

SARAL e-Governance Aspiration to Excellence and Institutional Memory

Towards Transparency and Accountability



भारतीय प्रौद्योगिकी
संस्थान जम्मू
INDIAN INSTITUTE OF
TECHNOLOGY JAMMU

Rajendra Solanki, Ankit Kathuria
and
Manoj Singh Gaur

Abhyuthanam | 27 May 2024

भारतीय प्रौद्योगिकी संस्थान जम्मू : पारदर्शिता और उत्कृष्टता की
ओर

Outline

Before sharing our Story

Thoughts on Future Ready Governance

Our e-Governance System (EGS) Journey

Why? What are we doing? How are we doing it?

A day in the life of EG/SARAL: Few Glimpses

Landing Page Alerts, Workflows, Dashboards, Reports

Lessons Learned

Solutions that can be replicated easily

Caution

What you should guard against?



E-Governance

Purpose:
Future Ready
Governance

Governance
Solutions for

People with
aspirations
- Citizens (first)
- Office Bearers

Product for
- People (first)
- Processes



Before sharing our Story

Ideally: Future Ready Governance should be
Digitally Transformed, Continuously Evolving and Improving, Basics in-place, Accountable at Every Level - this has to be visible to people, Agile, Resilient.

Just look at the Past Two Decades:

Responsive, Transparent, Efficient, Accountable governments - have done exceedingly well, leveraging Technology for greater good, societal good.

Good Governance is inclusive, now

No one can (and should) stay out, or You will be replaced !

(if we have) **Data** -> **Data-Assimilation** -> (it drives) **Decision Making** ->
(and produces) **Results** Irrespective of gaps in the information or processes or teams

Technology is an Enabler

Can achieve Scale, Accuracy, Monitoring - UPI, Aadhar, CoWIN are the best examples!
Monitoring Infrastructure projects : NH, Atal tunnel, UBSRL projects possible.

Analytics and AI in Governance

Can we **analyze and predict better**? Can we answer **context-based** tough questions?
Human touch should remain alive!

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Future Ready Governance

Digitally Transformed

- . Capable to **launch new ideas in a Jiffy and at Scale**: Aadhaar as a Platform, DBT, UPI (10 Billion USD Transactions), CoWIN (220 Crore doses administered), ONDC
- . Railway Reservation, Income Tax Return filing, Passport Seva Kendras - how **organically** flourished to **impact our lives!**
- . Saral, Jan-Sugam, 100s of new citizen centric services will come, our employees can make meaningful impact on the lives of our people through **single window platforms**.

Continuously Improving

- . Data -> Assimilation -> Feedback -> Learn -> Act -> Improve
- . Cross-Domain (**Interdisciplinary**) approach, **NEP 2020** mandated it - **multiple departments** and organizations should have greater **synergy and coordination** for common goal (**Chandrayan** team).... **Range than Pure Expertise**
- . **Yes, Innovations** are possible in Services and Governance - all domains e.g. Efficient Budget Control, Configurable Delegation of Power (DoP).

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Future Ready Governance

Basics in-place

- . (Re)-Define -> Implement -> Improve -> Optimize Processes
- . Bring **People from all walks of life**
- . Inculcate **ownership** at individual level (see ***Chandrayan story***)
- . **Trust** (new currency) - based on DLT, Blockchain (see DLT-based SMS Registrar) or ***Zero Trust?***
- . Top-class **Security and Privacy** practices (now we have ***DPDP Act***)
- . **Trust, Privacy and Security** cannot be an after-thought!

Accountability at Every Level

- . Governance: to people, for people, by people : **Everyone is beneficiary!**
- . When things do not move, **Nudge** : have auto-notifications on pendency without changing workflows, “they know now, that we know”
- . ***Naysayers will demand good governance when they see its benefits***
- . Slowly, **compliance** is not an option -> That is the aim of Governance
- . Go for Governance solutions even if it works for 70% or 80%, others will join and **solutions will evolve**

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Future Ready Governance

Sustain longer

- . *This investment is not just for 5 years for us or one project journey!*
- . *How to adopt for new ways of doing things?*
- . *Evolving User Interface*
- . ***Respect for all stakeholders!***
- . ***Reports analysis for improved decision-making.***
- . ***Resilient to disruptions (lockdowns, pandemic, temperature)***

Institutional Memory

- . *History of transactions over the years*
- . ***We can analyze data longitudinally!***
- . ***What worked and what did not.***
- . *Where to go from here.*
- . *Interconnected modules should evolve with the least conflict*
- . *Record retrieval is swift and it can help decision making!*

“Simplifying Academic, Research and Administrative Life” (सरल)

May 2024

July 2018



Our Need in 2018

A must for a nascent yet aspiring institute in 2018

Automation

*Early start is the key
Engineer work flows to ensure efficiency to deliver*

Single window platform

To imbibe Transparency, Efficiency, Accountability

Automate : almost everything

For a Science and Technology Institute

End to End accounting

Income, Expenditure, Budgeting, and Reporting, etc.

Our Challenges

Adoption

Getting everybody on-board (PhD, postdoc, passionate people)

Convergence

Evolving automated workflows in typical paper-full environments

Training

Stakeholder's resistance to change, "We know everything"

Processing

People could find shortcuts (easy routes) for taking files forward

Dynamically changing requirements

Any new Institute slowly defines and adopts regulations

Our needs put us in driver seat.

→ We have overcome these challenges.

By May 2024

20700+ BENEFICIARIES

1610 Students

656 Alumni

300 Staff

96 Project Staff

1780+ Suppliers

15700+ PG/PhD
applications

600+ Saptarshi
(External) Users



Thrust Domains

Academic Programs

UG, PG, PhD and end-to-end student life-cycle, Continuing Education Programs

Human Resources

Service records, end-to-end staff life-cycle

Accounting and Finance

Present vs Planned, analytics for capacity upgrades and planning

System Admin and Configuration

*Curating Work Flows, Admin panel, Ordering tasks, **Role Based Access Control**, Reports, Help Desk, Auto-Escalation*

Purchase and Inventory Control

Purchase Requisition, PO, Claims payments, Creation of Fixed Assets, Imports

Research and Consultancy

Sponsored projects, consultancies and seed funding

Miscellaneous

Travel, Guest Travel, Guest House Management

Overall progress

Deployment completed,
Service period of 5 years
ending in June 2024

Security Audit in 2022

Modules

Academics | System Admin |
Accounts and Finance |
HR and Payroll |
Purchase | R and C |
Miscellaneous



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Technology

Open Source

Operating System	Web Server	Database	Scripting Language
Linux	Apache	MySQL	PHP

Development Platform

PlumWare

Framework developed on open standards
Rapid application development, Easier customization

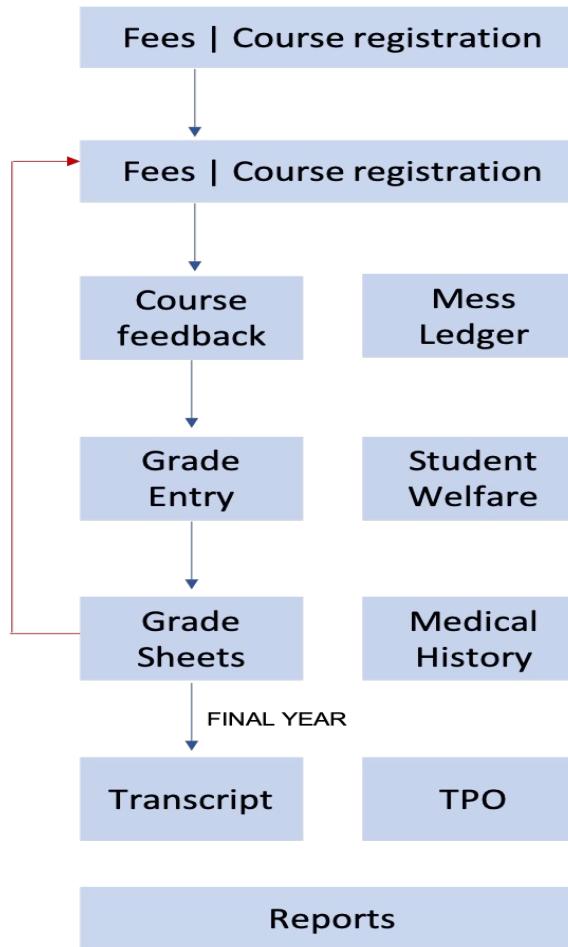
Solution

100% Web based
Anytime Anywhere e-Governance Solution

Effort

18 months of initial rigorous deployment
More than 72000 productive person-hours in the first three years

E-Governance



Progress

Academics

End-to-end Student life-cycle management

From admissions to transcripts and no dues

Online Fee payment and reconciliation

Many categories and many exemptions

Course Feedback

Students | Faculty | Course File

Integrated Admissions Management Portals

PG and PhD Admissions (Anytime PhD)

Scholarships and Project Salaries

All different kind of scholarships and fellowships

Grievance Management: Student Request,

Academics and Student Affair matters, Service delivery

Students Studying (Active)

Caption	Total
Under Graduates	853
Post Graduates	449
Ph.D Scholars	308
Females	330
Males	1280
Total Students	1610

Students Graduated

Caption	Graduated Count
B.Tech	481
M.Tech	154
Ph.D	21
Total Graduated	656



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270+ more will graduate this year

Progress

Human Resources

Employees

Employee Type	Count
Faculty	132
Project Staff	96
E2_Staff	89

Faculty count by Designation

Designation	Count
Assistant Professor	105
Associate Professor	12
Senior Professor	6
Professor	4
Visiting Faculty	2
Director	1
Professor by Practice	1

As on May 2024



Institute staff service records

From application till separation, no dues – complete staff life-cycle

Employee activities:

Different types of Leave management

Travel (Approval, Advances, and Reimbursements)

Telephone Bill Reimbursement

Children Education Allowance (CEA)

LTC (Approval, Advances and Reimbursements), leave encashment

Medical records and dispensing

Medical Reimbursement – self and dependents

Staff Data Capture, Appraisals

Comprehensive employee portfolio – self filled periodically

Progress

Accounting and Finance

Select ...
Schedule 01 - CORPUS / CAPITAL FUND
Schedule 02 - Endowment
Schedule 03 - CURRENT LIABILITIES AND PROVISIONS
Schedule 04 - FIXED ASSETS
Schedule 05 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS
Schedule 06 - INVESTMENTS - OTHERS
Schedule 07 - CURRENT ASSETS
Schedule 08 - LOANS, ADVANCES AND DEPOSITS
Schedule 09 - ACADEMIC RECEIPTS GRANTS / SUBSIDIES
Schedule 10 - GRANTS / SUBSIDIES (IRREVOCABLE GRANTS RECEIVED)
Schedule 11 - Income from Investments
Schedule 12 - Interest Earned
Schedule 13 - Other Income
Schedule 14 - Prior Period Income
Schedule 15 - ESTABLISHMENT EXPENSES
Schedule 16 - ACADEMIC EXPENSES
Schedule 17 - ADMINISTRATIVE AND GENERAL EXPENSES
Schedule 18 - TRANSPORTATION EXPENSES
Schedule 19 - REPAIRS AND MAINTENANCE
Schedule 20 - FINANCE COSTS

End-to-End payment processing

Vendor payments, CMP integration

Online generation of RTGS

Payroll Processing and Taxation

Scholarships

Bank Reconciliation Statement (BRS)

Ministry Schedule Reports (24)

Annual Account in Ministry prescribed format

Finance

Balance Sheet

Depreciation

*Cost Center based-booking (OH 31, 35, 36-wise
granular accounting at sub-cost center level)*

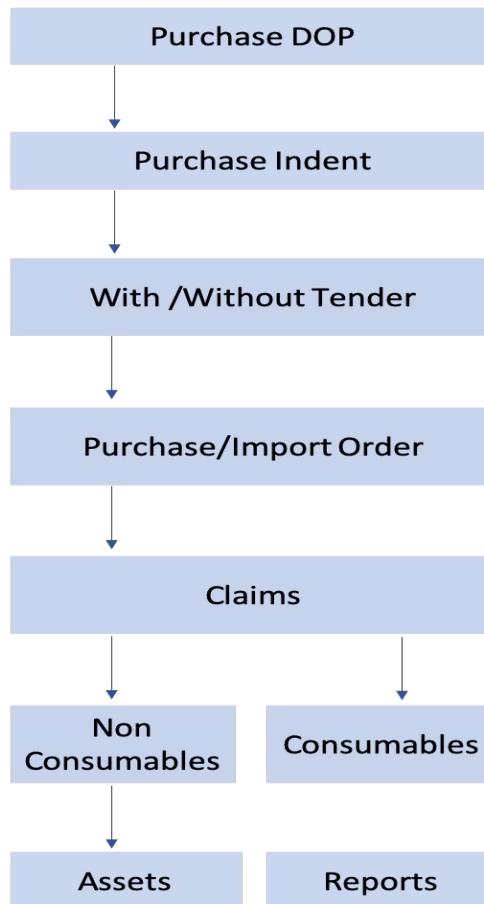
Internal Works

Claims

Caption	Total
NC Claims Submitted	3613
NC Claims Approved	3595
NC Claims With Accounts	4
NC Claims Voucher Created	23
NC Claims Payment Released	3557
C Claims Submitted	16756
C Claims Approved	16720

Payment Pending

Caption	Total
C Claims payment not released	295
NC Claims payment not released	27
CPDA Claims Pending	0
Travel Reimbursement not settled	15
Telephone Reimbursement Pending	9
Children Education Claims Pending	13



Progress Purchase

Indent Approval

Compliant to GFR and Delegation of Powers

Purchase/Import Orders to Asset Creation Claims processing

Non Consumables | Consumables

E-Stock registers, Inventory

Tender, BG, EMD, LC Registers

Online portals

*Vendor Registration
Foreign Vendor Registration*

Organization restructuring does not impact ongoing purchase.

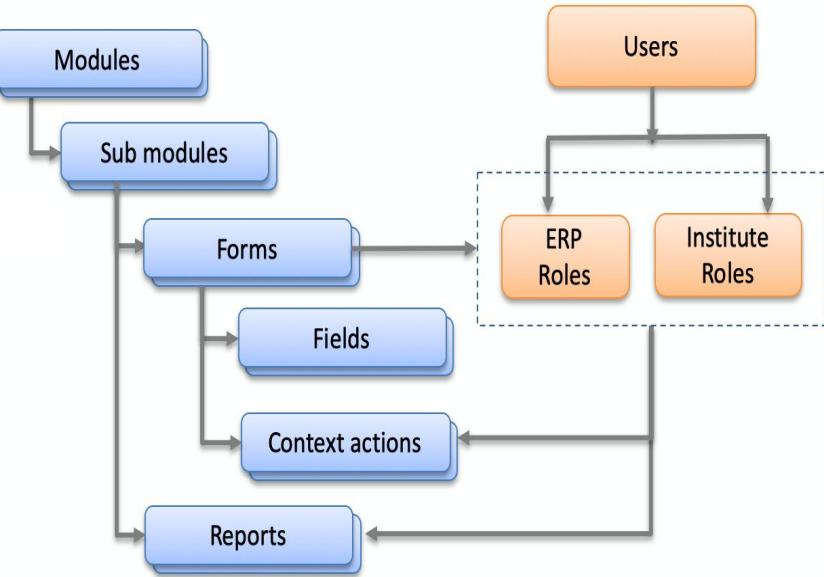
Fixed Assets Category Wise (Rs)

Category	Value
Scientific Equipment	1217568004.00
Networking Equipment	235360114.00
Computer and Peripherals	190596231.00
Furniture and Fixtures	148081581.00
Softwares	83006979.00
Electrical Appliances	40379192.00
Audio and Video	30947603.00

Purchase

Caption	Total
Indent created	7423
Indents MoM Approved	47
Purchase Order Generated	3863
Import Order Generated	99
Indents Open	2282
Indents Closed	4199

System Admin and Configuration



Office Notes

Paperless, Our e-office for approvals

Role Based Access Control (RBAC)

in single login

660+ reports

Flexible, standard and custom filter reports

Online alerts (Email, SMS, Telegram)

Dashboards

Handy summary of various metrics

Auto-Scheduler and Timeline based windows

Cloud hosted

always on, access anytime anywhere solution

Backup thrice a day

Built-in Audit Trail of transactions or updates

Work flows and Approvals

Caption	Total
Office Notes Created	15663
Leaves Applied	10240
Vehicle Bookings Submitted	9812
Help Desk Requests Submitted	14357
Tickets Generated	6262
Work Log Generated	1005
TH Requests Submitted	1330

Portals

Caption	Total
PG Applications Received	8554
PhD Applications Received	7209
Vendor Registrations	1301
Foreign Vendor Registrations	207
Parent Registrations	41
Donations Received	84
Saptarshi Requests (External)	882

Learning and Innovation

* Towards Paperless Office

* Case Study: Office Note

* Transparency

* Efficiency

* Auto-Escalation

* Unified portals (8)

* **Almost paperless:** Formatted print saves a lot of paper.

We do not ask print out of PG/PhD applications

* **Office Note alone saved 142 reams of 500 pages in the first year (71000 printed paper per year or around 10 trees per year!!)** Taking lower bound of average five A4 size pages per Office Note – that we did not print

* **Access to information: radical transparency**

A responsive system

* **Staff could turn around more work from anywhere**

Landing page alerts helped a lot

* **Claims, reimbursement payment, Medical**

reimbursement processing and service delivery improved!

Accountability was inculcated

* **Improves synergy (admissions), accounting (fees,**

donations), and external user management (vendor, CIF external researchers)

So, we also saved on **storage and space** to maintain paper!

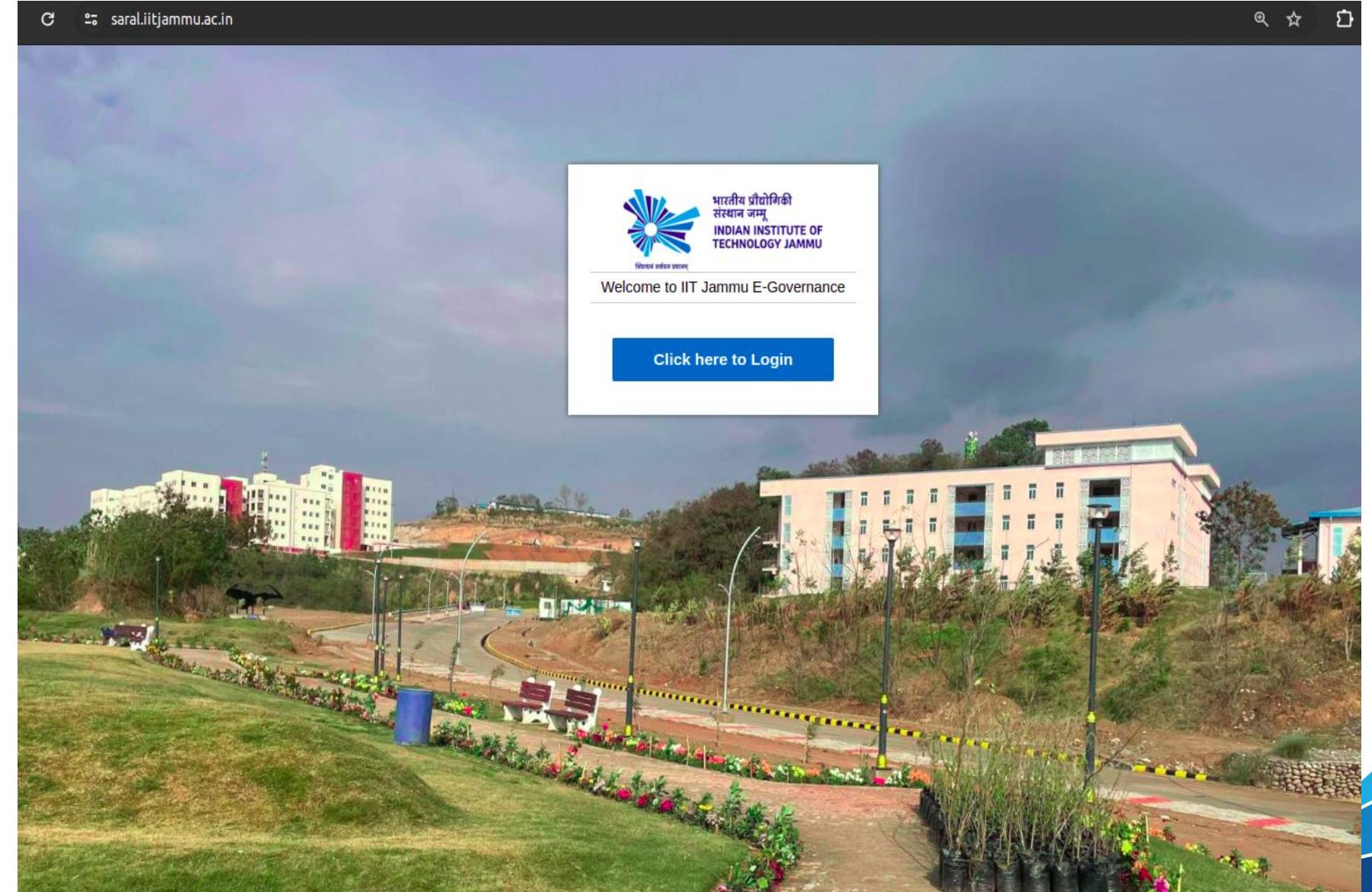


Now, **our people encourage and demand these features themselves** - everywhere instead of early resistance.

Thus, **why is EG?**
became => **why not in EG!**

SARAL Application

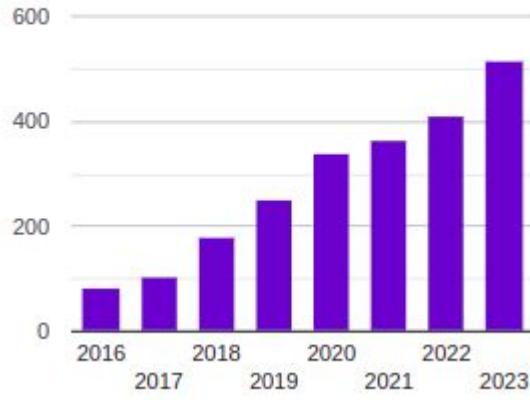
- * Landing page
- * Workflows
- * Dashboards
- * Charts / Analytics
- * Pendency Alerts
- * Reports



Visualize and Present Data

- * Landing Page
- * Dashboards
- * Listing
- * Charts
- * Reports
- * Demographics

Year wise Admitted students



Tickets Raised

Name	Count
Rajendra Kumar Solanki	3450
Shrikarshan Pareek	1063
Puja Rajyaguru	424
Sourabh Mahajan	393
Purvi Sarkar	325
Manish Pokhriyal	215
Bhuvam Mahajan	173

Students Related Workflows

Caption	Total
UG Registrations	1375
PG Registrations	389
PhD Registrations	397
Course Registrations	71237
Course Feedback Submitted	60727
Transcripts Generated	2193
Scholarship Processed	12877

C/NC Claims Processed month wise



Help Desk Request Pending

Request Type	Count
Hardware and Software Licensing	47
Estate Complaints (Electrical) Jagti Campus	39
Estate Complaints (Civil) Jagti Campus	25
Hostel Room Request	6
Internet Access, WiFi and LAN Network	5
Network	3

Monitor progress of workflows

- * Admin panels
 - per workflow
 - reporting

- * Alerts
 - Within the System
 - Email
 - Telegram
 - SMS

- * Documentation
 - Within the system

EG Coordinator **Switch**

Travel (Admin) - ERP Coordinator Status All Category All

All the Travel Plans can be seen here.

Advance ID	Emp ID	Emp Name	Depa	Travel Category	From Date	To Date	Advance amount	Total Reimb Amt	Release Reimb Amt	
TAD-101234	IITJMU11110	Arun Kumar Verma	R and D	Draft	19-03-2024	18-07-2024	0.00	0.00	0.00	
TAD-101233	IITJMU10101	Anurag Misra	Civil Engin	Submitted With Accounts	14-03-2024	17-03-2024	0.00	0.00	0.00	
TAD-101232	IITJMU11033	Goutam Dutta	Mechanical Engineering	Voucher Created Manually	Institute	18-03-2024	22-03-2024	7,000.00	0.00	0.00
TAD-101231	IITJMU11069	Dharitri Rath	Chemical Engineering	NFLP_MMTP	Institute	25-03-2024	29-03-2024	0.00	0.00	0.00

● Draft ● Submitted ● With Accounts ● For Reimbursement Submission ● Reimb Submitted ● Reimb With Accounts ● Voucher Created
● Voucher Created Manually ● Payment Released ● Modification Sent Back ● Cancellation Sent Back ● Cancelled ● Rejected ● Closed by Self
● Closed by System

eg.noreply .. me 7 **Inbox PFC No: IITJAMMU/DO/21/SP/102145 dated**

eg.noreply **Inbox A Request No REQ-106180 has been Reopened**

eg.noreply **Inbox Vivek Verma has submitted No Dues - Dear EG**

eg.noreply **Inbox No Dues of Vivek Verma submitted - Dear EG**

eg.noreply **ERP/Help Desk A New user has been created - Employee**

eg.noreply **Inbox OTP for Login into EG - Dear User, Your one time**

eg.noreply **Inbox Dibya Jyoti Barman has submitted No Dues - D**

eg.noreply **Inbox No Dues of Dibya Jyoti Barman submitted - De**

eg.noreply 9 **Inbox EG Password not changed in 135 Days - Dear**

IITJammu bot **October 30**

You have got an Office Note as EG Coordinator from Manoj Singh Gaur.

Subject: Laptop for Director

Please login to e-Governance application and check.

12:47 PM

You have got a Work Log as Rajendra Kumar Solanki - EG Coordinator from Manoj Singh Gaur - DIRECTOR.

Subject: Help Desk Autoescalation Target Date: [2021-11-10](#)

Please login to e-Governance application and check.

1:18 PM

November 3

One Help Desk request has been submitted.

Request number: [REQ-106149](#)
 Request type: Email
 Subject: Email ID Creation
 Submitted by: Shagun Dubey

Please login to e-Governance application and check.

3:30 PM

Message

Yesterday • 10:34 AM

Help Desk request REQ-106193 has been submitted for EG Technical Support. Please login to e-Governance application and check.

Sat 10:34 AM

Sender does not support replies

Documentation

* Documentation

- Within the system
- Brief Text help on screen
- Help Document with screenshots
- Swimlane diagrams
- Schema
- Roles and interactions

Office Notes (Outbox) Office Notes (Inbox)

कार्यालय टिप्पणी Office Notes (Inbox) - Office Notes

Help Doc | **Help Document** (?

1. Office Note is an automation of paper-based note sheet. It is used for approvals wherein no dedicated workflow exists in EG. People can respond or forward the Office Note received in the Inbox. Notes are sorted in the order of the date last updated (the recent most updated appears first). 2. For attachments, please add attachment(s) first, if any, using the clip icon, before forwarding the note you received in the Inbox. 3. Pending Office Notes not updated for three months or pending with employees relieved from service, are auto-archived. 4. Office Notes replied or forwarded can be seen under Outbox or using All filter. 5. New Office Note can be initiated from Outbox. For attachment(s) in new Office Note, first create a draft note, you will notice a clip icon next the note thread. Add attachment(s) using the clip icon before submitting the note. 6. Select the most appropriate Office Role or an individual to forward the note. Approval from the Competent Authority is required to create a new Office Role.

Help Me

Travel Advance and Reimbursement

User	Estab	HOD	Recom/Appr Auth	Director	Controlling Off	Finance depart	Leave	Out Station Training
Submit request	Checks Admissibility	Review and forward for recommendation	Recommended / Approved	All ex-India and Advance requests are Approved	NA	Release Advance	Respective Leave updated	If Training - record inserted

Travel / Travel Advance Approval for Normal Users

```

graph LR
    A[Submit request] --> B[Checks Admissibility]
    B --> C[Review and forward for recommendation]
    C --> D[Recommended / Approved]
    D --> E[All ex-India and Advance requests are Approved]
    E --> F[NA]
    F --> G[Release Advance]
    G --> H[Respective Leave updated]
    H --> I[If Training - record inserted]
  
```

Travel / Travel Advance for HODs

User	Estab	HOD	Recom/Appr Auth	Director	Controlling Off	Finance depart	Leave	Out Station Training
Submit request	Checks Admissibility	NA	Recommended / Approved	All ex-India and Advance requests are Approved	NA	Release Advance	Respective Leave updated	If Training - record inserted

Travel advance for Deans and Deputy Director

User	Estab	HOD	Recom/Appr Auth	Director	Controlling Off	Finance depart	Leave	Out Station Training
Submit request	Checks Admissibility	NA	NA	Requests are Approved	NA	Release Advance	Respective Leave updated	If Training - record inserted

Travel Expense Reimbursement

User	Estab	HOD	Recom/Appr Auth	Director	Controlling Off	Finance depart	Leave	Out Station Training
Submit Claim	Checks Admissibility	Reviews	NA	NA	Approves to reimburse	Settles the Bills		

Closure of workflows and Reports

* Closure

* Auto-Escalation (Nudge)

* Self Cleansing

* Organically Evolving

Workflow Analytics	
Escalated Claims	Escalated Indents
Reimbursement	
CPDA/Institute Trav..	Project Travel (Eска..)
Services	
Student Request (Esc..)	Escalated Helpdesk R..

* Define, Track, Improve

* Auto-Escalation

A self-improvement cycle and nudge, without disturbing the workflows

* Feedback

Transaction Pending Alerts List

Tickets not closed in 90 days will be seen here.

1) Tickets not closed in 90 days

Office Notes not acted upon for more than 90 days will be seen here

2) Office Notes not acted upon for more than 90 days

Approved Indents not closed in 120 days will be seen here

3) Approved Indents not closed in 120 days

Approved claims and payment not released in 30 days will be seen here.

4) Approved claims and payment not released in 30 days

Approved R and C claims and payment not released in 30 days will be seen here.

5) Approved claims and payment not released in 30 days (R and C Claims)

Help Desk Request not completed in 30 days.

Caution

- * Technology Sign Off
- * People movement (Attrition)
- * Own and Master Transitions
- * Code changes v/s Configurations
- * Off-the-shelf by provider v/s Custom solution
- * Identifier Schemes and design choices can make or break things! Get your best resource.
- * Do not worry about exceptions too much, handle as exception
- * Guard against Over-Automation!



* Train, train, train..., increase capacity!
It's Teamwork @ work



* Redefine and Reimagine Roles around conventional Bureaucracy

* Transactions at the boundaries

*Financial year, Acad year, Calendar year,
Re-structuring units, accrual cycle, closure cycle*

* Configurable options are better.

* We the user define and drive the success. ***It's our system!***



* Lets do it, even if this works for 80%, 70%, 60% – others will join!

* Security: In-built by design

Periodic Security Audit is required

* Educate people on how to get Help.

* Each one of us can make a meaningful impact
* with Passion, Pace, People



Coming back to...

Future Ready Governance (1/2)

* Sustain longer

* Evolve Organically

* Analytics for Impact

* Human touch

- Learn to provide governance to a population which is chronically online.
- Data Assimilated Models for Decision Making
- Data tagged Analytics with Privacy Safeguards
- Tech-Transition across Multiple Platforms: Generative AI
- TechnoPolar Governance (Dependence of data with Tech Companies)
- Technology stack - proven v/s changing too often
- Interfaces - single window v/s a few independent interfaces

Coming back to...

Future Ready Governance (2/2)

* Sustain longer

* Evolve Organically

* Analytics for Impact

* Human touch

- Metadata Searches and Repositories
- Evolving UI with Computer-Human Interaction (CHI) Redesign
- Data Deduplication, Retention, and Redundancy
- Integrative interfaces with Third Party Services
- Boundaries of how to & how much to use technology?
- Open Source? Open Platform for cross-domain organizations to handle:

Scale (Expand or Shrink)

Change of Business Rules (Agility)

THANK YOU

Indian Institute of Technology Jammu
Jagti, NH 44, PO Nagrota
Jammu - 181 221, J&K, India



iitjammu.ac.in/saral



saral.iitjammu.ac.in



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**INDIAN INSTITUTE OF
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Team e-Governance

For any queries, we will be happy to help.

Rajendra Kumar Solanki Sr. Scientific Officer, EG Coordinator
Ankit Kathuria AD - EGS (Civil Engg),
Manoj Singh Gaur Director, IIT Jammu



saral@iitjammu.ac.in