

How MAKAUT transformed its entire Enrollment & Internal Examination processes with the help of Learning Spiral?



ABOUT THE CLIENT

Maulana Abul Kalam Azad University of Technology, West Bengal (formerly West Bengal University of Technology) is one of the largest Technical Universities in our country. A 20+ year old institution, it provides degrees in engineering, management and other professional areas to more than 1,40,000+ students. It has more than 250+ affiliated higher education institutions and in-house departments. More than 40,000 students take admissions per year by appearing for State / National level competitive exams i.e. WBJEE and AIEEE

CLIENT'S VISION

- Digitally transform all the student & examination processes from enrollment to degree.
- Focus on replacing paper /manual processes by web applications, automation & self-service options.
- Integrate all stakeholders teachers, colleges, university & students on one platform.
- Adopt Open Source Technology on a Build-Own-Operate-Transfer model.

AWS HIGHLIGHTED FEATURES

Embark on a seamless journey with Learning Spiral Pvt. Ltd. in the AWS cosmos. Leveraging Amazon EC2 for dynamic resources, Amazon RDS for elevated data management, and Amazon Redis for speed, we simplify with Amazon Elastic Beanstalk and secure with Amazon S3. Our team ensures smooth transitions with Amazon CloudFormation, proactive monitoring with Amazon CloudWatch, and innovation with Amazon AppStream. Email communication thrives with Amazon Simple Email Service, while web security is fortified by Amazon WAF and Amazon GuardDuty. Certified in AWS, we use AWS Face Recognition, AWS KMS, AWS Config, and more, ensuring secure, scalable, and efficient solutions. Join us at Learning Spiral, where AWS expertise meets cutting-edge service for digital excellence!

CHALLENGES FACED BY THE CLIENT

Full Manual processes leading to delays - MAKAUT followed manual examination processes for entrance and regular examination. The manual processes led to delays in results which led to reduced time in the academic calendar for teaching.

Lack of Trust - Manual examination processes were prone to higher error rates and consequent lack of trust in the process by prospective and current students.

Management of large number of scripts - More than half a million answer scripts of students had to be collected from 200+ centres within 30 minutes of the exam and then managed and collated for evaluation.

Poor Brand Image & non alignment with student expectations - Students have high expectations of modern Universities. Manual examination processes were not meeting the expectations of students. They also led to a poor brand image.

Enormous variety of examination & assessments - 100+ courses, 500+ examinations every semester / Regular Exams.

Large volume of students - 140,000+ on-campus students appear for semester exams.

Disparate Silos of information - Old academic data and other information of different stakeholders had to be migrated into one integrated platform.

ADOPTED STRATEGY FOR THE CHANGE MANAGEMENT

- Makaut floated an RFP for a suitable vendor to provide a solution on a SaaS model (Software as a Service).
- Competitive bids were to be evaluated on a Techno-commercial QCBS model to select a suitable partner.
- Long term SLA was designed to enable change management over a medium term.
- Alignment of interests of partner to that of the client was focused upon by adopting a recurring per student price model over one-time procurement price in the RFP.
- Open source technology was preferred to mitigate closed source issues, reduce costs & avoid vendor lock-ins.
- The vendor was awarded the contract in April 2018 based on the process as a suitable execution partner.

HIGHLIGHTS OF IMPLEMENTED SOLUTION

- Dynamic web application designed with ability to handle the variety, volume & security.
- UI of online application designed and tested for extreme ease of use.
- AWS Cloud Server architecture adopted instead of local servers for ensuring scalability, reliability, business continuity and disaster management.
- All examination & student processes like enrollment, exam schedule, examination forms, centre allocation, admit cards, fees collection, results, marksheets & degrees made fully online.
- Old academic data migrated with ETL Tools.
- Fees & Other Payment collections made totally online.
- Training provided for all stakeholders - Colleges, Students, University & Teachers.
- On-campus call / email based Help Desk established for students.
- Tracking Dashboards, MIS & analytical reports.
- Reporting server deployed for adhoc and custom reporting / TR variety.
- Digital Question bank based paper creation based on course outcomes.
- Distribution of Digital Question Paper securely to centres just in time for Exams.
- Onscreen Marking for Theory / Practical / Sessional scores.
- Collection of 600,000+ answer scripts from 200+ centres within 30 minutes of the exam. Online tracking of answer scripts using QR Codes right from pick-up to transfer to University cellars.
- Online Centre management & reports eg. despatch letter, absentee report, collection of booklet monitoring, online tracking of the collection.
- Result processing, National Academic Depository integration, Preparation of Tabulation Register, Mark sheet & Micro-chip based secured Degrees.
- Student Grievance management on calls and emails.
- Various Dashboards for Live monitoring of examination processes.

KEY ACHIEVEMENTS

- **Online & Automated** : Manual processes were completely removed.
- **Speed & efficiency** : Exam timelines crashed by 30%.
- **Security** : Implemented Question Bank based automatic paper creation & Digital encrypted question paper distribution system.
- **Environment friendly** : Paperless processes led to reduced emissions.
- **Disaster Management** : AWS Backed disaster management for critical academic data
- **Secured Degrees** : Microchip/ Tearproof/ NFC Degrees implemented.

ROAD-MAP FOR THE FUTURE

- Offline based entrance examinations to be made online.
- Internal formative assessments to have online assessment.
- Confidential question paper design and question management to be based on outcome based education framework.
- Digital evaluation to be introduced for on-campus assessments.
- Complete Fees management system to be made online.
- Learning Resource storage to be introduced to track student engagements.

ABOUT THE PRODUCTS



Applicant Registration Engine

1. Fully Online

- Fill once, apply many
- Custom validation
- Photo, Documents enabled

2. Payments

- Online/Offline/NEFT
- Reconciliation & Reports
- 50+ Banks, All cards

3. Verification

- Custom workflow
- Online verification
- Automatic validation

4. Seat Allocation

- Custom seat allocation logic
- Merit & choice based logic
- Online/offline counseling

5. Scale

- From 100 to 10 million
- 100% uptime
- Disaster recovery enabled

6. Communication

- Emails/SMS broadcast
- Auto phone call
- Chat/Helpdesk

7. Mobile App

- Custom mobile app
- Applicant interface
- Fully mobile optimized

8. Reports

- Custom & standard reports
- Export to excel/pdf

9. Admin

- Custom workflow
- Online verification
- Automatic validation



ABOUT THE PRODUCT

SmartExam

University Examination Management System



Every year more than a million students get the marks they deserve thanks to SmartExam!

1. Enrollment

- Online application & payments
- Online verification by college & then University
- Custom Enrollment numbers
- Print enrollment registers

2. Pre-Exam

- Online forms & payments
- Auto eligibility checking
- Centre & roll no allocation
- Admit Cards & attendance sheets
- Print Roll lists, Question paper counts, Sitting plans etc.

3. Post-Exam

- Set course Schema
- Generate results as per schema
- Print TR/Mark sheets
- Upload to National Academic Depository
- UFM handling/Reporting
- Declare results online/SMS/Email
- Custom print ready reports

4. Evaluation

- Online marks capturing
- Digital evaluation
- OMR/Double Entry import
- Dummy numbering

5. Confidential

- Appoint paper setter/hecker
- Automatic reminders
- Measure performance

6. Communication

- Emails/SMS broadcast
- Auto phone call
- Chat/Helpdesk

7. Mobile Ready

- Custom mobile app
- Applicant interface
- Fully mobile optimised

8. Reports

- Custom & standard reports
- Export to excel/pdf

9. Finance & Store

- Integrate remuneration of valuers, papers setters etc
- Online payments & split payments between college & university
- Manage asset like answer booklet, stationery etc.

ABOUT LEARNING SPIRAL

Learning Spiral is driven by its vision to help aspirants realise their aspirations. We understand examinations, applicants & assessment workflows like no other organisation.

From applications to degrees or recruitments our applications routinely handle the entire workflow for more than ten million applicants every year.

Our products and solutions are a result of our 15+ years of work with some of the leading Universities, Boards & Recruitment bodies in India. It is no wonder that we are today ranked amongst the most innovative and trusted partners for handling applicants and assessments.

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Partner Network



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