like Amarnath Ji Cave, Ziarat Hazrat Zain-ud-Din Wali, Ziarat Baba Hyder Reshi, Baba Naseeb Din Gazi, Martand Temple, Nagdandi Temple, Bumzoo caves and Chapped of John Bishop are also located in the district.

National & State Level MMPs in the District

NIC Anantnag has been successfully carrying out all the major MMPs of national and state level, which include e-Treasuries, Online Budget (BEAMS), e-PDS, VAHAN, SARATHI, e-Courts etc. A brief description is given below:

E-tendering (https://jktenders.gov.in)

NIC has implemented this online solution to conduct all stages of procurement process.

BEAMS (Budget Estimation, Allocation & Monitoring System) (http://164.100.150.230)

BEAMS is being used to release the budget for all the departments. Revised Estimates and Budget Estimates All DDOs trained.

TreasuryNET (http://jakfinance.nic.in)

A Mission Mode Project which has been rolled out so far in treasuries and Directorate Offices. PAO System introduced in 2017. Due to remote locations of many treasuries, last mile connectivity provided from BSNL 2Mbps Leased line / VSATs.

E-Transport (http://jaktrans.nic.in)

Online SARATHI 4.0 and VAHAN 4.0 having services related to license and vehicle registration namely Online application, slot booking for driving test, digital payment of fee & online learner license test, e-payment of Road tax, Online application for fitness of Vehicle and Dealer Point Registration implemented.

e-Courts (http://jkhighcourt.nic.in; http://ecourts. gov.in/jk)

Implemented in district court and all Taluka Courts updating their data of cases, judgments and daily orders on the National Judicial Data Grid (NJDG) now. 31 of the identified 41 services have been initiated. Backlog data of cases digitized.

e-PDS (http://jkfcsca.gov.in)

Under the computerization of Food & Supplies department, Lakh Ration Cards issued. Online Allocation of Food Grains started on Pilot basis. State Portal and Online Grievance Redressal Mechanism operational.

e-Municipalities (http://jkhudd.giv.in)

Birth & Death Registration Urban, Processing &

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> **NIC District Centre, Anantnag has played a pivotal role in implementation of various schemes and projects like Back-to-Village, PMKISAN, e-PDS, DM Dashboard, ERMS/ERONET and many others. The NIC has been rendering exemplary services during the conduct of Parliamentary, Assembly, Panchayat and Local Body Elections. The District Administration is thankful to the NIC for providing round the clock internet facilities to students, job aspirants, NEET/NET applicants, passport seekers, IT/GST return filers, e-tenderers etc. during the period the facilities were otherwise not available. A record number of students have been registered on NSP portal with the active IT support of the NIC. I hope that NIC will continue to provide ICT services to the government and the public of the district.**

Bashir Ahmad Dar, KAS
Collector & District Magistrate
Anantnag District

issuance of Building Permissions, Double Entry Accounting System, Establishment System and Public Grievances Monitoring and Redressal System implemented in local bodies.

ICT Initiatives in the District:

MIS for Back to Village Programme:

Back to Village (B2V) is a landmark and transformative programme of Government of Jammu & Kashmir conceived with an objective of bringing people to the centre stage of governance, ensuring their participation in the developmental process and putting in place an effective grievance redressal mechanism right from the identification of work till its completion. NIC Anantnag designed and developed a MIS for smooth monitoring, analysis and implementation of the works and demands received during the back to village programmes. At present 5732 demands of public have been entered into the system. The MIS provides the following features:-

- Data entry and assigning of unique codes to demands.
- Categorization of demands at data entry level.
- Monitoring of works and demands at District/ Block Panchayat/ Village/ Departmental level through a series of Dashboards.
- Enable citizens to check the progress/status of their demands.

Portal for Service Providers for conduct of Shri AmarNath Ji Yatra

In order to help the district administration to handle large number of applications and to facilitate the general public, NIC Anantnag has designed and developed 'SANJY' portal with the following features:-

- Online submission of application forms by intending service providers.
- Generation of acknowledgement slips after submission of application form.
- Processing by way of categorization of application forms based on location and type of service.
- Validation of data.
- Management and selection of service providers by way of online randomization of application forms.

Inauguration of "Back-to-Village" Portal by DDC, Anantnag

- Report and permission letter generation.

Public Services Guarantee Act (PSGA) Portal

PSGA is an Act to provide/deliver Public Services to the people within the specified time limit.

NIC Anantnag has designed and developed 'SUHULIYAT' a web portal for citizen to apply online for availing various services like SRO-43, Legal Heir, Dependency and Income Certificate. The salient features of the system are:

- Online submission of application forms by the citizens.
- Processing and monitoring of the application forms to ensure delivery of services in a time bound manner.
- Checking of status of applications by the citizens.

e-Token for crowd Management

After the abrogation of article 370, all the internet related services were restricted in J&K including district Anantnag. NIC was asked by the Jammu and Kashmir Government to provide Internet services to government departments as well as general public. Huge crowds visited NIC district Centre as well as the Internet Kiosks setup by NIC on daily basis for availing internet facilities. An intranet based token generation system 'e-Token' was designed and developed by NIC Anantnag to manage the queue at internet kiosk centers Anantnag. This e-Token system not

only helped the operators working at internet kiosk center to deliver internet services efficiently but also the citizens who visited internet kiosk centers.

District Web Site

The Anantnag district website has been redesigned by implementing the Secure, Scalable and Sugamya Website as a Service (S3WAAS) platform. The platform ensures compliance with the guidelines for Indian Government Websites (GIGW). By revamping the design of the portal using S3WAAS, citizens can access the website through different digital devices with easy search content facility.

Other ICT Initiatives

Establishment and Management of Internet Kiosks post abrogation of Article 370 period

Due to internet blockade in J&K post 5th August 2019, NIC, Anantnag rose to the occasion and established two internet kiosks comprising of 50 nodes. Up to ending February, 2020 more than 1.50 lac people used the facilities established by NIC. The services include submission of application forms for various exams like NEET, GATE, SSC-JE, Railways, IGNOU, CSIR NET, UGC NET, JNV schools, MCI Forms, Air Force Admit cards, Results of various exams, e-mail access, Air Ticket, Passport applications, Scholarship forms, income tax returns, GST returns, PMKISAN ap-
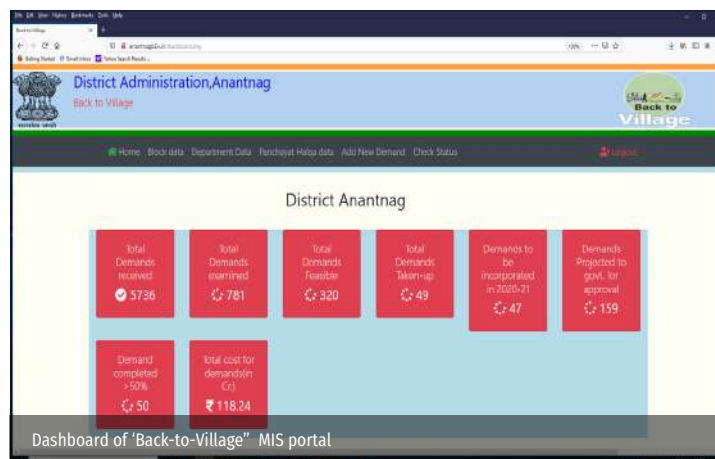
Dashboard of 'Back-to-Village' MIS portal
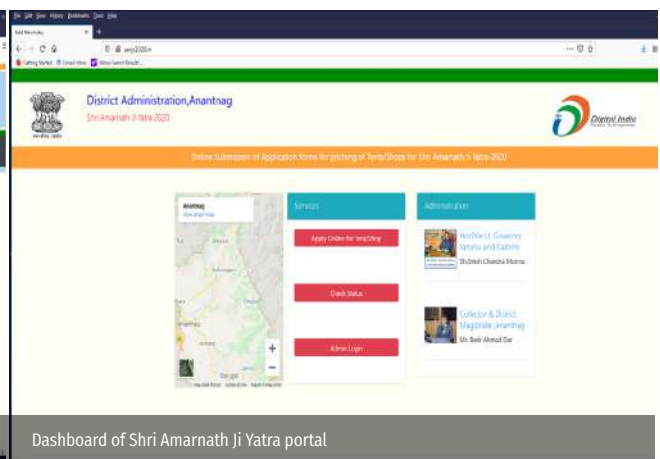
Dashboard of Shri Amarnath Ji Yatra portal

plication uploading and internet facilities to all government departments. The facilities were open for 18-24 hours a day.

Implementation of Pre and Post Matric Scholarship scheme through National Scholarship Portal:

Due to restrictions on internet access in Jammu & Kashmir, NIC has provided 24x7 internet access to student community and against last year figure of 26,000 a record number of 1,13,459 students of Anantnag district have registered themselves on the NSP portal which is highest in union territory of Jammu & Kashmir.

IT support for conducting Lok Sabha/Assembly/Panchayat/BDC Elections.

NIC Anantnag provided extensive support at different times for this challenging task. In addition to Electoral Rolls, which are available in Urdu, English & Hindi and are regularly updated and published on the official website (http://ceojammukashmir.nic.in), IT support has been provided for other vital activities like making available candidate information, affidavit hosting, randomization of polling paryies and EVMs, Communication Plan, Video conferencing etc. Various web based IT applications like eSuvidha, c-Vigil, BLONET etc. have been implemented successfully. Besides NIC Anantnag has developed and implemented a web based system for data entry and randomization of staff for conduct of Block Development Council Elections-2019.

Implementation of PM KISAN Samman Nidhi Programme

Hon'ble Prime Ministers PMKISAN programme has been successfully implemented in the district. The farmers of the district have been paid three installments of Rs. 2000 each under the programme. The programme has been implemented through the web portal https://pmkisan.nic.in portal. Sofar data of 87,836 farmers has been uploaded and validated and out of the data uploaded, financial assistance to 72,625 farmers have been paid through the portal.

"Go Cashless Pay Digital Programme" in District Anantnag:

Roadshow at Village Manzigam regarding Digital India awareness week

DIO, NIC, Anantnag Shri. Jan Mubarik Ahmad receiving award of appreciation during Republic Day function of 2020

- Under the programme a number of awareness programmes have been conducted in the district.
- NIC is the leading department in organizing of such programmes in the district.
- Emphasis has been given to organize such programmes in Rural Areas.
- With this objective three villages namely Manzigam, Singhpora and Sallar Batpora of the district has been chosen to make these villages cashless.
- In the first instance in village Manzigam a series of awareness programmes has been conducted.
- One member from each family (211 families) trained to make digital payments using different modes.
- 11 local merchants have also been trained.
- DIO being the Nodal Officers of the district to carry Aadhaar activities, with the help of Special Aadhaar campaign in the area 96% of the people have been provided Aadhaar cards.
- Out of total population of 1455 about 1440 people have bank accounts.
- Efforts are on to declare the village as 2nd Cashless Village in J&K.

Other Key Initiatives in the District/ Innovations Applied

IT Services for smooth implementation of e-PDS, e-Prison, e-Court, Jal Jeevan Mission, NADRS, e-Hospital, e-Municipality, Central Personnel Information System (CPIS), Aadhaar based Skill Profiling of daily wagers/ casual labours etc., Grievance Monitoring System, Video conferencing facilities through 4 VC Rooms, PMDISHA, Digital India projects have been provided by NIC Anantnag.

Awards and Accolades

DIO and Scientist "E", NIC Anantnag Mr. Jan Mubarik Ahmed received award of appreciation during the Republic Day function of 2020 from Chief Guest (District Development Commissioner) in presence of DIG, South Kashmir, DIG CRPF, Brigadier 1-RR and SSP Anantnag. The award has been conferred as a marks of recognition of IT/meritorious services rendered by the NIC Anantnag especially the work done by NIC Anantnag for design and development of MIS for monitoring of Back-to-Village Programme in the district and 24x7 services provided by NIC the internet blockade since 5th of August 2019.

Summary

In order to realise the dream of 'Digital India', NIC Anantnag is well prepared and continues to provide all technical support to the district administration. A number of IT based projects have been launched during the past few months, and in near future, it is envisaged to launch of an e-Market portal of district Anantnag. Famous products of Anantnag such as willow cricket bats, handicrafts, trout fish, apples etc. shall be marketed through the e-market portal. Various training and capacity building programmes have been held for all stake holders for smooth roll out of the product. The Back-to-Village Portal developed by NIC Anantnag is proposed to be implemented in other districts of J&K in the near future. The dedication and zeal towards achieving excellence in the area of ICT have made NIC Anantnag a household name in the district.

West Godavari District
ICT initiatives at its best at the Rice Bowl of Andhra Pradesh

Edited by **REUBAN K**

NIC, West Godavari is playing a key role in extending technical expertise to District Administration in ICT initiatives. NIC, West Godavari is the first District in Andhra Pradesh, to implement e-office in all the Government Departments upto Tahsil level. NIC is playing major role in conducting recruitments, implementing various State and Central projects and also in development of in-house software as per the requirements of the District Administration.

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West Godavari District or Paschima Godavari Zilla (as it is called in Telugu) is one of the 13 Districts of Andhra Pradesh. The District is situated in Coastal Andhra region of the State. Eluru is the Administrative Headquarters of the District. As of 2011 Census of India, it has an area of 7,742 sq. km.) and a population of 39,36,966. It is bounded by Krishna District on the West, East Godavari District on the East, Bay of Bengal on the South and the State of Telangana on the North.

ICT Initiatives in the District

PMAY Urban Housing allotment System

NIC, West Godavari was instrumental in developing the website of urban house scheme of "Housing for all". All the beneficiaries' details have been de-duplicated with the AADHAAR and Ration Card. Beneficiary data has been verified with the House Tax data and also whether any family members are already having a house or already applied for this scheme. De-duplication had been done for all the municipality beneficiaries' data. After de-duplication flat allotment process was done based on the condition of Physically Handicapped (PH) and age criteria. PH and above 60 years are allotted for Ground Floor and similar age condition applied for other floors allotments. Allotment letters generation and abstract statements are prepared. The same software has been replicated in all the Districts in the State of Andhra Pradesh through APTIDCO. An Admin Module was provided to the Managing Director, APTIDCO with a provision of Beneficiary details editing, deletion and dropping of Beneficiary from One Category to another category. MIS Reports were also provided.

AMMAVODI

"Jagananna Amma Vodi" Scheme is one of the welfare schemes among the nine schemes of State Government called as "Navratanalu". An android application has been developed for the people of West Godavari district to know their status of Amma Vodi Benefits, whether the amount has been credited to their bank account or not. They can know their bank details, amount credited, children details, etc. If the mother is ineligible for the benefit, they can find out the reasons for ineligibility.

YSRRBWG (YSR RYTHU BHAROSA)

An android application has been developed for the benefit of Farmers of the District to know whether their Rythu Bharosa benefit has been credited to their bank account or not. Farmers can know their status of benefit by using their AADHAAR number or mandal, village and khata number. If the farmer is eligible, the farmer can get amount credited to his/her bank account. They can know the bank details,

amount credited, etc. If a farmer is ineligible, he/she can find the reason/s of rejection.

Employee Grievance System

West Godavari District Collector (DC) has established a grievance system for the employees working in the various Government Departments for solving their grievances with a grievance cell at District Collectorate on 3rd Friday of every month. A web-based application of Employee Grievance Monitoring has been developed and implemented.

The employee can come to the grievance cell and register their grievance. After successful registration, a confirmation receipt with grievance ID for future reference will be given to the employee for submitting it to the District administration in Employee Grievance programme which is conducted every third Friday of the month. The DC after writing his remarks on that complaint sends it to the concerned officer for taking necessary action on that receipt submitted by the employee. The grievance will be forwarded to the concerned officer login by the grievance cell at District Collectorate, based on the DC remarks. The concerned officer will get the

"NIC West Godavari District Centre is doing a commendable job for the District Administration. NIC West Godavari District Centre is providing ICT support and services to various departments of the State Government as well as to the Central Government Departments and the District Administration. This endeavor has made West Godavari one of the heading Districts in the State in terms of IT-enabled service delivery to its citizens. NIC West Godavari developed various projects and and successfully implemented many ICT projects."

Mutyala Raju Revu, IAS
Collector & District Magistrate
West Godavari District

grievance in their login and takes necessary action against the grievance. The DC monitors the status of the grievances regularly.

Special Officer Field Visit System

The District Administration has decided to conduct field visits to all the district offices, Primary health care centre's, Veterinary Hospitals, Anganwadi Centre, Schools, Hostels, etc., To achieve complete coverage, the District Collector has appointed 48 officers as Special Officers for 48 Tahsils for conducting field visits to the entire District. The Special Officer will conduct surprise field visit to any of the Offices/ Primary Health Centres/ Veterinary Hospitals/ Anganwadi Centres/ Schools/ Hostels in their allotted Mandal. The Special Officer will inspect and submit field visit report to the DC. The DC will mark his remarks and will send it to the concerned officer for taking necessary action on the inspection report submitted by the Special Officer. Based on the remarks of the DC, the field visit report will be sent to the concerned officer login to take action. The Concerned officer will take action on the field visit report received in their login and will take the necessary action by getting approval for work grants and expenditure grants by the higher authorities and submit action report to the District Administration with filed visit photos, action taken report etc. Since the district has a lot of Government Offices, Hostels, Schools, PHCs, etc., the concerned officer may take long time to process or to take action. During this process, the Special Officer who visited the place is responsible for follow-up on the issue and to make the concerned officer take action on the issues found by the officer. The DC will monitor the field visits status on weekly basis by providing grading to the 48 special officers based on their field visits done, redressal of Spandana Petitions, getting works grants approval and expenditure approvals.

Software for Citizen Call Centre

The District Collector has established a Call Centre for resolving citizen grievances through a

Ammavodi App being launched by Minister of Transport and I&PR of Government of Andhra Pradesh

Toll-Free number, 18002331077. Citizens can call at this number and can register their grievance. During the grievance registration, the citizen has to provide certain basic data such as Name, Address, Mobile number and nature of the grievance. Based on the nature the grievance, it is forwarded to the concerned officer login by the Call Centre operator. After successful registration, a confirmation SMS with grievance ID for future reference is sent to the citizen's mobile number with concerned officer details and citizen details are sent to the officer's mobile number. The concerned officer gets the grievance in his/ her login and take necessary action on the grievance. The District Collector monitors the grievances status on regular basis.

Recruitment of Grama Sachivalayam Posts

NIC has extended complete technical support for recruitment of various posts in Grama/ Ward Sachivalayam. A software for randomisation of Invigilators, Supervisors and Chief Superintendents for examination centres, and for MIS Reports of attendance and other monitoring reports, category cut-off marks, etc., using their hall ticket number has been developed and successfully implemented.

Polling Personnel Randomization

NIC has extended technical support in conducting HOP/ APLA Elections-2019. Polling party randomization, Micro observers' allotment and Polling Stations allotment to the polling parties, EVM randomization, etc., have been carried out successfully. NIC, West Godavari has extended technical support to various software provided by ECI.

Other Key Initiatives

e-Office implementation

NIC was instrumental in implementing the e-office software in 98 Departments and 1200 Offices. Till now, around 17,84,299 files (current and migrated) were digitalized in e-Office and 16,97,775 Receipts were created.

Important Events organized

Various State Level functions were held in West Godavari District as well as the visits of Hon'ble Chief Minister of Andhra Pradesh for setting up of IT/ Media control room at NIC, West Godavari.

Accolades

- West Godavari was awarded as one of the best performing Districts under 'DigitalIndia' by Shri Ravi Shankar Prasad, Hon'ble Minister for Communications, E&IT and Law & Justice
- Shri GVSR Sarma, DIO, NIC, West Godavari was awarded by the District Collector on Republic Day and Independence Day for the outstanding services in the IT Sector.

Way Forward

NIC, West Godavari is committed to provide efficient and total ICT support to the District Administration and field level offices of the State and Central Governments in the District. eOffice is being extended to village level of State Government departments.

Rythu Bharosa App being launched by Shri. Mutyala Raju, District Collector, West Godavari

Jodhpur District
ICT Shines Over The Sun City

Edited by **SARBJEET SINGH**

Jodhpur, the Sun City is the second-largest city in India and officially the second metropolitan city of the state. Jodhpur is a popular tourist destination, featuring many palaces, forts and temples, set in the stark landscape of the Thar Desert. It is popularly known as Blue City and Sun City among people of Rajasthan and all over India. Jodhpur is the judicial capital of Rajasthan. NIC Jodhpur District Centre has been serving as a platform to promote ICT initiatives, thereby fostering the facilitation of technology-driven solutions to citizens.

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Jodhpur in Rajasthan is also known as the Blue City, an apt name as most houses in the old city are shades of blue belonging to the Pushkarna brahmins. Jodhpur is the gateway to the fascinating land of sand dunes and shrubs, rocky terrain and thorny trees. Set on the eastern fringe of the Thar Desert, the royal city echoes with tales of antiquity in the emptiness of the desert. Once the capital of the Marwar state, it was the home of the 'Ran Banka Rathores'. Many places of tourist interest such as Umaid Bhawan Palace, Mehrangarh, Jaswant Thada, Mandore Gardens entice the visitor. The word 'Jodhpurs' owes its etymology to the riding breeches, cut at the hips and tight fitting from knee to ankle, usually worn while riding horses or playing polo. The hustle and bustle, closed knit culture, temples and havelis, vibrant traditions, polite hospitality, spices and fabrics, color and texture, a booming handicrafts industry, all add up to make Jodhpur a wonderful sojourn. Jodhpur is also shopper's paradise. The tie & dye textiles, embroidered leather shoes, half kilo quilt, lacquer-ware, antiques, carpets and puppets are worth bargaining

NIC District Centre Jodhpur

Since the setting up of NIC District Centre Jodhpur in 1988, it is playing a vital role to promote ICT culture in the District. It supports the District administration, Rajasthan High Court, District Court and other Government departments on a regular basis for better planning and decision related to ICT support. It has developed and implemented many e-Governance projects. NIC Centre is functional in an independent building since 13th April 1996.

ICT Initiatives in the District

Jodhpur Development Authority Computerization (e-Nagar)

Jodhpur Development Authority was established with a view of planned, holistic and inclusive development of Jodhpur, which is fast emerging as a metropolitan city; to create basic infrastructure to meet the needs of the ever-increasing population and for the required expansion of the city. Jodhpur has 395 villages and 4360 Sq. Kms. of area under its jurisdiction.

The following IT services have been implemented by NIC Jodhpur under JDA computerization project in stipulated time manner.

- Web portal for JDA
- Infrastructure Development
- Office Automation

NIC cell is established for in-house development in the premises of Jodhpur Development Authority and having following facilities with all technical infrastructures.

Significant Facilities and Services

Office Automation Software

➡ Accounting System ➡ Citizen Care Centre ➡ Lottery System ➡ File Tracking System ➡ Digitization of Old Record ➡ Letters Monitoring System ➡ Scheme Management System ➡ Project Management System ➡ Lease Management ➡ Land Bank etc.

Online Services

➡ Building Permission ➡ Name Transfer ➡ Sale Permission ➡ Lease Payment ➡ Lease Ledger ➡ Land Bank ➡ Property Register ➡ Map – Layout Plan ➡ Mukhya Mantri Jan Awas Yojna ➡ No Objection Certificate

Municipal Corporation Jodhpur Computerization (e-Nagar)

Application developed for JDA Jodhpur includes Double Entry Accounting System, Budget Preparation, Work Order Form for Contractors, Contractors Bill, FVC Bills, A & F Generation, Various MIS Reports, Expenditure Report. **PriPayManager Bill:** Salary, DA, Salary Arrear, Surrender, Bonus. PayManager Bill: GPF, Gratuity, Pehchan Portal (Birth/ Death/ Marriage Registration).

NIC cell has been established for in house development activities at the premises of Municipal Corporation, Jodhpur.

Election Management System(EMS)

This is a web-based application in Open Source (PHP & MySQL) developed and implemented in all the constituencies of Rajasthan. The services include formation of Polling & Counting Party, Sector Officer, Micro Observers. The system has been approved by Chief Electoral Officer, Election Department and Secretary of Rajasthan State Election Commission for implementation in the State.

e-Swikriti portal was launched by shri Ravi Shankar Prasad, Hon'ble Minister for Law & Justice, Communications and Electronics & Information Technology

Election Duty (Android App for Deployment of Personnel)

This new app is to facilitate quick delivery of "Election Duty Orders" to the staff appointed for "Election Duty". The app also facilitates the staff by providing the complete information on Training Schedules, Duty Location etc. Data was made available in "App" just after approval of District Election Officer (Collector) / Central Election Observer as per the prescribed time line of Election Commission of India.

Telephone Directory App (Gov-Doorbhash)

NIC Jodhpur has developed an Android App to provide Telepone Directory information to all government officials in the district. The App was launched by Shri Ashok Gehlot, Hon'ble Chief Minister of Rajasthan. He has appreciated NIC's efforts and suggested to implement it in the whole State.

Cashless Collection System

- brings in transparency and improved efficiency of transactions and accounts. System is currently running on JDA single window. e-Challan generated at Single window.

Court Case Management System

- monitors all type of court cases. It generates a list of pending cases till particular date and other MIS reports.
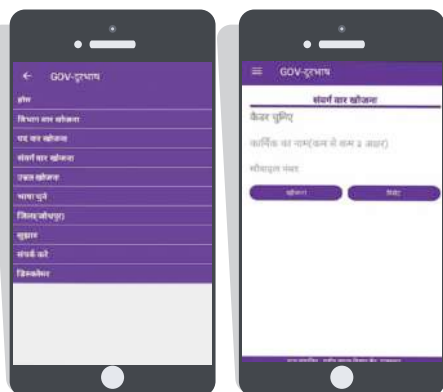
▲ Gov-Doorbhash App

▲ Election Duty App

Hon'ble Chief Minister, Shri Ashok Gehlot inaugurating the Doorbhash App

SIM(Mobile Phone) Management System

- application maintains details of all issued JDA CUG mobile SIMS. This helps in keeping track of free and allotted SIMS for payment of bills.

Important Dak Management System

- web based system, designed with an objective of facilitating tracking of important letters and documents within a government department as well as between departments.

Digital India Land Record Modernization Project (DILRMP)

(e-Dharti) is a project to segregate owner's detail which has been implemented in 15 Tehsils.

ePanjiyan

- system to Register Documents for Stamps & Registration office has been implemented in Tehsils and District HQ. 8 Mbps NICNET connectivity has been maintained.

Old Age Pension

NSAP (National Social Assistance Programme) has been implemented at Treasury Rural & all sub Treasuries.

Panchayat Enterprise Suite

- implemented in Zila Parishad - Priya Soft, Plan Plus and GPDP (Gram Panchayat Development Plan). Local Government Directory (LGD) has been updated.

Following state-level projects are also supported by NIC Jodhpur

- Integrated Financial Management System (IFMS) – RajKosh, PayManager, eGRAS, Budget, Social Security Pensions
- Civil Pensions
- Pehchan – Birth, Death and Marriage Registrations
- e-Procurement
- eTransport - Vahan and Sarathi
- Pregnancy & Child Tracking System
- Shala Darpan
- eGram – A Reality Check on government services
- Social Security Pension
- Jeevan Pramaan
- IVFRT-FRO
- Indian Citizenship
- National Database of Arms License(NDAL)
- e-Courts
- SPPP transparency Portal
- National Knowledge Network (NKN) connectivity to 13 Institutes

Training

Special emphasis has been laid on capacity building of the human resources for improving their efficiency to use the ICT tools and technologies. For this, training programmes have been conducted from time to time. Training imparted to employees of different government departments covers the basic computer concepts and also the latest ICT tools. It has proved to be beneficial in executing many ICT activities and projects in the district.

Awards & Accolades

- DIO was awarded by Chief Electoral Officer Rajasthan on 9th National Voter Day – 2019 for the outstanding performance in implementation of EMS in State.
- DIO and ADIO awarded by District and Police Administration for ICT initiatives.

Niyukti

A one stop recruitment solution for the Government of Assam offered as a service

Edited by **Dr. DIBAKAR RAY**

Since its inception in the year 2017, Niyukti has quickly evolved as a widely used recruitment solution in Assam Government. Its USP lies in the fact that it is offered as a service to the recruiting agencies, thereby allowing them to quickly onboard with a recruitment process in no time. Already 16 recruitments have been successfully conducted so far and the number is ever increasing.

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The genesis of Niyukti goes back to the year 2017 when the Office of the Deputy Commissioner, Darrang decided to conduct recruitment for few posts of Junior Assistant. To avoid tedious process of recruiting offline, Darrang District Administration decided to accept applications online and NIC Darrang was requested to provide a solution. Accordingly, a web-based recruitment system was developed by NIC Darrang for Darrang district administration and the whole recruitment process was conducted successfully. Immediately after that, requests for similar recruitment system came from Assam Information Commission and Deputy Commissioner, Jorhat as they were planning to recruit for multiple posts. The recruitment system developed for Darrang District was successfully used for these two recruitments too. Subsequently, when a common recruitment platform for the entire state was envisaged to cater to the growing need of recruitment solution for various quarters in the government, the application developed at Darrang District was adopted for use across the State and necessary work for extending and scaling up the application was taken up. The portal got named as "Niyukti" the Assamese synonym for the word recruitment and is currently available at https://niyukti.assam.gov.in.

Introduction

As on date, Niyukti is serving as a complete recruitment solution offered as a service to various recruiting agencies of the Government of Assam. The project has reached a high efficiency as well as maturity level after being used by as many as thirteen different institutions among which the state's Secretariat Administration Department, Assam Information Commission, Majuli District Administration, Sonitpur District Administration, Biswanath District Administration, Office of the Commissioner Upper Assam Division, Barpeta District Administration are to name a few. The usage statistics of Niyukti over time depicts how the system has evolved as a solution within a short span of time.

Technical overview

Niyukti is a web-application developed using the open-source technology stack and works as a multi-tenant application with single instance of the web-application and multiple instance of the databases. Each recruiter gets his own instance of database. The technical specifications are mentioned below.

Web Server: Apache
RDBMS: MySQL (MariaDB, Postgres compatible)
Languages & Technology: PHP, Javascript, CSS
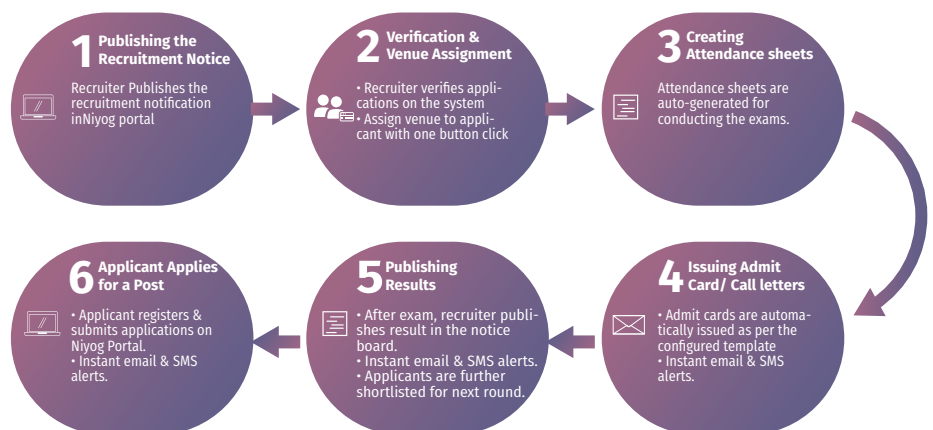**Framework:** CodeIgniter, JQuery, Bootstrap
Design Pattern: Model-view-Controller (MVC)
The application is currently hosted in NIC Assam mini cloud on Linux virtual machines.

Salient features

- Niyukti offers the recruitment **solution as a service**. A recruiting agency can come onboard as a recruiter in the Niyukti portal and can immediately initiate their recruitment process with minimum amount of application level configurations.

▼ Figure 1: Niyukti Process Workflow

1 Publishing the Recruitment Notice
Recruiter Publishes the recruitment notification in Niyog portal

2 Verification & Venue Assignment
• Recruiter verifies applications on the system
• Assign venue to applicant with one button click

3 Creating Attendance sheets
Attendance sheets are auto-generated for conducting the exams.

6 Applicant Applies for a Post
• Applicant registers & submits applications on Niyog Portal.
• Instant email & SMS alerts.

5 Publishing Results
• After exam, recruiter publishes result in the notice board.
• Instant email & SMS alerts.
• Applicants are further shortlisted for next round.

4 Issuing Admit Card/ Call letters
• Admit cards are automatically issued as per the configured template
• Instant email & SMS alerts.

Figure 2: Growing usage of Niyukti

recruitment can go live within a minimum time frame.

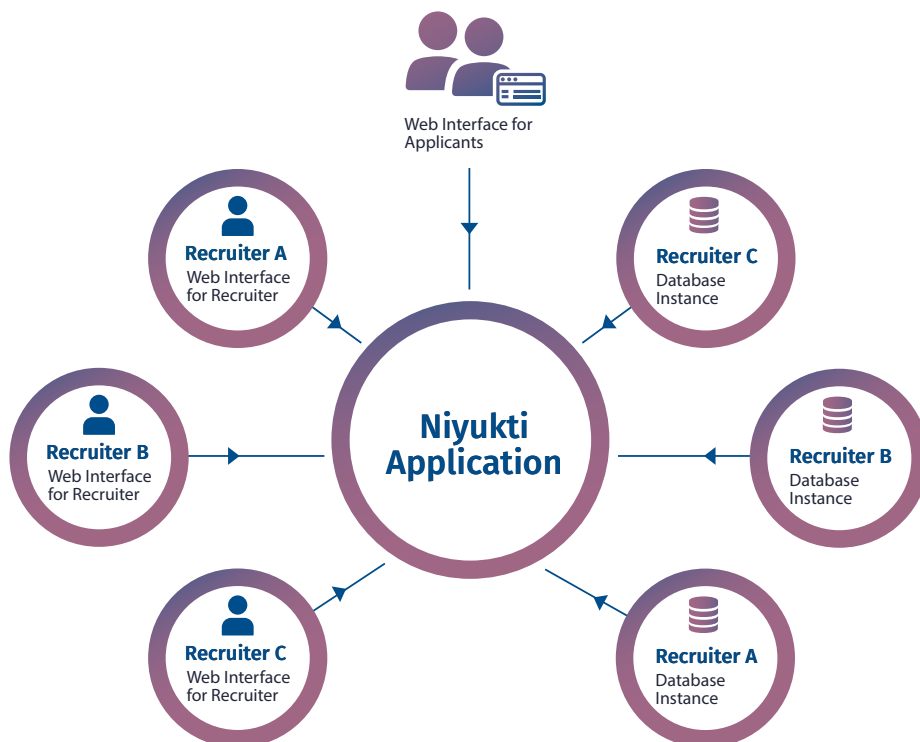- Once on-boarded, every department gets its own dedicated home page for publishing information specific to their recruitment and an authorised dashboard with real-time information about their on-going recruitment.

- All the major processes like setting up of application receiving window, exam venue/ hall assignment, issuing of admit card and call letters, publishing of results etc. are available at the login of the recruiter.

- As majority of users these days prefer to apply from their mobile phones, the system is designed as a complete responsive web application and can be used seamlessly from mobile devices.

- The user interface for the applicants is kept quite simple and intuitive so that user with any level of competency can use it with ease.

- The tedious job of exam/interview venue assignment to verified applicants is just reduced to one single button click thereby making the life of a recruiter lot easier.

- Readily available integration with SMS and email gateways makes the job of notifying the applicants easier.

- Integration with payment gateway enables the recruiter to collect the necessary application fees online.

Therefore, need of owning a product or website to conduct a recruitment is not necessary.

- The application has no hard coded values so any recruiter can go on-board without any code level changes.

- As it is a single instance multi-tenant solution which is already security audited and hosted, any

"

Niyukti, Online Recruitment System developed by National Informatics Centre, Assam to automate the process of recruitment has made the entire process very convenient for the Government as well as for the applicants. Applicants can apply from anywhere anytime making it a very cost effective and convenient solution. The Secretariat Administration Department has adopted the system for its recruitment process. Niyukti is being adopted by several districts for their recruitment. We will recommend other departments also to use Niyukti in their recruitments. I wish all the success to the project.

"

Dr. M. Angamuthu, IAS
Commissioner and Secretary
Government of Assam

Future Scope

Niyukti is already serving as a unified job board for the entire state of Assam, a common meeting point for both Government recruiters as well as for the job seekers. However, Niyukti aspires to be a unique platform crossing the barriers of a traditional recruitment system and not just remain a mere web application for receiving applications from job seekers. The development work is already underway for features like progressive web interface, applicant profiling, job alerts as push notification for applicants, multiple simultaneous recruitment processes for same organisation. More advanced features like user profile screening using analytics, applicant usage mining, etc., may enable the portal to bridge the gap between applicant and recruiter thereby allowing the right candidate to find the right job or vice versa.

Figure 3: The multi-tenant architecture of Niyukti

Administrative Command & Control System

Gujarat CM Dashboard

Enabling government machinery for strengthening good governance

I am happy to see the wide interest evoked nationally by this system of ours, a product which has evolved due to the hard work and diligent efforts put in by the team in CMO ably supported by NIC with its technical capabilities. Such a tool goes a long way in efficient, transparent and responsive administrative interventions in improving the lives of our citizens.

Shri Vijay Rupani
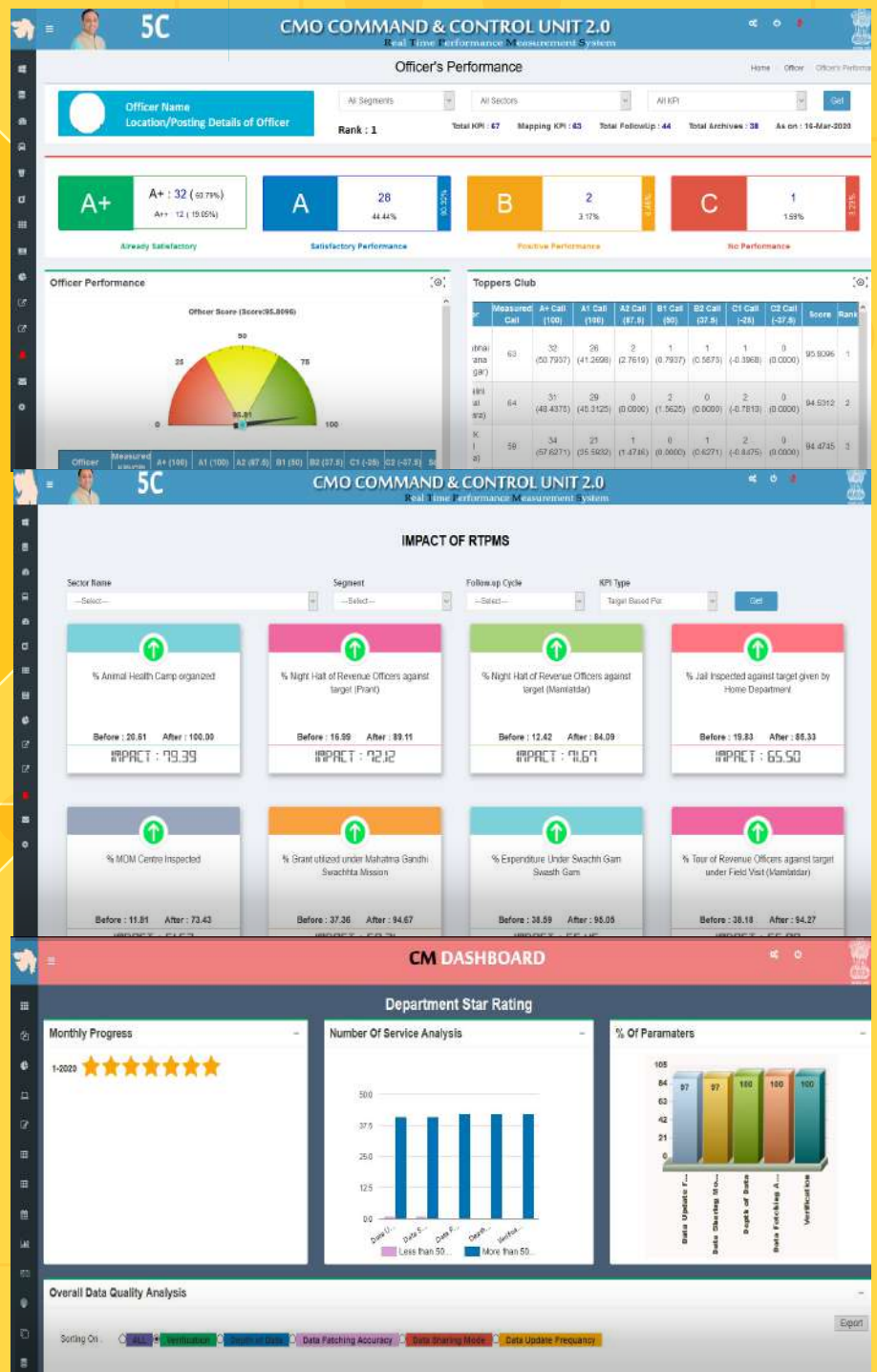Hon'ble Chief Minister, Gujarat

3400	2206	1501	740	183
Indicators	Government Projects	Government Authorities Mapped	Web Services / APIs	eGov Applications Integrated

The system first of its kind was an innovation in terms of accessing data from all e-Governance applications of the State of Gujarat and providing the same for monitoring against defined KPIs. In the reverse, CMO could drill down to the granular level on the fly for red-flagged items and intervene through voice call to administrative machinery down to the village level.

The application facilitates all of the above thus creating a complex network of aggregation, visualization, and enforcement.

It performs collections of 3000+ indicators of 20 government sectors from various e-Governance applications on a daily basis, and integrates all the key stakeholders on single platform i.e. all Secretaries, HODs, Collectors, DDOs & SPs. Hon'ble CM regularly reviews the performance of Departments and Districts

CM Dashboard, an initiative of Government of Gujarat is a visual insight of more than 3000 indicators of 20 sectors of all the state government departments which need to achieve one or more objectives; consolidated and arranged under a single umbrella so that the information can be monitored effectively by Hon'ble Chief Minister at a glance

through the system established at the Command and Control Unit. The project consists of several modules such as Executive Dashboard, Sectoral Dashboard, District Dashboard, Corporation Dashboard, GIS Dashboard, Department Star Rating, PRAGATI-G (Project Monitoring), Aspiration District, CCU Dashboard, Jan-Samvad Feedback Mechanism).

The Dashboard monitors departments and services and identifies areas for improvement, thereby promoting transparency and accountability within the Government. Also, the implementation of the system assists in enforcing digital applications in functional areas yet to be computerized.

The Hon'ble Chief Minister takes a review of the activities and guide directly to the concerned authority for taking appropriate steps. Each indicator is analyzed graphically by time series analysis (Daily, Monthly Quarterly and Yearly) and location (Region, District, Block, Schemes, Heads, etc.) wise. The main feature of CM Dashboard is real-time performance measurement with dynamic benchmarking and target setting, Performance Index up to Zone, District and Taluka level, Grading system, Toppers, and Laggers Club etc. This makes the Government more productive by achieving good, efficient and transparent governance.

Objectives

- To provide data aggregation, visualization and enforcement
- To integrate all the key stake holders on Single platform
- To identify demographic issues and areas requiring improvement
- To promote transparency
- To enforce accountability within the Government
- To ensure digital systems in functional areas yet to be computerized
- To enhance the productivity of Government officials
- To centralize monitoring and help in policy level decisions
- To provide effective service delivery and measurable parameters
- To sensitize concerned authorities by measurement of
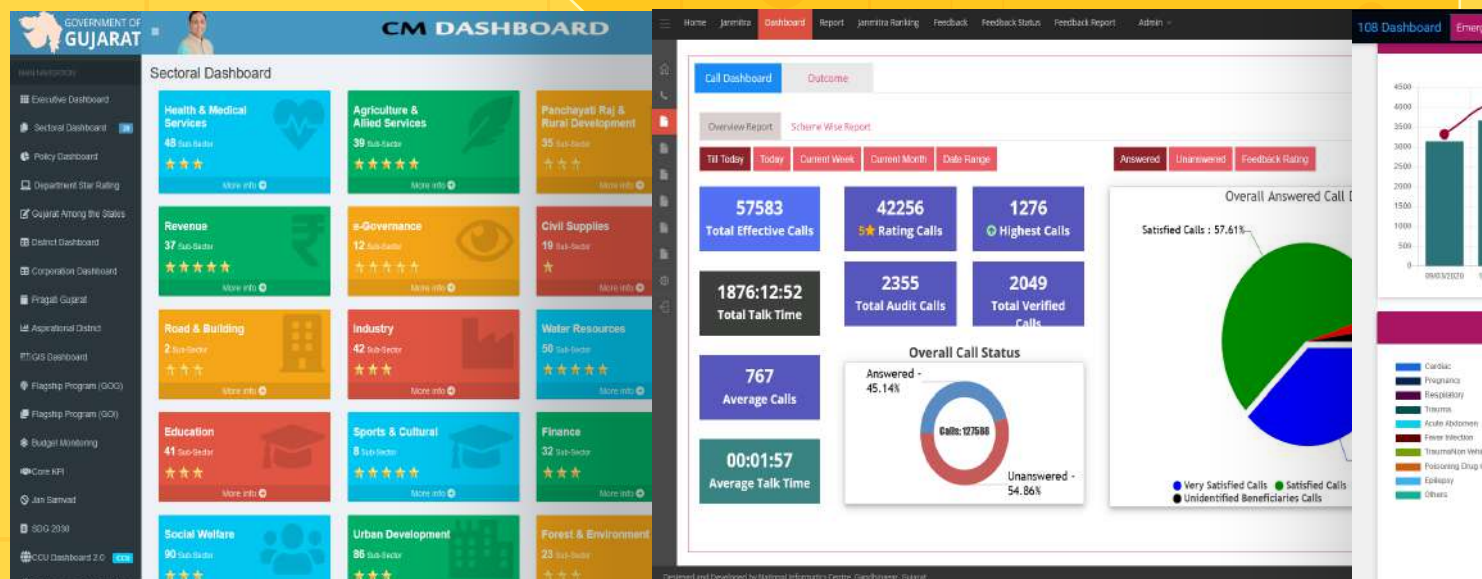
performance and ranking

Features

- Different types of dashboards for visualization
- PRAGATI-G module for monitoring of physical, financial and timely progress of various projects and its follow-up
- Real time performance measurement with dynamic benchmarking, target setting
- Performance upto each hierarchical level such as Zone, District and Taluka, KPI Gradation, follow-up and measurement of performance by scoring and ranking of concerned authorities on daily basis, Toppers and Laggers Club etc.
- Mobile application to monitor performance of the concerned authorities
- Feedback mechanism (Jan-Samvad) has been incorporated in the system which collects all the feedback data of respective sectors.
- SMS facility has been incorporated in such a way that the system generates SMS to Nodal Officers, when the timely data is not received, follow-up reminder, ranking, etc.
- Admin module to manage entry of indicators, sector, sub-sector, department, user access rights, system generate reports, etc.
- Data Synchronization module to capture data automatically and manually by web service API from various MIS and online system
- Data Verification module to verify data of sector and sub-sector by concerning nodal officers on monthly basis.
- Upload Excel facility to upload data from excel sheet for certain indicators where MIS system is not available

Functionalities

Visualization

- Executive Dashboard: performance of recent and important activities across the state
- Sectoral Dashboard: statistical data of sectors and sub-sectors

> "We are proud that the Dashboard with its vast monitoring coverage has proved to be an efficient tool in improving the systems of the State. I see a large potential for replication of the System in different administrative domains of Governance in the country by adopting the methodology of the system at the conceptual level.

Anil Mukim, IAS
Chief Secretary
Government of Gujarat

- Department Star Rating: star rating of data quality based on Verification, Depth, Fetching Accuracy, Sharing Mode and Update Frequency
- Gujarat among the States: current position (rank) of Gujarat among other states in scheme implementation
- District Dashboard: data in district wise grouping
- Corporation Dashboard: data in zone and corporation wise grouping
- Aspirational District: ranking of districts in different aspects
- GIS Dashboard: data in geo spatial mapping with respective indicators
- Flagship Program (GOG): statistical data of Gujarat Government's important schemes
- Flagship Program (GOI): statistical data of Government of India's important schemes
- Budget Monitoring: year wise budget related data

CCU DASHBOARD 2.0 (Real Time Performance Measurement System)

Command and Control Unit visualizes the performance of officers with respective to their KPIs. It also incorporates the Performance Index, Ranking Index, KPI Performance and Call analytics.

JAN SAMVAD (Real Time Citizen Feedback System)

Designed for taking questionnaire based feedback from beneficiaries of various government schemes/ projects to ensure the benefits received by beneficiary and quality of services delivered. Jan Samvad has evolved as a CM to Citizen platform.

Performance Measurement System

The stability of the Performance Measurement System depends on indicators and Key Performance indicators. Indicators for each service are different from one another. These indicators are identified by conducting meetings with the department, CMO unit, and other concerned parties. Once the indicators are decided, data is collected and aggregated based on these indicators. Checks should be made to avoid

data quality degradation. Derive KPIs for the services and associate the officers with the services and its KPIs. Based on the benchmark of each KPI the ranking and performance of services, as well as officers, are evaluated.

Identification & Aggregation of Data Elements (Indicators)

A true Governance monitoring system should survey availability of digital systems across all domains. To cite a few, Systems in Revenue, Civil Supplies, Health, Law and Order, Agriculture, Urban Development, Panchayat and Rural Development. These digital systems are workflow systems which may be in G2C or G2B segments which are basically systems which result in better governance.

This involves lateral level discussions where the monitoring authorities need to sit with the respective domain officers and identify the data elements which are critical and amenable to monitoring. At the software application level these identified indicators/ data elements are sourced from the underlying digital applications of respective domain using web services on a periodic basis which can vary from daily to quarterly. Few of the underlying systems may not be truly web service amenable in which case soft formats like spread sheets will have to be absorbed in system through functions created.

At the software development level, capability has to be built-in to access heterogeneous underlying systems managed by different application service providers using different development stacks. The exercise of integration also involves clear directions from the authorities of the domain to their respective service providers to share data with the Monitoring Team. This is because it should not be missed out that the Service Providers, though managing their data sources are not the owners of data. Proper protocol for data sharing should be in place to avoid any issues in time.
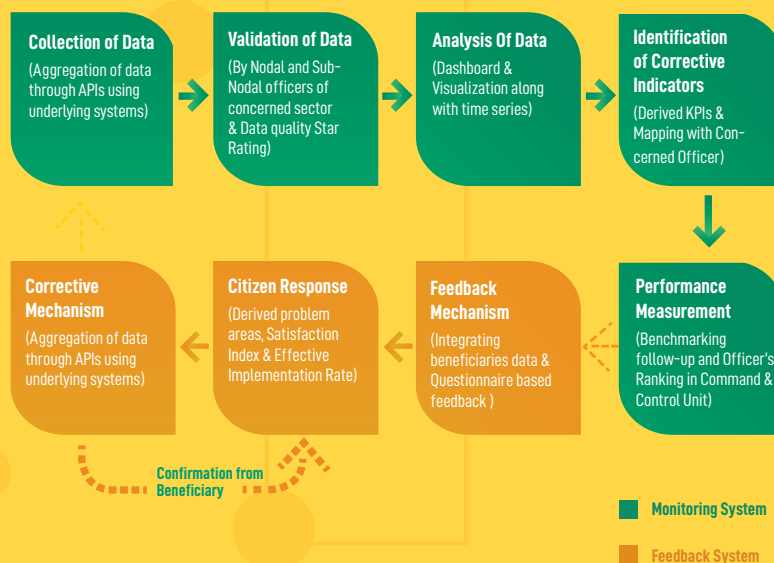
Visualisation Layer

This is a software application specific activity where

> Truly impressed by the exhaustiveness of the dashboard. Feedback loop is a novel initiative and NIC is honoured to be associated with this exemplary initiative of Gujarat Government.

Dr. Neeta Verma
Director General, NIC

| Collection of Data (Aggregation of data through APIs using underlying systems) | Validation of Data (By Nodal and Sub-Nodal officers of concerned sector & Data quality Star Rating) | Analysis Of Data (Dashboard & Visualization along with time series) | Identification of Corrective Indicators (Derived KPIs & Mapping with Concerned Officer) |

| Corrective Mechanism (Aggregation of data through APIs using underlying systems) | Citizen Response (Derived problem areas, Satisfaction Index & Effective Implementation Rate) | Feedback Mechanism (Integrating beneficiaries data & Questionnaire based feedback) | Performance Measurement (Benchmarking follow-up and Officer's Ranking in Command & Control Unit) |

Confirmation from Beneficiary

■ Monitoring System
■ Feedback System

CM Dashboard Modular Flow

Shri Amit Shah, Hon'ble Union Minister of Home Affairs and Shri Vijay Rupani, Hon'ble Chief Minister, Gujarat during the launch of CM Dashboard

all types of display formats e.g graphs, time series charts are used. The activity is initiated through joint discussions between monitoring agency and NIC development team to identify the data elements, their units, frequency etc. for each visualisation instance. Ranges of data, classification of data clusters are also part of the finalisation process. Comparative charts which are year-on-year, quarter-on-quarter, month-on-month became part of this exercise.

Though the manual processes may be limited under visualisation activity, the development work will require proper use of tools in terms of throughputs and responses of the system.

Data Quality Measurement and Improvement Loop

The visualisation process will throw up aberrations in data which helps in initiating an exercise with the domain officials to cross check data content and take remedial action regarding the supplied data from their systems. The nodal, sub-nodal officers are given windows to the visualisation module to check the data and certify quality of the data.

Additionally the application system will also have validation routines against data elements i.e range checks of the values and thus flag the faulty data arising in the incoming services. These are conveyed to the nodal officers using SMS or email for immediate corrective actions.

Derivation of Key Performance Indicators (KPIs)/ Performance Monitoring

This is the key of the Monitoring System where the execution level officials under each domain specific application are mapped to set of KPIs so that these KPI benchmarks are used to evaluate performance, ranking of these officials. Examples of such

officials are the Collectors, District Development officers in the State. Intensive follow ups to motivate improvement of performance of the nodal officers are executed.

The ratings for each KPI is classified as A+ for Already satisfactory, A – Satisfactory performance, B – Positive performance, C – Negative Performance. The performance matrix including Officers-Districts is kept upto date. The classification also providers for Toppers, Laggards classification. Also start rankings are provided based on different attributes.
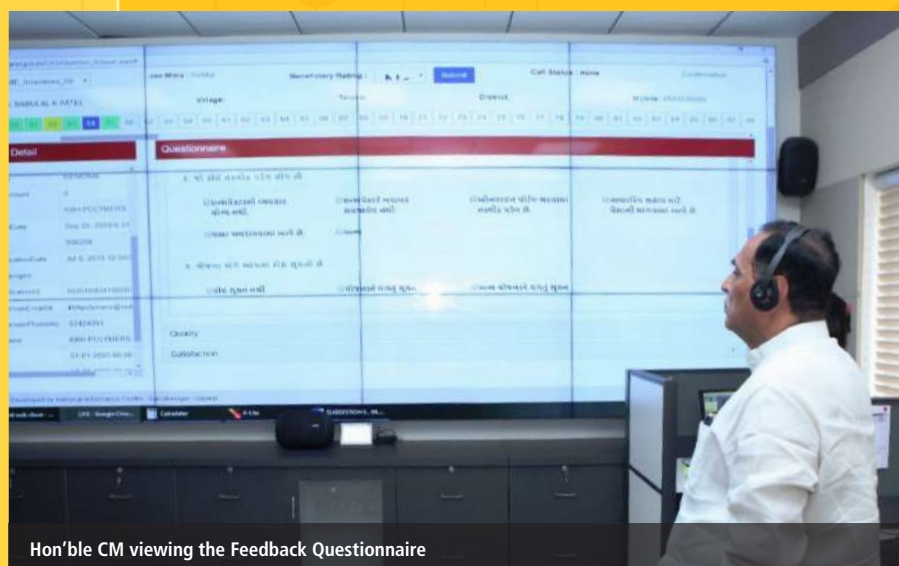
Beneficiary Feedback System

Based on the same data collection methods used in the Performance Measurement System, the beneficiary feedbacks of the corresponding services

are collected. For that call centre executives are employed to generate feedback using the questionnaires defined for the services. Analyse the data generated and identify the sentiment (positive or negative) of the feedback. Poor feedback are forwarded to the higher authority and subsequently, the action taken report, as well as a confirmation call, are recorded till beneficiary gets the benefit. From this data 'satisfaction index' and 'effective implementation rates' are derived.

Creation of Questionnaire for Feedback

The KPI performance values which are flagged for feedback by the Monitoring Cell are accordingly marked in the system and the stored questionnaire against the KPI is made visible to the Call Centre team for telephonically using with the beneficiary.

Hon'ble CM viewing the Feedback Questionnaire

Beneficiary Details extraction

Based on the identified KPIs for feedback and the filter applied to extract a subset of the beneficiary list, the underlying application system is mined for the granular data giving the beneficiary personal information including contact details.

Call Centre Operations

The Call Centre will initiate telephonic querying of the beneficiary based on the questionnaire. The objective answers and final feedback is recorded into the system. Everything is done through online integration including the telephony integration through Telecom Service Provider.

Beneficiary Feedback Followup

The feedback is displayed online for the CCU team to view, analyze and flag for escalation to the concerned nodal officers for the KPI related to originating district.

Action Taken Reporting (ATR)

The nodal officers to whom such feedback (which are poor or negative) is flagged are supposed to manually intervene for resolution and revert through documentary proof of resolution of the case. The online system facilitates such data collection. In addition to nodal officers, the Secretaries and HODs are also flagged in the online communication.

Confirmation process

The ATR triggers a confirmation feedback call with the beneficiary to close the feedback loop through the Call Centre.

Stakeholders

- Chief Minister Office
- All State Government Departments (Secretary, HODs, Nodal/ Sub-Nodal Officers)
- District Authorities (Collector, DDO, SPs, etc.)

Services To Stakeholders

CMO

- Monitor all the statistical data drilled down to the last level for all the services, sectors and overall
- Evaluate performance of all the officers involved in the system
- Defining target and benchmarking for performance measurement of concerned authorities
- Getting and monitoring feedbacks from beneficiary of various government schemes

All State Government Departments (Secretary, HODs, Nodal/ Sub-Nodal Officers)

- Monitor department level performance of concerned indicators
- Access and verify data that they are responsible for
- Action taken against poor feedbacks

District Authorities (Collector, DDO, SPs)

- View their performance statistics of concerned Key Performance Indicators
- View their performance compared to the same officers groups

Use Cases

KPI monitoring, follow up with officials to speed up procedures.

- **Income certificate:** The number of pending applications for Income certificate (Panchayat) through e-Gram before the implementation was several thousands. This KPI is categorized as short term which implies that it should be improved in short time limit. In this case the KPI is mapped with district level authority which is a DDO (District Development Officer) of district panchayat. According to the set benchmark and time limit by CMO, the call has been generated to convey this KPI to the DDO. It drastically decreased to hundreds after the implementation.
- **Grant utilization:** The KPI, 'Percentage of Grant utilized under Mahatma Gandhi Swachhta Mission' is mapped with DDO of the district. It was categorized as medium term. This resulted in an increase which was almost three times of the previous value.
- **Inspection of police station:** The KPI, 'Percentage of Police stations inspected against target given by Home Department' is mapped with District Magistrate. In this case the improvement was more than its double after adding the KPI into the Performance Measurement System.
- **Land Records- Auto Mutation Pending**: The KPI number of auto mutation pending for more than 90 Days in Land Records is mapped to District Magistrate, which is an immediate term KPI that has to be taken care urgently. As the monitoring system started taking into account of the KPI, pendency of the application decreased drastically.
- **108 service:** The KPI based 108 service of medical emergency is geographically mapped for real time monitoring of ambulance calling up hospital to confirm arrival. Response time of 108 service and peak hour emergency call is being monitored as part of the KPI. Also feedback from the patient is taken into the loop.

Outcome of the citizen feedback mechanism

- **Mukhyamantri Bhagyalakshmi Bond:** From the citizen feedback of 'Mukhyamantri Bhagyalakshmi Bond', cases have been found such as the beneficiary did not receive the benefit amount as mentioned in the bond. This is a scheme of State government to provide financial benefit to the daughters of labor workers for their education or marriage. The case has been escalated to the concerned Head of Department/ Secretary, they have taken an action to deliver benefit and submit the report back to the system. CMO has made confirmation call to beneficiary and ensured the delivery of benefit.
- **Public Distribution System (PDS):** Randomly select beneficiaries and generates feedback as well as the confirmation from them. Poor feedbacks are forwarded to officials for corrective measures.

Way Forward

- Include more sectors and corresponding services to achieve 100% data coverage.
- Data analytics interface is to be developed so that AI, Machine learning models can be applied on the collected data for predictive and prescriptive analysis.

Summary

NIC is proud to have developed the Gujarat Chief Minister Dashboard, which is the first of its kind system in terms of accessing data from all e-Governance applications of the State of Gujarat and providing the same for monitoring against defined Key Performance Indicators (KPI). This enables the Chief Minister Office to analyse the performance of departments, services and even officers which in turn helps in identifying problems of services. In all hierarchical levels such as zones, districts, talukas the flagged performance can be monitored. It additionally gives an insight into the effective implementation of schemes.

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AEBAS in School Education
Tamil Nadu Govt. strides ahead with the best use of ICT

Edited by **REUBAN K**

Government of Tamil Nadu has taken initiative to implement Aadhaar Enabled Biometric Attendance System (AEBAS) in Government and Government Aided Schools in Tamil Nadu. Tamil Nadu state consists of 120 District Educational Offices which comprises of 45,614 schools employed with 3.15 Lakh staff. To digitize the attendance of staff to make the monitoring process easy, Government of Tamil Nadu has decided to implement AEBAS in School Education Department.

AEBAS has been implemented in more than 16,500 Schools & Education Offices in Tamil Nadu. An AEBAS web-monitoring portal for School Education has been designed and developed by NIC, TNSC in collaboration with NIC(HQ) for Education Department which helps in keeping the large volume of staff attendance details at single point thus enabling various stakeholders to access this valuable information online with a single click. The staff attendance maintained and generated through this portal has helped the Education Department to monitor the attendance pattern of teaching and non-teaching staff.

Overview
Objectives

1. To implement AEBAS in all the 45,614 Government and Government aided Schools, Chief Educational Offices (CEO), 120 District Educational Offices (DEO), 413 Block Educational Offices (BEO) in Tamil Nadu in phases.
2. To develop a web portal to receive AEBAS data of School Education through web services from AEBAS portal, generate various MIS, Analytical and Dashboard reports, GIS Based Reports for monitoring by officials at various levels of School Education Department, Government of Tamil Nadu.

Organizational Structure of School Education Department, Government of Tamil Nadu

School Education Department have offices at Revenue District level, Education District level and Block level. On an average, each Revenue District is having 1425 schools.

District Educational Office (DEO), Block Educational Office (BEO) are controlled by Chief Educa-
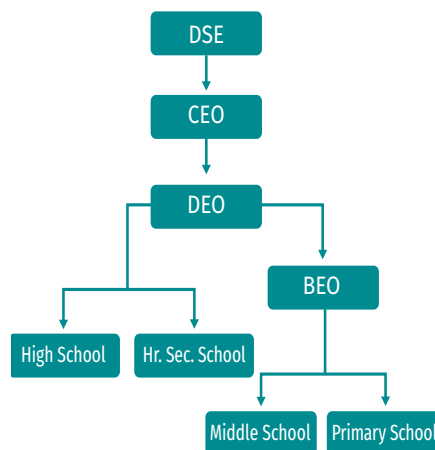
> NIC, Tamil Nadu State Centre has played a pivotal role in aiding the administration to track the attendance of teaching and non-teaching staff of Government/ Government Aided Schools in Tamil Nadu, covering 16,444 Schools and 2,37,728 staff. This also covers staff in O/o DSE, Chief Educational Offices, 120 District Educational Offices, 413 Block Educational Offices. It covers almost 25% of Government Employees in Tamil Nadu Government.
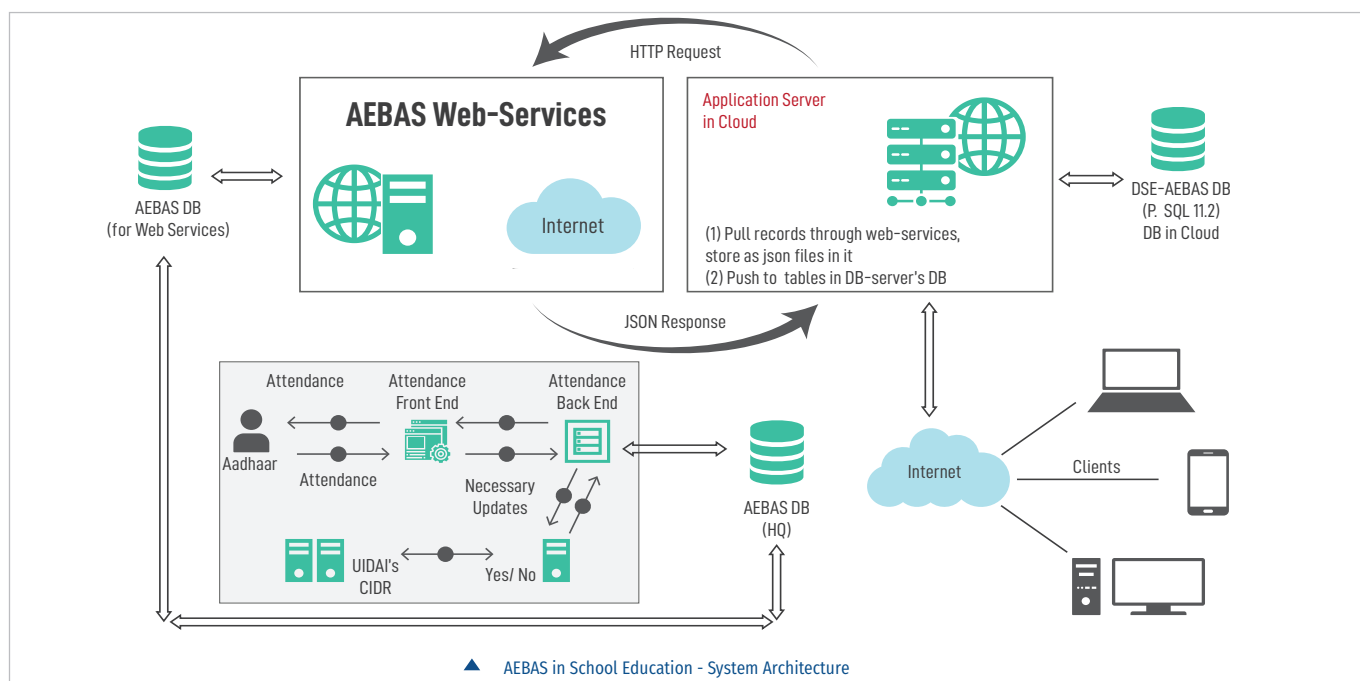>
> During October 2018, Hon'ble Chief Minister announced on the floor of Tamil Nadu Assembly, on the implementation of Aadhaar Enabled Biometric Attendance System for teaching and non-teaching staff of Government/ Government Aided Schools in Tamil Nadu. Nearly 2.16 Lakh officials from 16,500 locations were covered in two phases. All staff were registered on their respective portal and they started marking attendance regularly.

Pradeep Yadav, IAS
Principal Secretary
School Education Department
Government of Tamil Nadu

tional Office (CEO) in respective revenue district. There are 32 CEOs, 120 DEOs, 413 BEOs in Tamil Nadu. Government & Government Aided High Schools and Higher Secondary Schools are monitored by respective DEOs. Government & Government Aided Primary Schools and Middle Schools are monitored by respective BEOs.

School Education Department, Government of Tamil Nadu planned to implement AEBAS in three phases. Phase-I covers CEO Offices, DEO Offices, High Schools & Higher Secondary Schools; Phase-II covers BEO Offices, Middle Schools and Phase-III covers Primary Schools.
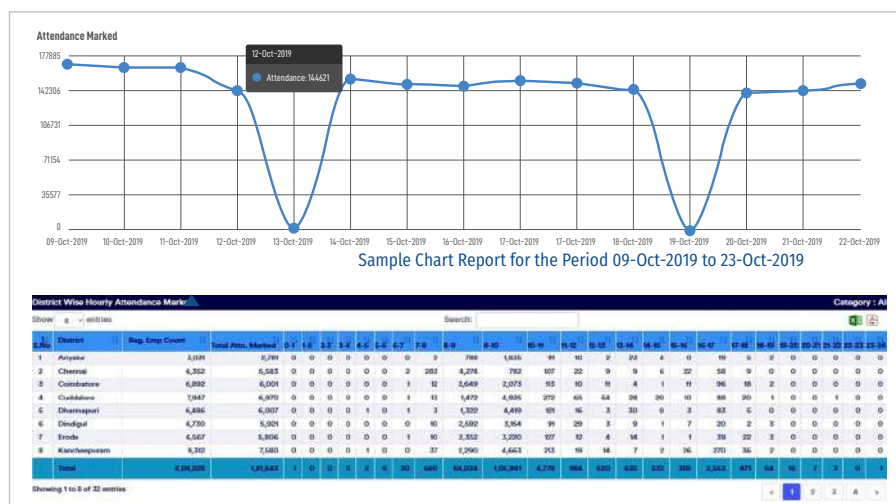
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▲ AEBAS in School Education - System Architecture

Features of "AEBAS Web- Monitoring" Portal Developed for DSE

- Dashboard facilities available in the system will help to study the pattern of attendance marked by officials posted in different locations of school department.
- Role-based authentication for monitoring the attendance by officers at State level, District lev- el, DEO level, BEO level and School level.
- Various MIS reports are available to monitor the attendance of staff in schools.
- GIS based reports available in this system helps for easy understanding / comparison.
- The exception reports help to figure out default-

er's locations & further follow-up.

- SCHEDULE option helps to Schedule job to receive AEBAS records of School Education through AEBAS web-services.
- VIEWLOG option helps to monitor the status Attendance Marked of API for desired period.
- REPULL option helps to receive records of failed APIs for the desired period.
- CRON MONITOR option helps to Monitor the status of jobs scheduled to receive the records through web-services.
- REBUILD SUMMARY option helps to rebuild summary table for attendance records received through web-services for desired date/ period.
- This is a responsive portal which can be accessed through various ICT devices.

Technologies Used

for Development of AEBAS Web- Monitoring portal for School Education

Linux - Apache - PHP – PostgreSQL 11.2 Database. HTML5, CSS3, Javascript, Ajax, Bootstrap Libraries, RESTful Web Services

Innovations Applied / Software Architecture

The attendance marked data from 120 AEBAS Domain sites of School Education department in **https://tamilnadu.attendance.gov.in** are being replicated at regular Intervals to Instance in Amazon Cloud through AEBAS web-services. At present, on an average 14 Lakh records are getting replicated per day.
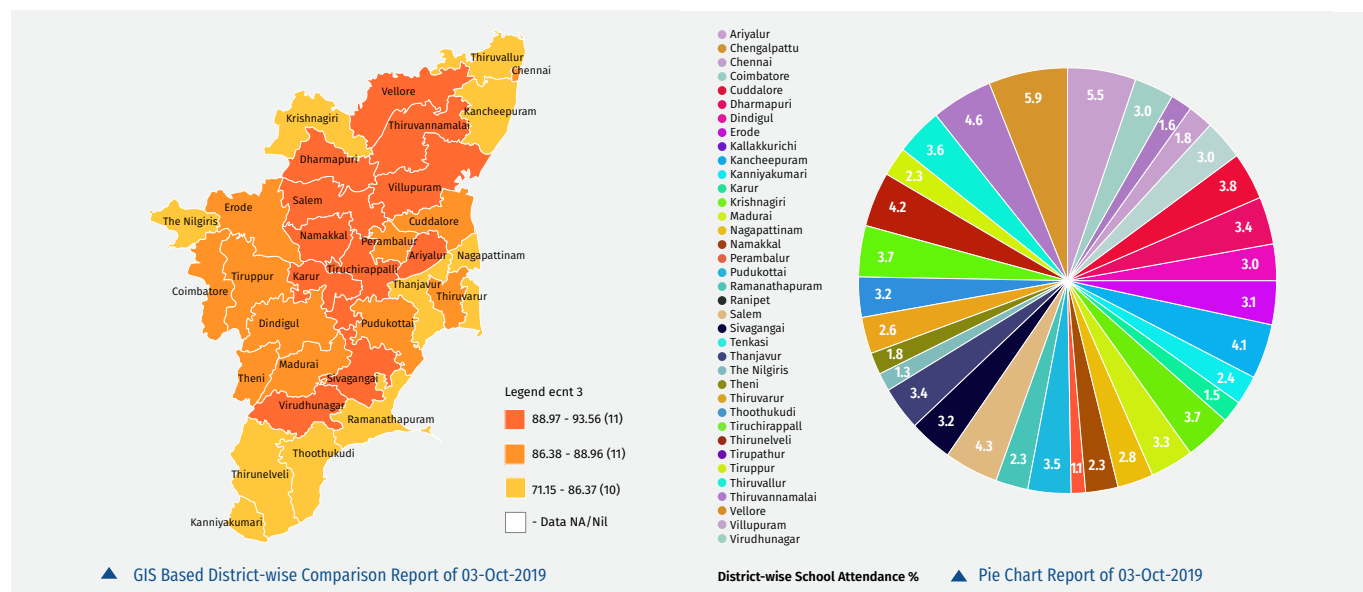
The portal https://aebas.tnschools.gov.in/aebasv1/ has the facilities for monitoring the data replicated status, rescheduling of failed jobs and generating dashboard & reports.

Through this role-based system, School Education Department officials at State level, Revenue District level, Education District level, Block level, School level can generate various types of reports, exception reports, dashboard for their school(s) / office(s).

AEBAS Implementation methodology

For the effective implementation of AEBAS in School Education Department, 120 AEBAS domain portals have been created for the 120 DEOs in Tamil Nadu. The domain sites are named as <tn><deo name><district code>eg: URL of DEO, North Chennai Education District in Tamil Nadu is https://tndeonorthchn.attendance.gov.in

All the schools are mapped to AEBAS location as

▼ Sample Hourly Breakup Attendance Report for 03-Oct-2019

Sample Chart Report for the Period 09-Oct-2019 to 23-Oct-2019

▲ GIS Based District-wise Comparison Report of 03-Oct-2019

District-wise School Attendance % ▲ Pie Chart Report of 03-Oct-2019

<School-Name><School- Type><Place><UDISE Code>.

Nodal Admin logins have been created for Head Masters of schools.

Unified District Information System for Education (UDISE) is a unique code created by Director of School Education (DSE) for each School in Tamil Nadu (eg. GOVT Boys HSS Parangipettai-33181004412).

For the purpose of AEBAS implementation the following division names are created

- DEO <Office Name><Office>
- DEO <Block Name>
- BEO <Block Name><Office>
- BEO <Block Name>

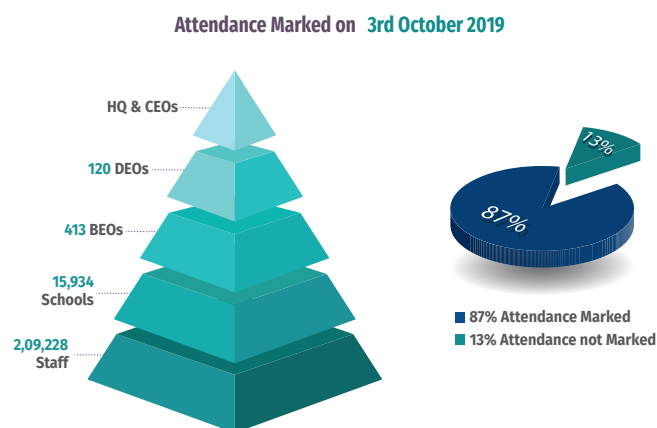Staff in school / office locations are registered under their respective divisions.

Training

Phase-1 Training

The Department has identified 10 Key Resource Persons (KRPs) for each district, a full-fledged hands-on training has been given to the 320 KRPs at the state-level for implementing AE- BAS in DEO offices, High Schools and Higher Secondary Schools. An AEBAS technical hand- book has been prepared and circulated among the KRPs.

Phase-2 Training

In addition to the 320 KRPs, the Department has identified another 3 KRPs

Attendance Marked on 3rd October 2019

HQ & CEOs
120 DEOs
413 BEOs
15,934 Schools
2,09,228 Staff

13%
87%

■ 87% Attendance Marked
■ 13% Attendance not Marked

from BEO level for implementing AEBAS in Middle Schools and BEO offices. Necessary trainings have been given to the new KRPs through VC and at the district level.

Implementation Status

With the best support from AEBAS team at NIC- HQ, AEBAS has been successfully implemented in 16,500 Schools & Education Offices of Phase-I and Phase-2. Nearly 2.16 Lakh staff across the state are registered in their respective portals and started marking attendance.

AEBAS Web-Monitoring Portal for School Education

A web-portal https://aebas.tnschools.gov.in/aebasv1/ has been designed and developed by NIC-TNSC. This portal helps to receive the AEBAS records of all the 120 DEOs AEBAS Portal at regular Intervals to Instance in Amazon Cloud. This portal has the facilities for monitoring the data received status, rescheduling of failed jobs and generating dashboard & reports.

This portal has various features like Dashboard, Logins for officials at various levels, Various MIS Reports, Exception Reports, GIS Based Reports etc.

Benefits / Impact

- AEBAS System is implemented for 15,934 Government & Government Aided Schools in Tamil Nadu.
- AEBAS System is implemented for DSE, all CEO's, DEO's, BEO's offices.
- Monitoring Attendance at various stages of DSE becomes very easy.
- In due course, Manual Attendance Registers maintained in the locations may be replaced.
- Real-time monitoring of DSE officials posted across state becomes very easy.
- In the long-run, this system will help in improving learning outcomes of students.

Way Forward

The Department has planned to implement the system in Phase-3 which covers 29,170 primary schools. An android mobile application to view the summary statistics of attendance marked will be developed. This App is meant for State Level Officers, CEOs, DEOs, BEOs of School Education Department.

Uttarakhand Teachers Eligibility Test (UTET) Online
Exam Management System-2019

Edited by **AK DADHICHI**

Till 2018, the entire process UTET was carried out manually by the Uttarakhand School Education Board. Understanding the complications and challenges of the manual system, NIC- Uttarakhand proposed Department of School Education, Uttarakhand to design and develop a computerized system enabling automation of the entire process at the best possible.

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Department of School Education, Uttarakhand entrusted NIC-UK to develop a portal to automate the UTET exam related activities. A web-based portal https://ubseonline.uk.gov.in was designed, developed and implemented for online management of UTET. UTET is conducted by Uttarakhand Board of Secondary Education (UBSE), Ramnagar(Uttarakhand) as a teachers recruitment eligibility criteria for schools in Uttarakhand state. UTET is conducted for two types of exams viz. UTET I and UTET II. UTET I exam is conducted for qualifying a candidate for recruitment of the teachers in primary schools whereas UTET II is for qualifying a candidate for recruitment of the teachers in secondary schools. Eligible candidate can apply either of the UTET I and UTET II or for both the exams.

This exam is conducted by UBSE at-least once a year and a large number of applicants (approximate 1 Lakh) appear in the test. These applications undergo an intricate route of processing through different stages from receiving of applications to the announcement of results. Till 2018, the entire process was being carried out manually by the Uttarakhand School Education Board. Understanding the complications and challenges of the manual system, NIC Uttarakhand proposed the Department of School Education UK for design and development of a computerized system to automate the entire process at the best possible.

The portal has been developed in open source technologies i.e. Linux, Java, Apache Tomcat &PostgreSQL and hosted at State Data Centre (SDC) Uttarakhand. The portal was launched on 1st July 2019 for seeking online applications for UTET-2019 exam. The portal is integrated with payment gateway for receiving exam fees through various modes of online payments. The NIC-SMS services are also integrated for sending OTP and alerts at various stages.

Key Stakeholders
- Department of School Education Uttarakhand
- Uttarakhand Board of Secondary Education
- Applicants of UTET exam

Implementation Highlights
The project has been implemented successfully by receiving online applications from applicants during 1st to 31st July 2019. Approximately 80,000 applications were received online and nearly Rs 5 Crores was received by UBSE as application fees through online payment.

Main Features: Ist Phase
- Online registration of applicants for exam (Enter-

A major part of Uttarakhand is covered by tough mountains terrain, difficult to establish connectivity between the citizens and the government. An online portal for Uttarakhand Teacher Eligibility Test (UTET) designed and developed by NIC Uttarakhand and implemented successfully by Uttarakhand Board of Secondary Education, Ramnagar. It came up as a leap forward in e-governance and helped in receiving huge number of applications for UTET I and UTET II exams. This system was warmly welcomed by the common people of Uttarakhand as evidence by the record number of applications received through the portal. User friendly features like online payment for fees collection, SMS based OTP etc led to the wider acceptability and adoptability of e-governance in the state. This portal may be used for the other exam like D.El.Ed etc by Uttarakhand School Education Board. A good effort brings the advantages of technology for the benefit of governance. I congratulate the NIC Project team and wish all success for future endeavours.

R. Minakshi Sundaram, IAS
Secretary
School Education, Government of Uttarakhand

ing Name, Date of birth, Email, Phone no. and receiving SMS with password)
- After successful registration, creation of applicant's dashboard
- Filling up of application form as per eligibility criteria
- Uploading of photograph and signature (jpg format) by the applicants

- View and Edit application before payment for exam fees
- Online Payment for exam fee
- View & print application form after payment
- NIC SMS service has been integrated and used for sending SMS after registration, form sub- mission after payment, forgot password, admit card generation and for sending bulk messages to the applicants

Main Features: 2nd Phase

- Preparation of list of city-wise exam centre (200 centres approx. in 29 cities of Uttarakhand) as per centre-wise capacity of candidates
- Allocation of roll no. and exam centre to candidates as per prescribed norms of UBSE
- Admit card generation and publishing on portal for downloading by applicants
- Generation of nomination role, attendance sheet and desk slips for exam centres
- Different administrative reports generation

Main Features: 3rd Phase

- Uploading of attendance sheets by exam centres through their login credential
- Publishing of Answer keys
- Publishing of results
- Analytical dashboard

Challenges

- Since the online system was implemented for the first time in the State, applicants required assistance for meeting the problems encountered in the process of online application submission. A 24 x 7 call help-desk was provided to resolve the applicants issues.
- Internet connectivity is still a big challenge in rural and remote areas of Uttarakhand. For smooth flow and execution of the system, the online applications were received for a long period of time and one month.

Outcome & Key achievements

- A completely transparent and automated system generated
- The portal may be used for automation of other similar activities of Uttarakhand board

▲ Website Home page

PHASE-I – Applicant

PHASE-II – UBSE Administration
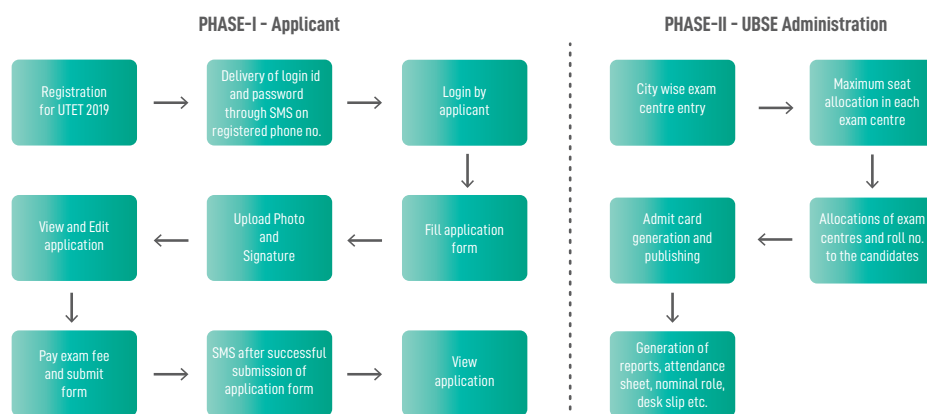
▲ Application Process Workflow

Advantages over manual system

Manual system till 2018	Time, cost and Implications	Online system till 2018	Time, cost and Implications
Preliminary Preparation of UTET exam	2 Months	Online modules developed. No printing work and no roles of post office. Since this year first initiated and implemented, system study, design and development, hosting arrangements done	Zero cost of printing and post office Approximately 12.48 % growth in no. of applications received
Preparation of appl. form, manuals and information leaflets	Expenditure incurred Rs. 37 lakhs approximately in printing of forms and payment to Post Offices		
Tender invitation for printing of OMR forms and information leaflets			
Printing of forms			
Arrangements for distribution and sale of application forms through 42 post offices in Uttarakhand State			
Time for application to be received by registered post	1 Month	Applications received online from 1 July 19 to 31 July 19	1 Month
Scanning of OMR application forms	3 Months	Through the online system only, edit feature provided	Zero hosting cost
Preparation of data scanning			
Display of incorrect forms on website			
Updation of data after correction	Huge expenditure incurred in scanning of OMR sheets and payment to private vendors for other digitisation activities	In 2nd phase of the project all these activities are carried out through the online automated system only Help desk contacts and emails provided on the portal	
Finalisation of exam centre by the council			
Exam centre and roll no. allotments			
Preparation and uploading of admit card			
Preparation and printing of attendance sheet, nominal role, desk slip etc			
Arrangement of 24x7 helpdesk from the date of admit card upload till examination			
Compilation of all the data for result preparation			

- Time and cost reduced for candidates as well as department
- All activities are handled through a single window and thus optimizing the resources
- Approximately 80,000 applications have been received online
- Approximately Rs 5 crores have been received as exam fees through online payments. Therefore the accounting of the fee collected was easy for UBSE.

Way Forward

System is developed and designed in such a manner that same system may be used for other exams/tests conducted by Uttarakhand board, such as D.El.Ed (Diploma in Elementary Education).

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Changing the Paradigm of Mapping

UAV/ DRONE with AI/ ML Innovations

Edited by **MOHAN DAS VISWAM**

Drone enables topographic surveys of the same quality as highly accurate measurements collected by traditional methods, but in a fraction of time. This substantially reduces the cost of a site survey and efforts. Today drones coupled with Artificial Intelligence (AI) and Machine Learning (ML) can use large data sets (such as aerial images) for processing in a semi-automatic manner. This has become possible due to an immense and rapid increase in processing power, reducing costs of storage and availability of digital data in the recent years.

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Drones can be termed as flying robots but currently majority of them are controlled by human pilots. Drones have various benefits in the multiple industries from mapping to real estate, from defense to package delivery and so on. Drone enables highly accurate topographical maps within fraction of time with lesser cost as compared to conventional techniques. They can fly at low altitude and capture remote data, surveillance videos and also analyze it for various objectives. To reduce the human intervention in data, there are intelligent drones that can read, calculate, analyze and predict data themselves to provide useful information. Without humans, drones can rely on the in-built machine learning algorithms to function.

Technology behind

A drone, in technological terms, is an unmanned aircraft. Drones are more formally known as Unmanned Aerial Vehicles (UAVs) or Unmanned Aircraft Systems (UASs). Essentially, a drone is a flying robot that can be remotely controlled or fly autonomously through software-controlled flight plans in their embedded systems, working in conjunction with onboard sensors and GPS.

In the recent past, UAVs were most often associated with the military, where they were used initially for anti-aircraft target practice, intelligence gathering and then, more controversially, as weapons platforms. Drones are now also used in a wide range of civilian roles ranging from search and rescue, surveillance, traffic monitoring, weather monitoring and firefighting, to personal drones and business drone-based photography, as well as videography, agriculture and even delivery services.

Components of Drone

- Electronic Speed Controllers (ESC)
- Flight controller
- GPS module
- Battery
- Antenna
- Receiver
- Cameras
- Sensors, including ultrasonic sensors and collision avoidance sensors
- Accelerometer, which measures speed
- Altimeter, which measures altitude

How it works!

A typical unmanned aircraft is made of light composite materials to reduce weight and increase manoeuvrability. This composite material strength allows military drones to cruise at extremely high altitudes.

Drones are equipped with different state of the art technology such as infrared cameras, GPS and laser (consumer, commercial and military UAV). Drones are controlled by remote Ground Control Systems (GSC) and also referred to as a ground cockpit.

An unmanned aerial vehicle system has two parts, the drone itself and the control system.
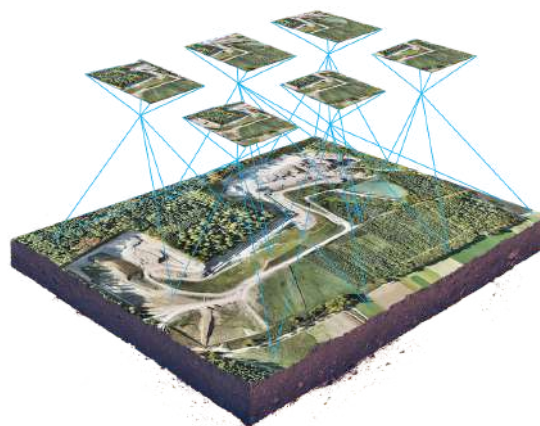
Drone Photogrammetry generates 3D map

The nose of the unmanned aerial vehicle is where all the sensors and navigational systems are present. The rest of the body is full of drone technology systems since there is no space required to accommodate humans.

The engineering materials used to build the drone are highly complex composites designed to absorb vibration, which decrease the sound produced. These materials are very light weight.
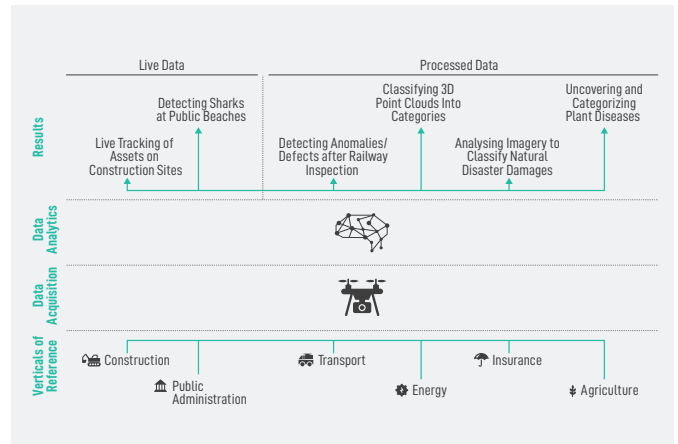
Capturing high resolution images on a stabilized drone is very important. Free or Propriety photogrammetry software can be used to process the images into real maps and models.

Drones in Mapping

A drone survey refers to the use of a drone, or Unmanned Aerial Vehicle (UAV), to capture aerial data with downward-facing sensors, such as RGB or
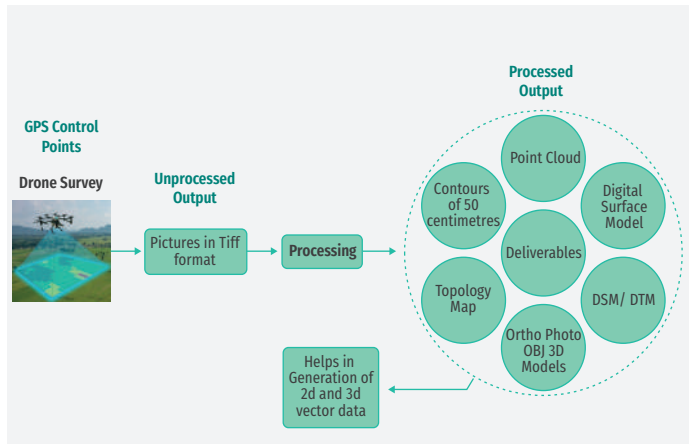
▲ Mapping Process Workflow

▲ Drones & AI in action

multispectral cameras, and LIDAR payloads. During a drone survey with a high resolution RGB camera, the ground is photographed several times from different angles, and each image is tagged with coordinates. Continuously Operated Reference Stations (CORS) can be established for Real Time Kinematic Positioning for drones.

From this data photogrammetry software can create geo-referenced orthomosaics, elevation models or 3D models, volumetric measurements, of the project area. Unlike manned aircraft or satellite imagery, drones can fly at a much lower altitude, making the generation of high-resolution, high-accuracy data, much faster, less expensive and independent of atmospheric conditions such as cloud cover.

Benefits

Some of important benefits are:

Versatility

Due to their size, and unlike a manned aircraft - drone use means being able to fly into areas that were not possible before. They can fly from only a few centimetres off the ground to over 300 hundred feet in the air. All the while in one long continuous

▲ Application areas *(Figure: 4)*

shot, panning and framing a chosen "subject" - for example a building. Drone can give the operator total control, whether it is wanting to move from left to right, or rotate on the same spot - all to get the perfect shot.

Time

The drone team is small, usually only involves the pilot, and a camera operator. So, this means that once arriving on site, it can be up and running in about 5 minutes. Even if the weather goes against it can land for the next window of opportunity. No matter if it is a small window, the drone can be launched and the shot can be obtained. These are simply things which a manned aircraft can never do. It also facilitates video of projects on landscape using 360-degree Rotation, Time-Lapse Cameras and Drone Aerial Views.

Full-HD Quality

Technological innovations mean drones are able to shoot in full HD and capture amazing aerial footage, with 4K resolution or higher, without sacrificing any quality.

Application

Drone usage has multiple applications; often people see drones being use for film production and news broadcasting. Other industries like construction, corporate, sports, and farming also use it for their applications. Contractors use them to aid in the assessment of a new projects and generate 3D maps. The maps preparation is fivefold faster than traditional land survey.

Minimal Interference

Have very less noise. Using drones for aerial photography is more peaceful, meaning they can be used at sensitive areas as well as on specific site operations.

Application Areas

Utility Mapping and associated Smart City Applications of large-scale mapping for rural and urban India can easily be carried out using drones. Apart from military use, drones are now being used by individual entrepreneurs, SMEs, and large companies to accomplish various other tasks. India has seen innumerable startups in Drone technologies and have set up a Drone Federation of India (DFI) which is a

non-government, not-for-profit, industry-led body that promotes and strives towards building a safer and scalable unmanned aviation industry in India. The regulatory framework for drones has been issued by the Directorate General of Civil Aviation (DGCA) on August 27, 2018, by way of Civil Aviation Requirements (CAR), Section 3 – Air Transport Series X, Part I, Issue I (Drone Regulations) for legalizing and regulating the operation of drones for civil use in India. Some of the applications areas of drone are given in figure 4.

Use cases

Large Scale Mapping for Greater Noida Industrial Development Authority using Drone

Greater Noida is being developed as Metro Centre providing for quality urban environment, to attract economic activities and population to decongest Delhi. NIC is developing a Geo Portal for integration of its MIS/ SAP HANA data with large scale base map (1:1000) using Drone and CORS.

Scrap volume assessment at Tughlaqabad Railway Yard, New Delhi

Scrap is collected and sold by Indian Railways. A POC for calculation of volume of scrap was carried at Tughlaqabad Railway Yard.

Future Road map

The drones of the future will be controlled by artificial intelligence. AI allows drones and other machines to make decisions and operate on their own on your behalf. Machine Learning algorithms shall be used to classify and thereafter predict in various applications.

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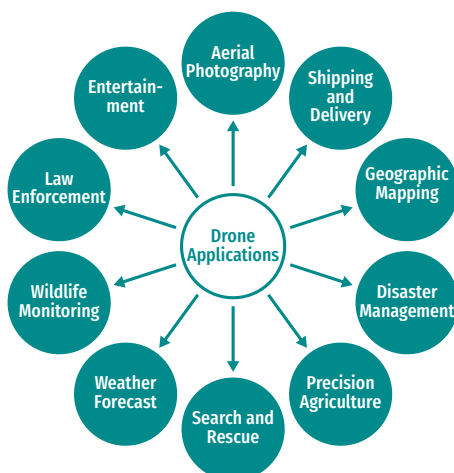
Zero Trust Architecture
Framework to Strengthen Structural Security of Modern Enterprise

Edited by **MOHAN DAS VISWAM**

Zero Trust Architecture or ZTA is an infrastructure design philosophy based on the principle of 'never trust, always verify'. It debunks the typical 'castle-and-moat' style perimeter security and intends to handle newer threats of privilege misuse, internal breaches and lateral movement from within the trusted inside. Zero Trust Architecture defines a framework for structural cyber security of modern enterprises. It combines some of the already well known and established security guidelines and highlights them as the basic of tenets of the framework.

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Traditional security in based on the concept of trusted and untrusted zones. These zones are defined by physical or logical perimeter protected by security devices like firewall. Any device/ user inside the perimeter is treated as trusted and is allowed access to internal resources by default. An example of such a design is a typical office network local area network (LAN). Any device/ user inside the office LAN is allowed access to the internal office resources like eOffice, eFiles, eHRMS, network printers, or any other computer/ server within the LAN. This design assumes that all devices/users within the office LAN are genuine and authorised. It also assumes that all programs running within these devices are safe and non-malicious. However, with high speed internet access on these devices, we have seen time and again that these trusted devices/ programs can very easily be compromised by the well-resourced adversaries to launch various attacks on the internal resources like unauthorised access, data exfiltration, internal network control, etc. They take advantage of the design which implicitly trusts anyone and everyone which happen to get an entry into the trusted zone.

Zero Trust design principle aims to overcome this weakness and create a design based on actual verification of devices/users and continuous monitoring of resource accessed by them. The first step is to identify and enumerate internal resources and define micro-perimeters (also called Software-defined Perimeter or SDP) around them. The idea is to verify each and every request for the resources, continuously monitor and change access control policies based on change in access parameters. The request for resources can originate from either the internal LAN or remote workers using Virtual Private Network (VPN). The concept of Zero Trust has been there for a long time in silos. However, the term was coined by John Kindervag in 2010, during his tenure as a vice president and principal analyst for Forrester Research, for the complete framework encompassing various IT operation silos and technologies to achieve new age structural security.

Tenets of Zero Trust

Zero Trust Architecture defines a framework for structural cyber security of modern enterprises. It combines some of the already well known and established security guidelines and highlights them as the basic of tenets of the framework. The basic tenets of the ZTA are enumerated below,

- All data sources and computing services are considered resources
- All communication is secured regardless of network location
- Access to individual enterprise resources is grant-

ed on a per session basis
- Access to resources is determined by dynamic policy - including the observable state of client identity, application, and the requesting asset - and may include other behavioural attributes
- The enterprise ensures that all owned and associated devices are in the most secure state possible and monitors assets to ensure that they remain in the most secure state possible
- All resource authentication and authorisation are dynamic and strictly enforced before access is allowed
- The enterprise collects as much information as possible about the current state of network infrastructure and communications and uses it to improve its security posture

Pillars of Zero Trust Architecture

We need to understand the type of resources in an IT ecosystem in order to be able to protect them and move toward zero trust.

Typically, an environment consists of people (workforce), devices (workplace), network (work-area) and servers (workload). A zero trust model has to identify and separate these components and define dynamic/adaptive policies around them. The pillars
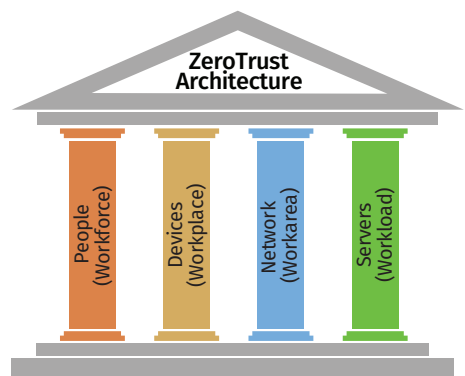
of ZTA as defined by Forrester's Zero Trust eXtended model are as follows,
- **Data security:** encryption and secure access
Take a zero-trust approach to securing data by protecting the new, extended perimeter: classify and categorise data; authorise user and device access to data; prevent data loss and exfiltration; and encrypt emails and device data.

- **Network security:** prevent and contain breaches on the network
By segmenting access across your network, you can better isolate and control critical areas of your network to contain breaches and prevent lateral move-

Key Steps to Zero Trust Model

Verify Users → **Validate Devices** → **Limit Previleged Access**

ment. Get more visibility into what's on your network so you can secure it with a zero-trust approach.

- **Workforce security:** control who gets access

Assume zero trust until you can verify the trust-worthiness of your users' identities and the security of their devices. Protect against phishing and other identity-based attacks.

- **Workload security:** protect the entire application stack

Secure access for APIs, micro-services, or containers accessing a database within an application, no matter where it's located--in the cloud, data centres, or other virtualised environments. Segment access and identify malicious behaviour to contain breaches and protect against lateral movement.

- **Device security:** control user and IoT devices

Get visibility into, better secure, and control every device accessing your applications and network at all times. That includes Internet of Things (IoT), network-enabled devices, and (managed and unmanaged) user devices like APIs, cameras, HVAC systems, printers, medical equipment, and more.

- **Visibility and analytics:** gain insight to enforce security

Improve or increase visibility and analytics for your users and admins by gaining insight to unknown or unidentified assets on your network, across workloads or applications. Integrate with other data sources to use information intelligently to create and enforce policies that strengthen your overall security posture.

- **Automation and orchestration:** respond to threats quickly

The ability to integrate and automate security across your entire IT environment - for applications, networks, and workloads - is key for the success of your zero-trust strategy. By automating policy enforcement consistently across your environment, you can prevent a breach and also automate your threat response to more quickly contain a breach.

Implementation of Zero Trust in Government ICT Environments

The government can benefit greatly from implementing zero trust architecture because of the following reasons:

- Criticality of the data
- Variety and volume of data
- Importance of availability of services
- Diversity of environments
- Shortage of skilled resources

Typical environment in a government setup includes data centers housing data & services and office networks housing users & devices. Zero trust has to be planned for both the environments separately with necessary tools, policies and procedures in place. The steps to zero trust can be:

❝

Zero Trust Architecture defines a framework for structural cyber security of modern enterprises. It combines some of the already well known and established security guidelines and highlights them as the basic of tenets of the framework.

❞

R S MANI
Deputy Director General, NIC

- **Identify resources** – data, assets, applications and services
- **Authenticate and authorize users** – user access policies should be based on identity
- **Contextualize request** – grant access to resources from users not only based on identity but other environment parameters like device used, network hooked on to, date and time of request, past history and pattern of access, etc.
- **Adaptive policy** – define access policies based on

context to grant/deny access
- **Grant least privileges** – grant access to resources explicitly requested by user rather than resources by virtue of user identity or network
- **Monitoring and audit** – monitor all access requests and patterns for establishing normal and identify anomalies based on normal.

Zero trust can be achieved using most of the existing tools and technologies already deployed in the environment with augmentation of a few new ones. It has more to do with design change rather than technology change. The technologies which can be used for achieving zero trust in a data center can include (not limited to) disk encryption, database encryption, database access management, privilege identity/access management using multi-factor authentication, network micro-segmentation, next-gen firewall, network intrusion prevention, host intrusion prevention, virtual private network, log monitoring and analysis. The tools for office network can include user identity management with multi-factor authentication, network access control, endpoint protection solution, network micro-segmentation and next-gen firewall with anti-advanced persistent threat.

Advantages of Implementation of Zero Trust

Various advantages of implementation of zero trust can be,

- Decreases risk by discovering assets and improving visibility into them
- Protect data
- Reduce time to breach detection and gain visibility into enterprise traffic
- Reduce the complexity of the security architecture
- Deliver both security and an improved end-user experience
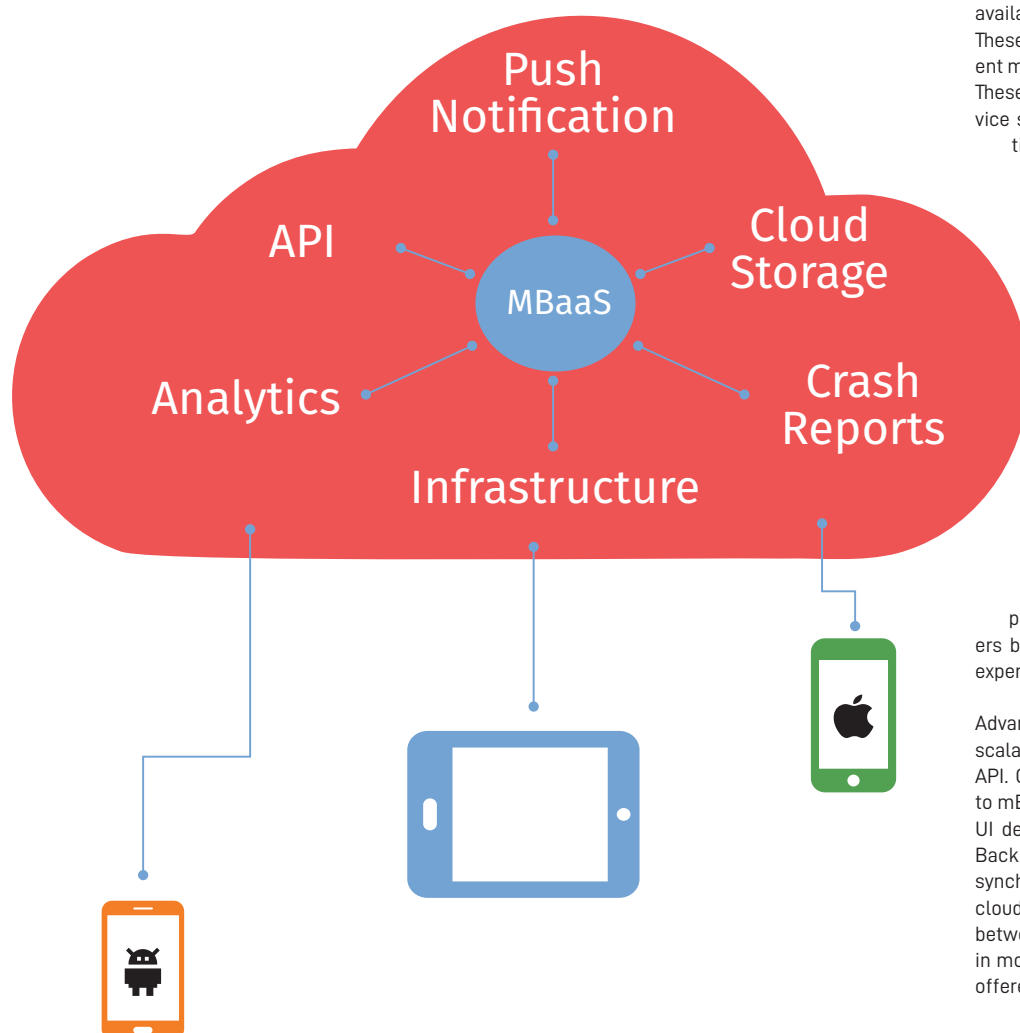
Summary

Zero trust is not a technology rather an infrastructure design principle built on security. It takes care of the modern threats faced by enterprises at the hands well-resourced and persistent adversaries. It begins with concept of isolation of resources and access based on requests after proper verification. Adoption of zero trust requires modification of policies and tweaking user behaviour to achieve the desired goals. It does not require a complete replacement of existing tools and technologies. New infrastructure being created can be designed on zero trust from the beginning. Existing infrastructure can be migrated gradually. Zero trust is not a choice any more, it is the way future infrastructure has to be designed to survive the cyber threats.

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Cloud based Mobile App Development

Digital India initiative of government promises service delivery at doorstep of the beneficiary and mobile first approach is helping to achieve the same goal. Whole paradigm of application development is moving towards mobile first concept which first provides essential services on mobile devices and build further based on priority and usability. NIC is developing mobile applications on iOS as well as Android platform. Many of these apps make use of functionalities like notification services, data synchronization and analytics which are cloud based services provided by the backend service providers like Google, Apple, Microsoft and Amazon.

Cloud based mobile app development utilizes the cloud data store and compute resources for development and operation of mobile apps. This technique allows development of user-friendly mobile applications, which can be used without being bound to the operating system of the devices. Mobile cloud refers to a set of services designed to provide cloud based data store, applications and other backend services. In cloud based mobile apps a part of data-processing and data storage task is performed by cloud, which is outside the mobile devices. A cloud-first data model is capable of persisting data even when the device is offline, it allows low-latency access to media anywhere in the world, and real-time data synchronisation across all mobile platforms

To utilize cloud infrastructure for mobile applications various backend services are created and are available as "Mobile Backend as a Service" mBaaS. These services are repeatedly consumed by different mobile apps to cater to same kind of use cases. These backend services are provided through service specific APIs/SDKs and reduce development time. Typical services which are available as "Mobile Backend as a Service" mBaaS are Push Notification, Cloud storage integration and Analytics.

Push notifications allows applications server to send information to mobile application without a request to application server. The information is displayed to user inside or outside of application based on mobile app is currently active or not. Push notifications may also be sent using websocket but there are limitations on scalability and performance with limited infrastructure as compared with mBaaS which offer multi dimensional services for mobile applications. Analytics allows to understand users behaviour, which further provides better user experience.

Advantages of mBaaS includes cost effectiveness, scalability, easy integration and well documented API. Offloading part of application business logic to mBaaS allows developer to put more efforts for UI design and to provide better user experience. Back end services enables mobile applications to synchronize data between internal storage and cloud. These services provides synchronization between different devices and offline capabilities in mobile application. Although many benefits are offered by mBaaS, they should be used after due

Push Notification

API

Cloud Storage

MBaaS

Analytics

Crash Reports

Infrastructure

Crime Free Himachal

Crime Free Himachal mobile app has been developed with the aim to reduce rate of crime in the state of Himachal Pradesh by engaging citizens, and the ultimate objective to make the State free of any kind of crime. This citizen-friendly app has been developed for the HP Police Department by the Centre of Competency for Mobile App Development, Shimla.

Shri Jai Ram Thakur, Hon'ble Chief Minister of Himachal Pradesh has launched the app on 11th February 2020. Using this app, the citizens, without disclosing their identity can inform the Police Department about any crime which has taken place or is likely to happen.

App Features ➡ Citizen identity kept secret, no questions asked ➡ Police control room analyses and processes information for taking further action ➡ In case the informing person provide his/ her phone number, they are informed telephonically about the action taken ➡ Bilingual, simple and short interface for citizens, with back-end interface for Police Department
➡ App is available in both Android and iOS

https://play.google.comstore/apps/details?id=nic.hp.crimefreehimachal&hl=en

👤 *Ajay Singh Chahal (sio-hp@nic.in)*

Ease of Living (EOL) App

EOL Survey aligns with the Sustainable Development Goals (17 SDGs) for achieving rural India's sustainable development. Universe of the survey includes automatically included and deprived households identified under SECC totaling to approximately 8.87 Crore households out of 17.97 Crore of total rural households in the country. SECC database ensures that the deprived getting the benefits of developmental programmes.

EOL Mobile App is an android application developed by the SECC-RGI-ECI Division of NIC for collecting information from deprived households. The base data (automatically included and deprived households of SECC 2011) will be available on the enumerator device to search and find household.

The EOL App was inaugurated by the Hon'ble Minister of Rural Development, Agriculture and Farmers Welfare & Panchayati Raj, Shri Narendra Singh Tomar on 19th December 2019.

App Features ➡ Both online & offline facility available to collect survey data ➡ OTP & E-mail based authentication ➡ Multilingual user interface, GPS Capture & Feedback Mechanism

https://play.google.com/store/apps/details?id=in.nic.ease_of_living.gp
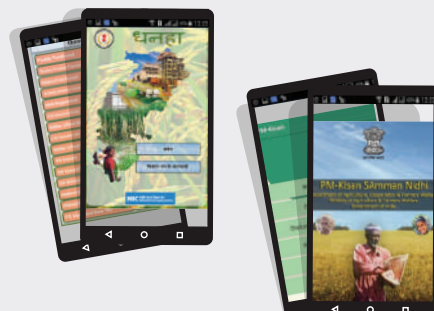
👤 *Varindra Seth (seth@nic.in)*

DHANHA

Dhanha is a Mobile app developed for the Department of Food Civil Supplies and Consumer Protection, Government of Chhattisgarh by National Informatics Centre, Chhattisgarh State Centre.

DHANHA is a multi-featured, Android based app which has user-centric information:

App Features ➡ Farmer's Land Record, Token Issued, Paddy Sold and Payment Status. It displays district-wise total quantity of paddy purchased. ➡ Quantity of rice received in NAN and FCI Centre ➡ District-wise total paddy lifted by miller from purchase centre and Sangrahan Kendra ➡ Issued to Sangaran Kendra. District- wise total paddy lifted by transporter from purchase centre. ➡ Society-wise summary of paddy purchased, paddy issued to miller/ transporter and stock in society ➡ Contact No. of DMO, Society Manager and Asst. Programmer ➡ Map to find Sangrahan Kendra, mill and purchase centre ➡ Display route map from the user's current location or any location chosen to selected purchase centre, mill and Sangrahan Kendra

https://play.google.com/store/apps/details?id=com.nic.cgmarkfedapp

👤 *Ajay Kumar Agrawal (dirfood.cg@gov.in)*

Campus Suite

Campus Suite mobile app is an Android based application developed by NIC-Kozhikode for the students of nine Government Medical Colleges of Kerala university of health sciences (KUHS) under Dept. of Medical Education, GoK. A student can install the app by selecting college, course and batch from the list with KUHS Registration No. It provides details of Student's Leave, Attendance, Clinical Posting Schedule, Stipend, Confidential Reports etc. Interface customization for UG, PG, House sergeants is available.

Features for House sergeant students
➡ **Clinical posting schedule,** Department-wise, for ensuring timely attendance ➡ **Stipend Register,** to check discrepancy in the calculations.
➡ **Leave register,** Department-wise, for additional duty days assigned ➡ **Confidential Report,** Department wise for awarded grades for clinical postings

Features for Other categories
➡ **Time table:** Duty assignment to the staff by HOD, topic-wise ➡ **Internal marks & Attendance:** Based on subject attended

https://play.google.com/store/apps/details?id=dme_ecampus.nic.in

👤 *T Mohana Dhas (sio-ker@nic.in)*

JanSamiksha HP

The Planning Dept. of Himachal Pradesh (HP) designs schemes to carry out development works at the grass root level and the funds are routed from head office to the respective district. The district planning development committee (DPDC) receives proposals from individuals, groups and Panchayati Raj Institutions under the defined framework of various schemes. DPDC sanctions new works and agencies are assigned to execute the works.

JanSamiksha is an initiative to empower the citizens of Himachal Pradesh so that they can send feedback on the status of any work carried out under these schemes at the field level. The citizen can rate the work and provide textual feedback along with the photograph of the work/ asset.

Features
➡ Data of all schemes being executed through Dy. Commissioner Offices ➡ Citizens can rate the works which are executed in their areas so that Planning dept. can take appropriate action ➡ Inspecting authorities get lists of all works under different schemes ➡ Available, both on Android and iOS platform

https://play.google.com/store/apps/details?id=nic.hp.Jansamiksha

👤 *Ajay Singh Chahal (sio-hp@nic.in)*

PMKISAN GoI

In order to augment the income of the small and marginal farmers, in February 2019, Government of India has launched the "Pradhan Mantri KIsan SAmman Nidhi (PM-KISAN)". In June 2019, the scheme coverage was expanded to all farmers, except those defined under non-eligibility criteria. Under the Scheme, a direct payment of Rs.6000 per year is transferred in three equal instalments of Rs.2000 each every 4 months to the bank account of eligible landholding families.

PMKISAN is an Android based App designed and developed for Ministry of Agriculture & Farmers Welfare, GoI by the Agricultural Informatics Division of National Informatics Centre (NIC) to help the Government to reach all eligible beneficiaries under PM-KISAN, and enable the farmers to check payment status, correct the name as per Aadhaar, check registration status, know the scheme and find helpline numbers.

Hon'ble Union Minister of Agriculture & Farmers Welfare, Shri Narendra Singh Tomar has launched this Mobile App for Pradhan Mantri Kisan Samman Nidhi on 24th February 2020.

https://play.google.com/store/apps/details?id=com.nic.project.pmkisan

👤 *Dr. Ranjna Nagpal (ranjna@nic.in)*

HPSLSA

The Himachal Pradesh State Legal Service Authority (HPSLSA) mobile app supplements the website of the HPSLSA. Developed by the NIC Centre at Himachal Pradesh High Court, Shimla under guidance of Centre of Competency for Mobile App Development, Shimla, this user-friendly app provides information to needy litigants on various services by HPSLSA. HPSLSA Mobile App was launched by the Hon'ble Mr. Justice L. Narayana Swamy, Chief Justice, High Court of Himachal Pradesh & Patron-in-Chief, HPSLA launched the. This Android based App is helpful for citizens who can't afford to engage lawyers and needed information as well as support for their court cases.

App Features ➡ Directly linked to the CMS based HPSLSA website ➡ Automatic update of data synchronised with the HPSLA website ➡ Information on welfare schemes being executed for the benefit of citizens, Legal Literacy camps, legal aid counsels, panel of lawyers, para legal volunteers, Support Centres available in the app

https://play.google.com/store/apps/details?id=nichp.in.hpslsa

👤 *Ajay Singh Chahal (sio-hp@nic.in)*

iHRMS-Punjab

Integrated Human Resource Management System (iHRMS) (https://hrms.punjab.gov.in) is an integrated application for managing HR activities of employees in Punjab. The system updates data of 3.60 Lakh employees regarding their Service, Salary, General Provident fund, GIS, Arrears, Increment, Property Return, ACR, Leave management etc. Government of Punjab uses this data for various administrative & financial decisions.

iHRMS Punjab App, developed by NIC- Punjab is an Android based mobile application in addition to the iHRMS system, using which the employees can view their Service details, Pay Slip, TDS, Annual Salary Statement (current and projected), requests for increasing / decreasing income tax deductions, apply GPF withdrawals, viewing GPF Ledger & Statement, GIS Statement, apply leave & view leave approval status and viewing Leave Ledger. Additionally, the employee can request updating of mobile number, email, address etc. Apart from government notifications, the other facilities available are Telephone and Email Directory of various departments, colleagues birthdays, display of government holidays etc.

https://play.google.com/store/apps/details?id=com.project.manavsampada.hrms.bab

👤 *Mukesh Kumar Ralli (ralli.mukesh@nic.in)*

GeoRurban

The GeoRurban mobile app has been developed for evidence based monitoring of the physical progress of the works under Shyama Prasad Mukherjee Rurban Mission (SPMRM), Dept. of Rural Development, MRD, GoI. It provides updates on the physical status of the works being executed in the clusters at regular interval with the facility of capture geo-tag enabled images of the works in progress, enabling analysis along the development cycle.

Developed jointly by NIC (Guwahati, Assam) and NIC-DRD (DRD informatics, Delhi), this app was launched on 24th February 2020 by Hon'ble Minister of Rural Development, Shri Narendra Singh Tomar.

Features: ➡ Account based login for the Centre, State, District and Cluster program functionaries ➡ Listing of works based on selected location ➡ Capturing and uploading multiple geo tag embedded images under each stage for monitoring, enabling detection of fraud and forgery ➡ Access to all works data, with evidence allowing easy reviews and audit

https://play.google.com/store/apps/details?id=in.gov.georurban.georurban&hl=en

👤 *Kabita Roy Das (asm.kabita@nic.in)*

e-Granthalaya

e-Granthalaya provides a digital platform on NIC-Cloud to transform traditional libraries into e-Libraries with the help of ICT tools, services and cloud-based hosting environment.

e-Granthalaya Mobile app is an additional facilitation, which has been developed by National Informatics Centre. The app provides new features to access the collection in the e-Library such as e-Books, e-Articles and other digital objects uploaded by member libraries. The app also has the search facility to find e-Catalogs and other information materials. Further, members can also view the list of books issued to his/ her name.

Besides various user-friendly experiences, the ae-Granthalaya mobile app has numerous exclusive features which include easy installation and connectivity with the instance of e-Granthalaya, discover local e-resources and news items that matter to the members, request the librarian through email for issuing a books of member choice, request for inter-library loan from other libraries etc., to name a few.

https://play.google.com/store/apps/details?id=com.nic.eg4mobile&hl=en

👤 *Ajay Rampal (ajay.rampal@nic.in)*

diligence. Different services like push notification requires passing information to mBaaS infrastructure.

Many mobile apps developed in NIC handle critical data, and information has to be passed only after due consideration its sensitivity. Mobile App developer has little or no control over mBaaS infrastructure, developers interact with provided APIs and fixed protocols which cannot be changed as per convenience.

There are many service providers to choose from while developing a Mobile App with backend services. Factors which effect the choice between various service providers are support for services, ease of integration and scalability. Mobile app developer may choose the best suitable service provider for their application. Some of the more popular service providers are:

• **Firebase** provides various tools to develop high-quality apps, It was acquired by Google in 2014. Firebase has support for android as well as iOS. It has well documented API and provides easy integration with mobile app. Some of the services offered by Filebase are Analytics, Cloud Messaging (FCM), Crashlytics, and Storage.

• **CloudKit** is a framework by Apple to transfer data between iCloud and devices. Apple CloudKit iOS backend as a service and early integrate with other iOS apps when CloudKit is used.

• **Microsoft's Azure Mobile App Service**- MS Azure mBaaS allows Databases integration, Push notifications, Social media integration as well as Offline synchronisation capabilities.

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Visit the Mobile App Store at
https://egovmobileapps.nic.in

Apps uploading related queries contact:
Deepak Mittal
eMail: mobileapps-nic@nic.in
Phone: 011 - 2430 5494

Meena is Google's first truly conversational AI

Google is attempting to build the first digital assistant that can truly hold a conversation with an AI project called Meena. Digital assistants like Alexa and Siri are programmed to pick up keywords and provide scripted responses. Google has previously demonstrated its work towards a more natural conversation with its Duplex project but Meena should offer another leap forward.

Meena is a neural network with 2.6 billion parameters. Google claims Meena is able to handle multiple turns in a conversation (everyone has that friend who goes off on multiple tangents during the same conversation, right?)

Google published its work on e-print repository arXiv on Monday in a paper called "Towards a Human-like Open Domain Chatbot". A neural network architecture called Transformer was released by Google in 2017 which is widely acknowledged to be among the best language models available. A variation of Transformer, along with a mere 40 billion English words, was used to train Meena.

Google also debuted a metric alongside Meena called Sensibleness and Specificity Average (SSA) which measures the ability of agents to maintain a conversation. Meena scores 79 percent using the new SSA metric. For comparison, Mitsuku – a Loebner Prize-winning AI agent developed by Pandora Bots – scored 56 percent.
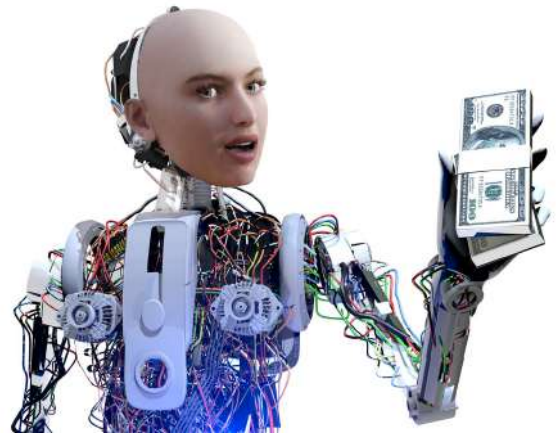
The result of Meena brings its conversational ability close to that of humans. On average, humans score around 86 percent using the SSA metric. We don't yet know when Google intends to debut Meena's technology in its products but, as the digital assistant war heats up, we're sure the company is as eager to release it as we are to use it.

Source: https://artificialintelligence-news.com

Vietnam launches mobile disinfection chamber
The chamber aims to prevent and reduce the spread of infectious diseases.

The Ho Chi Minh City University of Technology, in collaboration with the Centre of Science and Technology Development for Youth, has successfully created and officially launched a mobile disinfection chamber serving people in COVID-19-affected areas. The creation of the chamber aims to prevent and limit the spread of infectious diseases, especially in the current situation of COVID-19 pandemic.

As per media reports, it is expected to be installed in areas at high risk of COVID-19 infections such as quarantine areas containing people infected with COVID-19, as well as at hospitals, supermarkets, railway and bus stations, airports, offices, schools, and other crowded areas.

Initially, three mobile disinfection chambers will be set up at the HCM City Youth Cultural House in District 1, HCM City Traditional Medicine Institute in Phu Nhuan district, and the Saigon Union of Trading Co-operatives (Saigon Co.op) in District 1. The chamber is designed as a module so it can be easily installed, uninstalled and transported. Its main component is a 360-degree fog mist sprayer using an anolyte solution which is a powerful disinfectant against bacteria and viruses.

It automatically activates the disinfection spraying process once a person steps in.

It only takes 30 seconds to complete a round of disinfection in each chamber. It is estimated that each chamber can disinfect up to 1,000 people per day. Around 100 chambers could be manufactured a week to meet the needs in the city and southern provinces.

The Ministry of Information and Communications (MIC) announced a text message campaign to call for public support against COVID-19.

MIC, the Vietnam Fatherland Front Central Committee's Standing Board, the Health Ministry, and the Vietnam Red Cross Society jointly launched the campaign with the aim of raising funds to support COVID-19 prevention and control efforts.

The campaign started on 19 March and will end on 18 June 2020.

Supporters can join the programme by texting "CV n" to 1407, of which "n" is the number for support. Each text message will contribute at least VND 20,000 (US $0.86) to the fund.

All the money pooled by the programme will be used to buy medical equipment, necessities, and support COVID-19 patients and those undergoing quarantine.

In his speech at the launching ceremony, the President of the Vietnam Fatherland Front Central Committee, Tran Thanh Man, appreciated relevant agencies for organising the campaign, saying that it will significantly contribute to preventing the epidemic.

The Vietnam Fatherland Front had also launched a fund-raising programme on 17 March, which has so far raised over VND 282 billion (over US $12 million), he said. The government also launched a mobile application for Vietnamese citizens to declare their health status. Citizens can update their daily health status and they can also provide information to the best of their knowledge about cases suspected of having the COVID-19 in their residential areas.

Data collected through the app will help the nation's health sector to identify who needs medical assistance in the fastest and most effective manner.

Source: https://www.opengovasia.com/

Australia's new AI project aims to deliver archive reform

Under the Business Research and Innovation Initiative (BRII), six businesses have been granted $1 million each to develop their proposed tech solutions.

The automating the archiving of petabytes of data relies heavily on machines learning the context of government records. Thus, the federal government has announced millions of dollars in grants to Australian tech companies, to help spur innovation that will solve some of the trickiest technology challenges it currently faces.

Under the Business Research and Innovation Initiative (BRII), six businesses have been granted $1 million each to develop their proposed solutions. That $6 million is in addition to $1,465,597 allocated in feasibility study funding.

The Federal Minister for Industry, Science and Technology stated that some businesses are working to use intelligent data to keep the nation's tourism industry at the leading edge, while others are ensuring the country can manage risks of hitchhiking pests on shipping containers.

This funding will help businesses which have completed feasibility studies further develop their innovative solutions.

The BRII program challenged tech companies to solve specific problems within the following topic areas:

1. Providing fast and secure digital identity verification for people experiencing family and domestic violence.

2. Using intelligent data to transform tourism service delivery.

3. Upgrading the government's capability to help deliver world-leading digital services.

4. Managing the biosecurity of hitchhiking pests and contaminants on shipping containers.

5. Automating complex determinations for Australian Government information.

Amongst the $1 million recipients working to protect Australia's flora and fauna from pests, diseases and contaminants that can arrive on sea containers is Industry Spec Drones, which proposes to use unmanned flight technology to manage biosecurity risks, and Trellis Data, which will use detection technologies such as microwave and infrared to manage potential biosecurity threats.

Another firm, WEJUGO, will use its $1 million grant to develop a visitation and tourism analytics platform that combines data from transactional, telecommunications, social media and other digitally sourced data into a 360° view of tourism impacts across economic, environmental and cultural performance metrics.

And Surround Australia will leverage existing tech platforms to build a solution that "identifies the cultural and heritage dimensions of records.

Automating data determinations

The overall aim of the BRII's 'Automating complex determinations for Australian Government information' theme is to develop an accurate and scalable way to decide the value of government digital information and data and to determine whether it should be preserved or destroyed using artificial intelligence, machine learning, automation, data management and analytics, data science, archiving, business process management technologies.

This challenge is not just a theoretical construct. The National Archives of Australia (NAA) has a real problem on its hands with dealing with the volume of data generated by government and deciding which records need to be kept and for how long, or whether they can be destroyed.

Currently, this process is done largely manually, which imposes a huge cost burden on the NAA and government in general.

According to BRII program guidance, the National Archives is looking for an automated, innovative, accurate and reliable solution to create and manage complex decisions about the value of information and data.

Humans can then redirect their efforts towards exceptional and complex decision points. This product would be attractive to governments at all levels, as well as any private sector or not-for-profit organisation that manages information and data.

One company aiming to tackle this challenge is Canberra-based Lenticular, one of the $1 million grant recipients. The firm aims to develop a system that aims to help the government make informed decisions about record-keeping by developing and crafting contextual knowledge, and accessing this knowledge through user-configurable rules.

Lenticular was co-founded by two members of the team behind the Parliamentary Document Management System (PDMS). The PDMS connects Australian Government agencies and parliament under the whole-of-government Parliamentary Workflow Solution system. It is used by more than 50 agencies, has 26,500 registered users and processes an average of 302,000 records every year.

Lenticular's NAA-challenge inspired BRII project is partly a response to its experience in developing the PDMS and will rely heavily on artificial intelligence.

Source: https://www.opengovasia.com

eOffice portal launched by Shri Trivendra Singh Rawat, Hon'ble Chief Minister of Uttarakhand

The eOffice Portal of Uttarakhand (https://eoffice.uk.gov.in) was launched by Shri Trivendra Singh Rawat, Hon'ble CM of Uttarakhand on 21st January 2020 at Uttarakhand Secretariat, Dehradun. During the event by digitally signing electronic file, Hon'ble CM has approved the roll out the eOffice Application in the Uttarakhand Secretariat. Held during the IAS week, the launch event was witnessed by Shri Utpal Kumar Singh, Chief Secretary, Smt. Radha Raturi, Addl. Chief Secretary (Secretary Administration Dept.), Shri Ramesh Kumar Sudhanshu, Secretary (IT) with other senior level IAS officers and District Magistrates joining the event across the state.

Shri Rajeev Joshi, Sr. Technical Director & eOffice State project coordinator of NIC-Uttarakhand State Office presented the work flow, processing

Shri Trivendra Singh Rawat, Hon'ble CM, Uttarakhand launching eOffice

and features of eOffice to all the State and District Level dignitaries during the eOffice soft launch event. A helpdesk has also been set up for quick and required technical support and review monitoring of the same would remain a continuous process. As planned, the system would shortly be rolled out at remaining pockets of the apex institution.

- Arvind Dadhichi, Uttarakhand

Akshay urja portal enabled with Bharatmaps - Multilayer GIS platform of NIC launched by Hon'ble Minister of State, Shri R.K. Singh

The Hon'ble Minister of State (I/C) for Power and New and Renewable Energy and Minister of State for Skill Development and Entrepreneurship Shri R.K. Singh launched the new website of MNRE & Akshay Urja Portal, on 13th March 2020. The Akshay Urja Portal is enabled with NIC's Bharat Maps – Multilayer GIS platform, which is being used for navigation purpose.

The portal is a single source of information for state-wise monthly ca-

Hon'ble MoS, Shri R K Singh launching the new website of MNRE & Akshay Urja Portal

pacity, generation and potential with respect to solar, wind, small hydro, bio energy & waste-to-energy, and off-grid components like Street Lighting System, Home Lighting System, Solar Lanterns, Solar Pumps. **URL: https://mnre.gov.in** and **https://akshayurja.gov.in**

- Informatics News Desk

DG NIC, Dr. Neeta Verma receives 'Pt. Deen Dayal Upadhyaya Recognition for Re-Engineering India 2020'

DG, NIC awarded with 'Pt. Deen Dayal Upadhyaya Recognition for Re-Engineering India 2020' in Technology/ Government/ Individual Category for establishing the firm foundation of a futuristic data driven developmental good governance by setting the data.gov.in and for having taken up the doctrine of open Government Data to its fascinating frontiers which involves the creation of the institution of Chief Data Officers vis-a-vis the Chief Information Officers, which is a paradigm shift in precept and pro-activeness.

- Informatics News Desk

Dr. Neeta Verma, DG, NIC receiving the Citation

Hon'ble Union Minister, Shri Narendra Singh Tomar launched the PM-Kisan Mobile App

Hon'ble Union Minister's speech address during the launch ceremony

Hon'ble Union Minister of Agriculture & Farmers Welfare, Shri Narendra Singh Tomar launched Mobile App for Pradhan Mantri Kisan Samman Nidhi in the press conference organised on the occasion of the successful completion of one year of PM Kisan Samman Nidhi scheme.

The PM Kisan Samman Nidhi Mobile App has been designed and developed by the Agricultural Informatics Division of NIC. The App will facilitate farmers to know about the Registration Status and Payment Status. Farmer can check whether his Aadhaar is authenticated as it is mandatory for receiving benefits from December 2019 onward. In case, farmer is not

Aadhaar authenticated, he can correct the name as per Aadhaar. Farmers can register themselves on the portal using mobile app and know about the scheme, its exclusion criteria and help-line numbers. The officers of Agriculture Informatics Division, NIC namely, Dr (Mrs.) Ranjna Nagpal, DDG NIC, Mrs Pratibha Lokhande, Scientist – F, Mr. Bala Sunder, Scientist-D, Mr. Shailendra Saxena, Scientist – D, Ms. Diksha Shukla, Scientist-B and team of PM Kisan developers participated in this historic event.

- Informatics News Desk

Hon'ble MoS for HRD, Communications and Electronics & IT visited NDC and NIC Bhubaneswar

Shri Sanjay Shamrao Dhotre, Hon'ble MoS viewing the presentation

Shri Sanjay Shamrao Dhotre, Union Minister of State for HRD, Communications, Electronics and Information Technology, visited National Data Centre (NDC), Bhubaneswar and National Informatics Centre, Odisha State Centre, Bhubaneswar, on 16th January, 2020.

Dr SC Pradhan, DDG NDC presented functionality & activities of NDC and Mrs. Pratibha Singh, DDG & SIO presented the ICT development and support activities of NIC, Odisha to the Minister.

- Informatics News Desk

Hon'ble Transport Minister, Bihar inaugurated #NICMeitY developed 'e-Challan' through the hand-held device and 'Online Test for Learner License'

Shri Santosh Kumar Nirala, Hon'ble Minister inaugurating 'e-Challan'

Hon'ble Transport Minister of Bihar, Shri Santosh Kumar Nirala, inaugurated 'e-Challan' through Hand-Held Device and 'Online Test for Learner License', in the State. Through the eChallan, instant Challan will be issued to the traffic rule violators across all districts of Bihar. The online test will help in increasing the knowledge about traffic rules and bring transparency in the process of issuing driving licenses in the State.

Shri Sanjay Kumar Agrawal, IAS, Secretary, Smt. Seema Tripathi, IAS, Commissioner, Transport Department, Govt. of Bihar, Shri Rajesh Kumar Singh, SIO, NIC Bihar, Dr Kanhaiya Pandey, Senior Technical Director, NIC, Shri Rana Pratap, Technical Director, NIC and other dignitaries were present on the occasion.

- Informatics News Desk

NIC developed 'MyGovUttar-akhand' portal launched by Hon'ble CM, Uttarakhand

Hon'ble Chief Minister of Uttarakhand, Shri Trivendra Singh Rawat has launched **MyGov** Uttarakhand portal in Dehradun on February 19, 2020. With this, Uttarakhand has become the 12th State under MyGov SaaS Offering.

Speaking on the occasion Shri Trivendra Singh Rawat said MyGov Uttarakhand portal will go a long way in strengthening public participation in the governance process. This unique platform aims to enhance citizen partnership with the State Government and vice versa. MyGov Uttarakhand will help people of the State to post their views, suggestions, feed-

Shri Trivendra Singh Rawat, Hon'ble CM Uttarakhand launching 'My Gov Uttarakhand'

back to the government directly. Ms. Alka Mishra, DDG & HoG, MyGov and State Coordinator, Uttarakhand participated at the launch. **URL: https://uttarakhand.mygov.in**

- Informatics News Desk

Launch of revamped S3WaaS based Websites of District Srinagar and Baramulla by Hon'ble Union Minister

Hon'ble Union Minister of Law & Justice, Communications, and Electronics & Information Technology, Shri Ravi Shankar Prasad inaugurated the S3WaaS based revamped websites of districts Srinagar and Baramulla on 23rd January 2020 during his visit to Kashmir.

In his key address during the inaugural event, he said that districts are the key entities in the government structure where actual execution of schemes and programs take place and district level websites is an important link between the administration and citizens. S3Waas has been envisaged to bridge this gap and built with an objective to empower the district administrations to generate, configure, deploy and manage secure, scalable and accessible websites for publishing district specific information and services without much effort and technical knowhow. Honorable Minister stressed that tagline for website of district Baramulla should be "District Baramulla is the only place in the world where three hundred different varieties of apple are grown".

The State Informatics Officer, NIC J&K Shri Abhay Kumar apprised the Hon'ble Minister that after the suspension of Internet in J&K, NIC Srinagar has established 15 Internet Facilitation Centres (IFC's) in District Srinagar in collaboration with District Administration. So far, these Internet Facilitation Centres (IFCs) have provided Internet services to more

Hon'ble Minister inaugurating revamped District Websites of Srinagar and Baramulla

than two lakh users. These include students and faculty members of various schools, colleges and universities, doctors, paramedics and faculty members of associated hospitals of Govt. Medical College Srinagar, businessmen, tourists, hoteliers, contractors etc. All the District and Divisional level officers/officials use the internet facility at these centres for activities like uploading / downloading of data regarding centrally sponsored schemes, e-tendering, budgetary allocation, GST Returns, Income Tax filing, mail services etc.

NIC Srinagar and NIC Baramulla have also coordinated and provided Internet and other logistical support for the conduct of various National Level Entrance examinations like JEE Main, NEET PG, JRF etc at various examination Centres established at Srinagar by National Testing Authority. NIC district centre Baramulla also provided Internet services to more than one lakh users.

- Jit Raj, Jammu & Kashmir

NIC developed 'e-Gazette' portal launched in Karnataka

Hon'ble Chief Minister of Karnataka, B.S. Yediyurappa launched NIC developed 'e-Gazette' portal in the State on January 1, 2020. This online portal facilitates general public to access and download the Gazette notifications of Government of Karnataka. Gazette of Karnataka Notifications are published by Department of Printing, Stationery and Publications and is an authorized legal document of Govt. of Karnataka. All parts, Section and Sub-section of Gazette of Karnataka are uploaded in the e-Gazette and can be accessed free of cost by the general public being available in the public domain.

Hon'ble Chief Minister, Shri B.S. Yediyurappa addressing at the launch ceremony

- Informatics News Desk

NIC developed website for Directorate of Fisheries, Odisha launched by Dr. Arun Kumar Sahoo in Bhubaneswar

Hon'ble Minister, Dr. Arun Kumar Sahoo, launching the website of Directorate of Fisheries, Odisha

Hon'ble Minister of Agriculture & Farmer's Empowerment, Fisheries & ARD and Higher Education, Dr. Arun Kumar Sahoo, launched the Website of Directorate of Fisheries, Odisha, at Bhubaneswar on 24th January 2020. Shri R. Raghu Prasad, IFS, Comm.-cum-Secy. Fisheries & ARD Department, Dr. M. Muthukumar, IAS, Director, Agriculture & F.P., Odisha, Shri Ratnakar Rout, IAS, Director A.H.V.S. and Dr. N. Tirumala Naik, IAS, Director Fisheries, Odisha were present at the inauguration ceremony.

The website has been designed and developed on NIC's SWaaS framework by NIC, Bhubaneswar team, under the guidance of Shri Prakash Kumar Mishra, Scientist-E, NIC, BBSR.

- Informatics News Desk

Haryana Labour and Employment Minister, Shri Anoop Dhanak launched the web-portal of Employment Department of Haryana

Haryana Labour and Employment Minister, Mr. Anoop Dhanak launching the web-portal of Employment Department

Under the Government to Citizen (G2C) campaign to facilitate the easy online registration of job aspirants, Shri Anoop Dhanak, honourable Minister of Labour and Employment has launched the webportal of Employment Department on 7th January 2020. This multi-featured web portal was developed by NIC Haryana.

The web portal developed by NIC Haryana enables job seekers to get registered with the employment exchange of his area of residence and having facilities to job seeker to file online request for renewal, transfer, qualification addition, experience addition, updation of correspondence address, participation in job fairs etc. The portal also enables job seekers to get short-listed against the vacancies posted by the employers with the district exchanges according to their seniority.

- Deepak Sawant, Haryana

eOffice implementation Award 2020 to NIC

Dr. Jitendra Singh giving away the Award to Dr. Neeta Verma, DG, NIC

Hon'ble Minister of State, Dr. Jitendra Singh has conferred the eOffice implementation Award 2020 to National Informatics Centre for its excellence in implementation of eOffice in NIC. Digital file (efile of eOffice) usage in NIC is over 85 percentage today. Department of Administrative Reforms & Public Grievance (DARPG) has organized a National Workshop on eOffice on 12th February 2020 at New Delhi.

The Award was received by Dr. Neeta Verma, DG, NIC, Shri Nagesh Shastri, DDG, NIC and Shri Rajiv Rathi, DDG, NIC.

- Informatics News Desk

CSI-SIG e-Governance Awards 2019

The CSI SIG eGov Awards 2019 ceremony was held on 17 January 2020 in the KiiT campus of Bhubaneswar in the august presence of the Hon'ble Chief Minister of Odisha, Shri Naveen Patnaik and guests of Honour Shri B P Acharya, Director General, Dr. MCR HRD Institute of Telangana and other dignitaries.

NIC has received many awards and citations in this event. Here are some of the glimpses of the Awarding ceremony.

A. NIC Himachal Pradesh State Centre has bagged two CSI SIG eGovernance Award 2019 for the Project Him Pragati and The Cooperation MIS.

B. NIC Rajasthan has bagged three CSI SIG eGovernance Award 2019 in various categories.
PCTS Mobile App : Award of Excellence
Integrated Shaladarpan : Award of Appreciation
Rajasthan Business Register 'BR' : Award of Recognition

C. Agriculture team of NIC , Odisha and Department of Agriculture and farmers' Empowerment, Govt. of Odisha has bagged CSI SIG eGovernance Award 2019 for the Project Digital Transformation solution for distribution and monitoring system of Agricultural Implements and increasing Irrigation Potential through electric and solar.

D. NIC Madhya Pradesh State Centre has bagged CSI SI eGovernance Award 2019 for the Project e-ANUGYA

E. NIC Lakshadweep has bagged the prestigious CSI-SIG egovernance Award of Sustenance 2019 for the project Online Pre Harvest Test System.

F. NIC Meghalaya has bagged the prestigious CSI-SIG egovernance Award of Recognition 2019 for the project MeghEA Online Questionnaire.

G. NIC Kerala bagged the following three awards from CSI:
Public Distribution System – End-to-End Computerization project of NIC Kerala bagged the prestigious CSI SIG Award for Excellence.
KSWIFT – Ease of Doing Business System - bagged the CSI SIG award of Appreciation.
PEARL - Package for Effective Administration of Registration Laws – bagged the CSI SIG award for Recognition.

H. NIC, Bihar bagged three "Awards of Excellence" at CSI SIG e-Governance Awards 2019 for the project Kanya Utthan Yojana Portal, Aapda Sampoorti Portal and Bihar Rajya Fasal Sahayata Yojana.

I. NIC-Haryana State Centre bagged the following four awards from CSI:
Progressive State in eGovernance - Award of Appreciation
Litigation Management System - Award of Excellence
PMKISAN State Portal - Award of Recognition
Component Based Web-HALRIS – Award of Appreciation

J. NIC Culture Informatics Division along with ASI received the CSI SIG eGovernance Award of Excellence for the Project - ASI e-Governance system

K. NIC Goa has bagged the prestigious CSI-SIG egovernance Award of Excellence 2019 for the project Goa Excise Management System(GEMS).

L. Ministry of Housing and Urban Affairs has bagged the prestigious CSI-SIG egovernance Award of Excellence 2019 for the project Swachh Bharat Mission (Urban) MIS.

Haryana receives Gold Award for Antyodaya Saral Haryana

Haryana Saral team receiving Gold award from Hon'ble Union Minister Shri Jitendra Singh

The Haryana State Government's determined and persistent efforts for e-Governance to ensure time-bound and hassle-free delivery of citizen-centric services to the people have been recognized and rewarded by the Central Government. The "Antyodaya Saral Haryana" Project of the State has been conferred with the Gold Award in the category of 'Excellence in providing Citizen Centric Delivery' at the 23rd National Conference on e-Governance organized by the Department of Administrative Reforms and Public Grievances, Government of India (DAR&PG) in Mumbai on 8th February 2020. The award was given away by Honourable Union Minister, Shri Jitendra Singh and was received by Dr. Rakesh Gupta, IAS & Project Director CMGGA and Shri Deepak Bansal, SIO, NIC Haryana along with his team. The award consisted trophy, citation, individual certificates and cash reward of Rs. 2 Lakh.

Lt. Governor, Shri Girish Chandra Murmu presenting Special UT Award to Shri Baiju Ubbot

Lt. Governor, J&K felicitates J&K UT Unit Officer with Special Union Territory Award

H.E., the Lieutenant Governor, Shri Girish Chandra Murmu, on the occasion of the 10th National Voters' Day celebrations across J&K has given away the Special UT Award to Shri Baiju Ubbott, Scientist-D, NIC-J&K UT Unit for the outstanding contribution towards electoral rolls and election management system in J&K. The event was a part of a Voter's Day Awareness Program organized by the Election Department, J&K.

H.E., the Governor of Tripura confers the State Award 2019 to NIC-Tripura on the 10th National Voter Day

Shri Achintya Kumar De, Sr. TD, NIC Tripura receiving award

During the observance of 10th National Voter Day on 25th January 2020, His Excellency, the Governor of Tripura, Shri Ramesh Bais has given away the State Award 2019 to Shri Achintya Kumar De, Senior Technical Director, National Informatics Centre, Tripura at a solemn ceremony held in Rabindra Satabarshiki Bhavan, Agartala.

The award was conferred for the excellence in technology support provided to the State Government during the Lok Sabha Election 2019. Shri Achintya received the award on behalf of all the State and District officers of NIC Tripura, who worked tirelessly to provide excellent ICT support for the Election.

State Level Award for Best Electoral practices-2019

Chief Secretary, Bihar Shri Deepak Kumar awarded State Level Award for Best Electoral Practices-2019 to Shri Narendra Kumar, NIC Bihar

The State Level Award for Best Electoral practices-2019 was awarded to Shri Narendra Kumar, Principal Systems Analyst, NIC-Bihar for his contribution towards Initiative/ Intervention of IT Applications during General Parliamentary Election – 2019 on account of 10th National Voter Day on 25th January 2020. The Chief Secretary, Bihar Shri Deepak Kumar has given away the award in the presence of Shri H R Srinivasa, Chief Electoral Officer and State Icon Smt. Santosh Yadav, mountaineer (Mount Everest).

The Chief Electoral Officer appreciated the NIC, Bihar officers for their excellent contribution under the guidance of Shri Rajesh Kumar Singh, DDG & SIO, Bihar.

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