

UniApps

University exam ERP







SES

QPG

www.uniapps.in www.weshinetech.in





WeShineTech was founded in 2011 with the vision of building software

for educational institutions. In less than a year of establishment, lakhs

of students across various universities, colleges, schools, and coaching

classes were using our systems.

After years of working with our customers and learning from them, we

have built our flagship product – UniApps. Each application in UniApps

is the result of our commitment to solve our customers' problems.

We've conducted millions of assessments, delivered lakhs of question

papers, scanned crores of answer papers images. This phenomenal

growth is an indication of trust our customers have in us.

We're a team of dedicated individuals focused building high quality education software. Our products and services are a result of our persistence towards this vision.

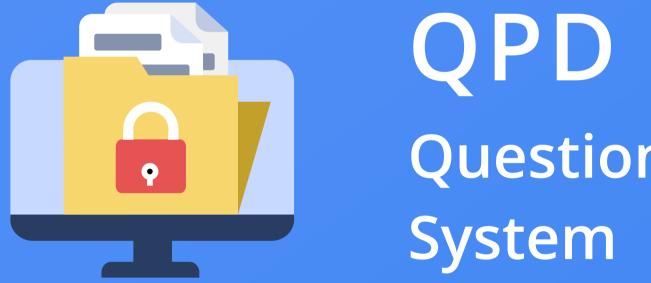
We believe that our success is only after our customers' success.



UniApps is suite of applications to automate university examination processes. It is an end-to-end student lifecycle management system right

## from student admission to issuing degree certificates. UniApps reduces administrative costs by adopting online best practices.

## Applications





# **Question Paper Delivery**

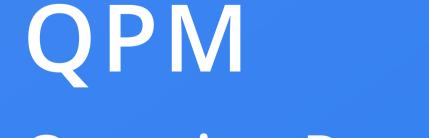
## **On-Screen Marking System**

OES **Online Examination System** 



RPS **Result Processing System** 





System



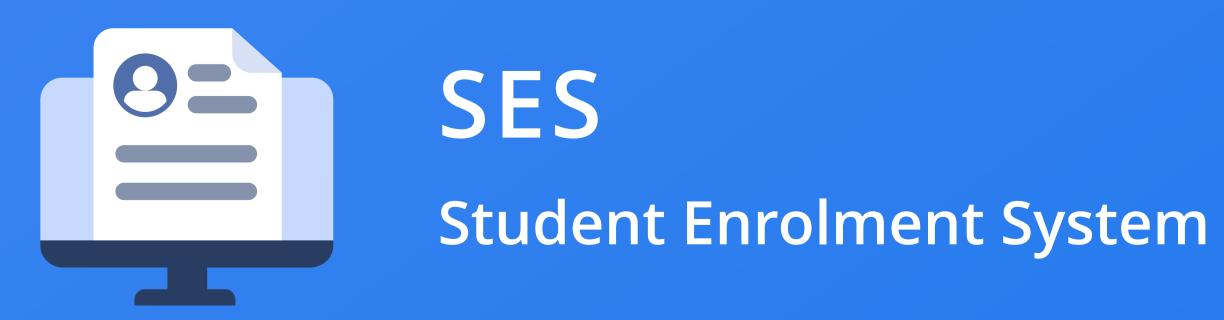






**Question Paper Management** 

**Result Redressal System** 





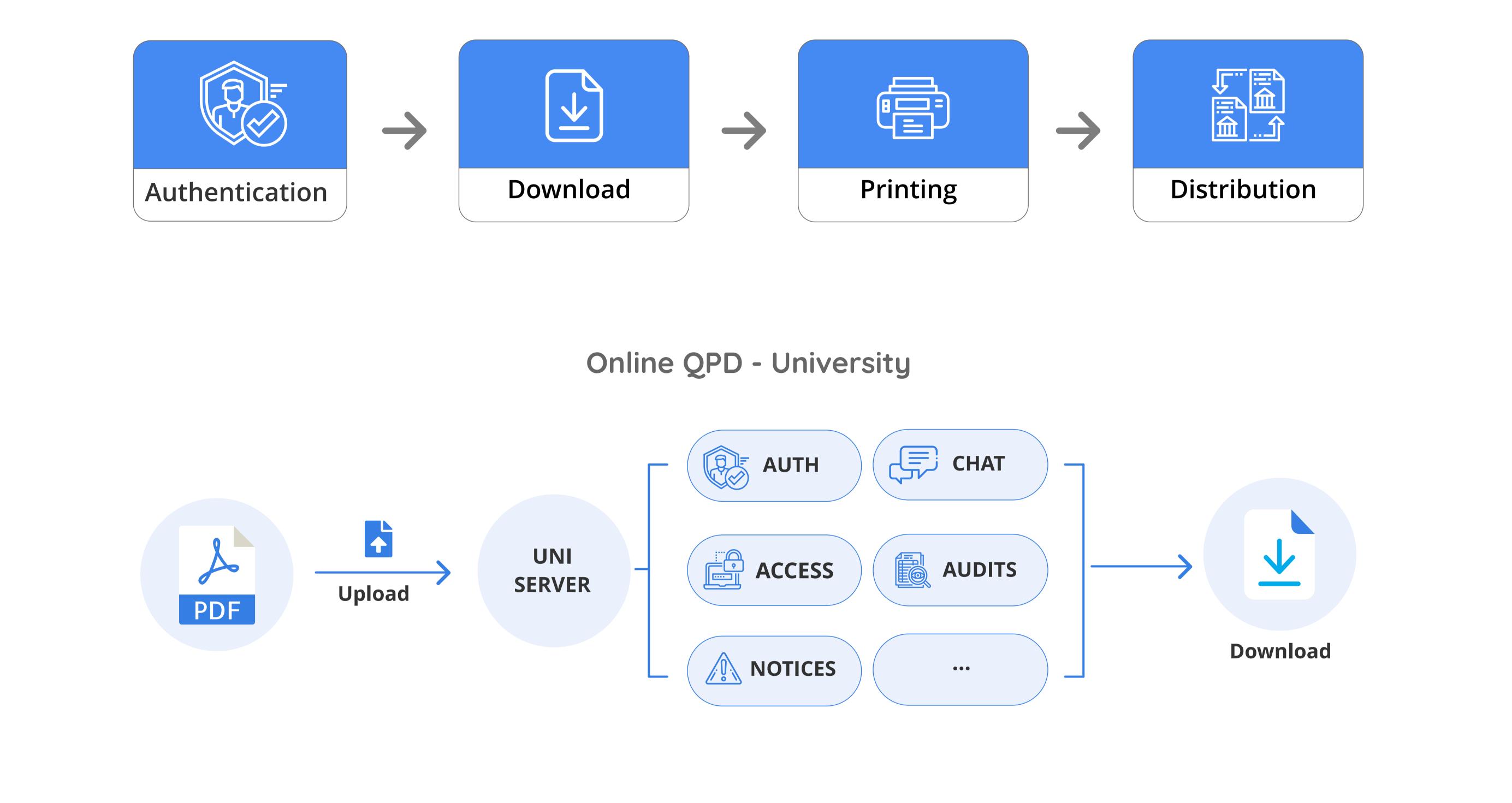
QPG **Question Paper Generation** System



## QPD Question Paper Delivery System

Safe, secure, and reliable method of online delivery of question papers

### Online QPD - Colleges



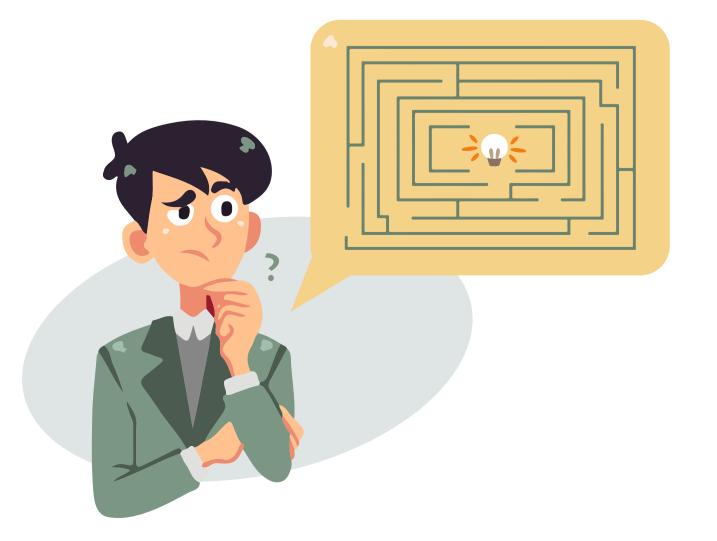


- Two-factor authentication (OTP), biometric authentication (face recognition, fingerprint recognition)
- IP restrictions
- Watermarking of downloaded question papers
- Access control of question papers
- Live & deferred audits from logs
- Question paper correction notices to colleges
- In-built group chat

## HIGHLIGHTS

- Over 25 thousand question papers are being delivered every semester
- System is deployed at more than two thousand colleges
- Hundreds of papers are being delivered in a single session
- Assisted in investigations by providing paper audit logs

### PROBLEMS WITH TRADITIONAL METHODS



- Paper leaks due to multiple change of hands
- Papers are delivered several days before exams
- Last moment change in question papers are not possible
- No way to backtrace leaked question papers
- No way to verify and ensure that only authorised personnel have access
- Complex logistics are involved bank lockers, police, transport etc.



## OSM **On-Screen Marking System**

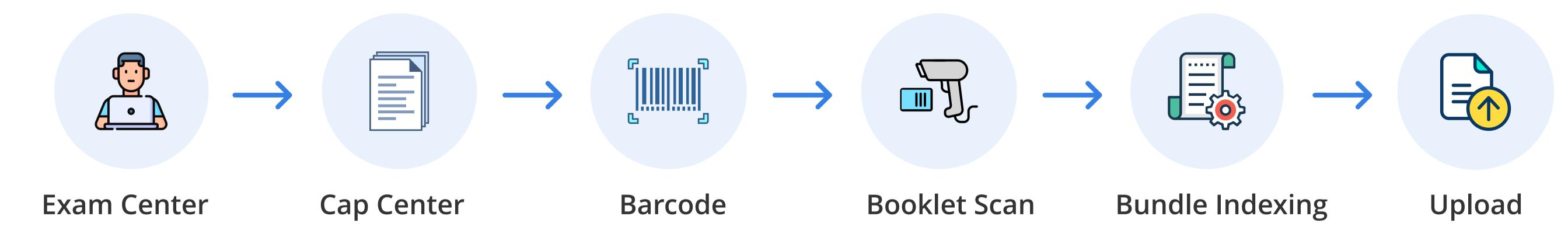
Simple, scalable, and faster method of assessing student's theory answer papers

### **Evaluation Process**



Marking Scheme

#### **Inward Process**



FEATURES

First page of answer paper booklet is masked automatically

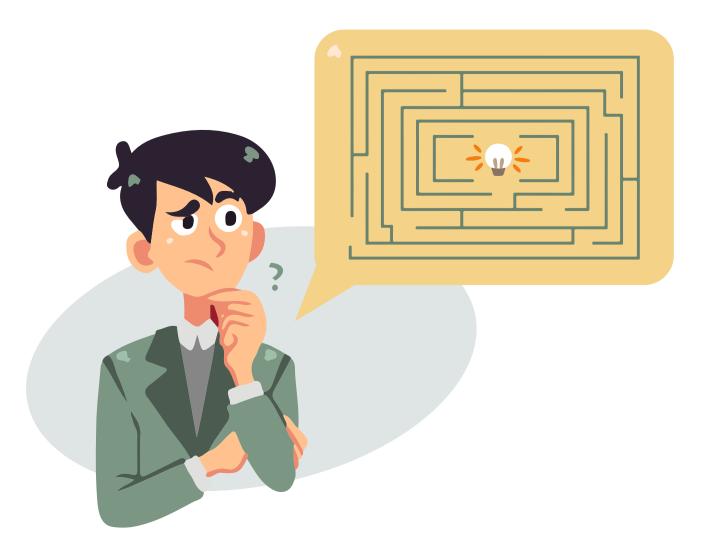


- Daily SMS reminders are sent to evaluators
- **Controller of Examination (COE) can monitor** status in real time
- Marking schemes can be created from web UI
- Evaluator access can be restricted by IPs

## HIGHLIGHTS

- Over 45 million images scanned per semester
- Thousands of evaluators are using our system at various universities
- Book scanning instead of cut scanning to preserve integrity of answer paper booklets
- Terabytes of data stored online, served within seconds

## PROBLEMS WITH TRADITIONAL METHODS

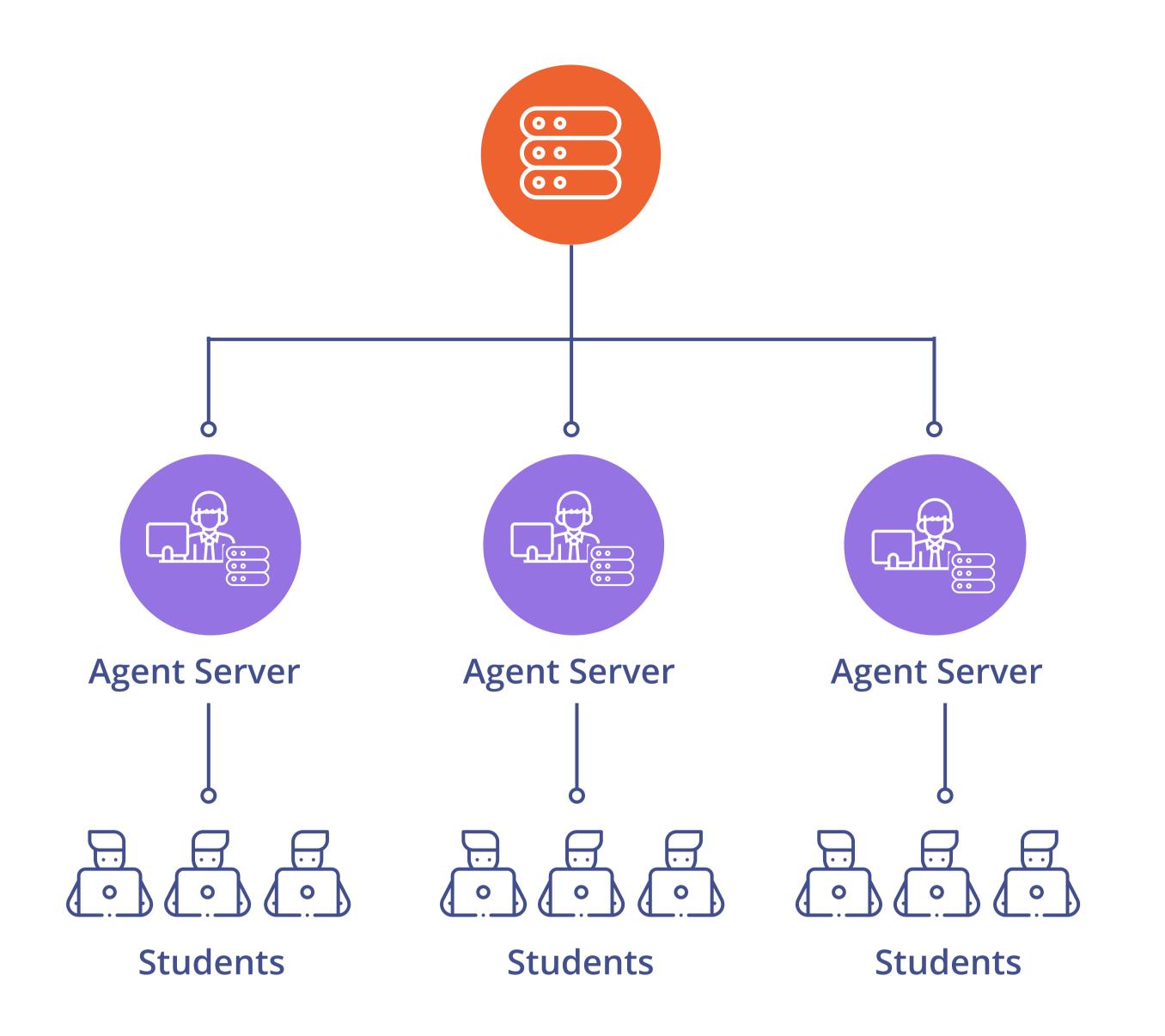


- Masking of answer papers has to be done manually
- Counting and other human errors during evaluation are unavoidable
- No way to track overall status of evaluation in real-time
- No way to assess evaluator performance (time taken etc.)
- Evaluation is possible only during regular working hours (no exceptions)
- Data for evaluator remunerations needs to be compiled manually



## OES Online Examination System

Highly scalable, distributed online examination system



- OES is a distributed online examination system to conduct high volume MCQ based exams.
- Content management, exam centre management, user management, and real-time result processing are some of the important components of this system.
- We support industry standard software such as Safe Exam Browser and kiosk operating systems on the student machine to enhance security of the system.
- Our premium features such as face recognition and video proctoring enable Internet based exams.





Safe Exam Browser is a web browser environment to carry out eassessments safely.



Netboot is a technology where customised operating system is loaded onto the client machines over LAN.



Candidate's face is captured through a webcam and matched with a photo ID.



Zoom integration is available for video proctoring during remote exams.

**Audits** 

Candidate's activity logs are captured and are available for auditing.



Security best practices such as HTTPS, OTP, session restrictions are followed.



MCQ, comprehension, eassy (typing & file upload) types of questions are supported.



.ODT

Our horizontal scaling techniques



Modern Browser

We support Google Chrome, Mozilla Firefox, and Safe Exam Browser.

support a large number of simultaneous exams.



Pre-built OS images help in easy deployment of our agent software at exam centres. **ODT Content** 



Question bank is built offline using Openoffice (ODT files) and uploaded to the system. Results are calculated in real-time after candidates submit exams.





#### HARDWARE FAILURE

Student exam data is continuously sent to the main server from the agent server located at the exam centre. In case of hardware failures at the exam centre, a new agent server is set up with latest data available from the main server.



#### **INTERNET CONNECTIVITY FAILURE**

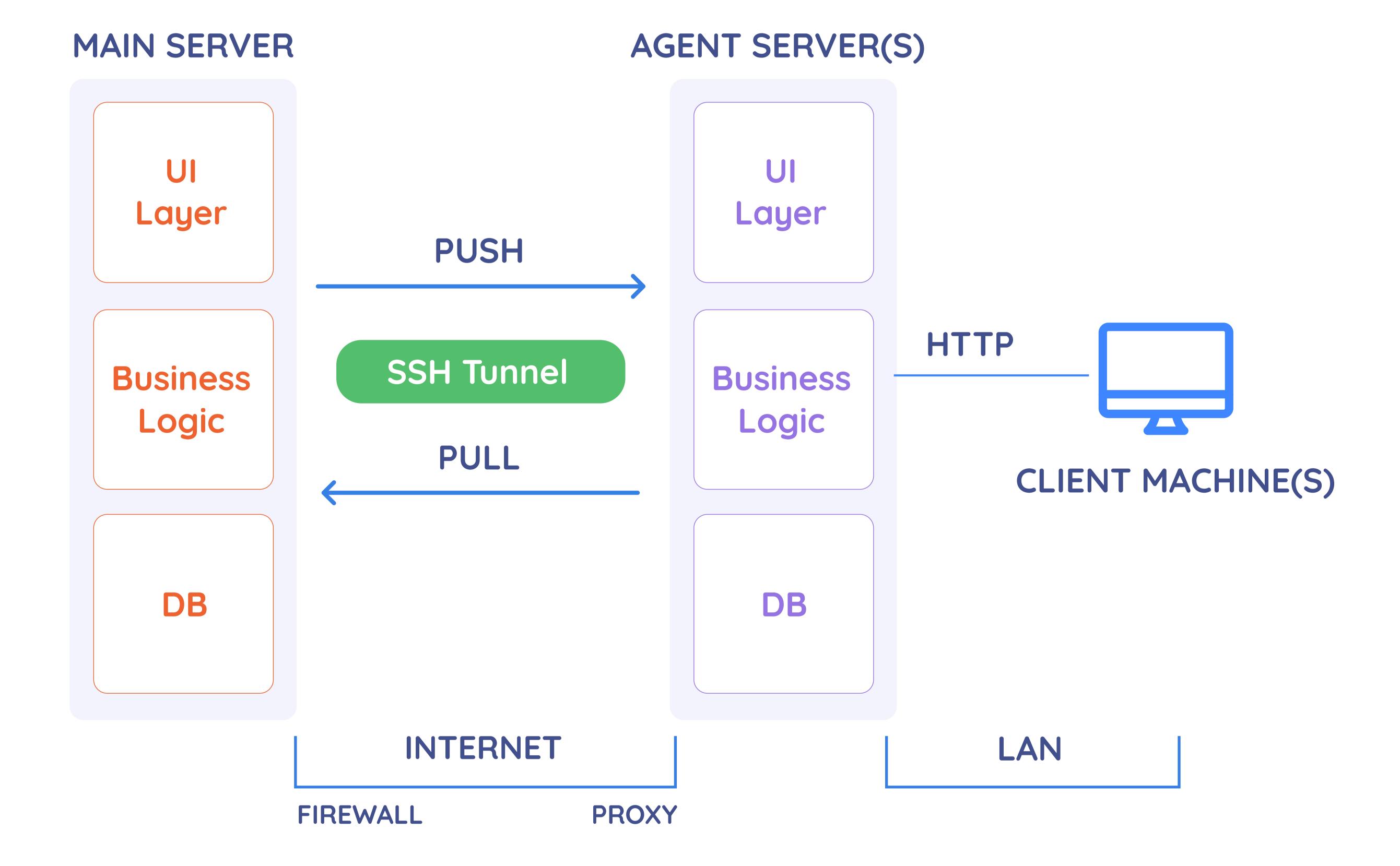
Exam data is sent to the agent server at the exam centre. Entire exam is conducted locally at the exam centre. Therefore, any internet connectivity issues during the exam does not impact the exam in any way.



#### **POWER FAILURE**

In an unfortunate event of a power failure on the client machines, the student's exam will resume from the same state when power failure occured.

**APPLICATION ARCHITECTURE** 



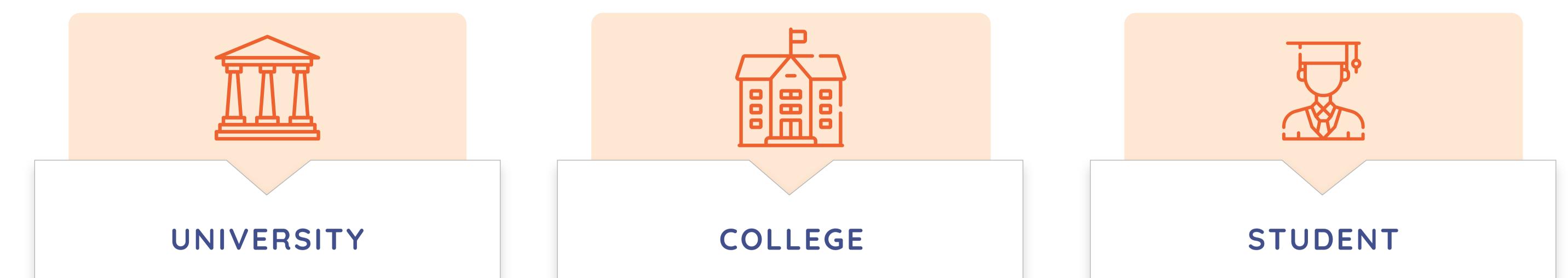


- More than 10 million examinations have been completed!
- Geographically distributed for reliability and scale, but centrally controlled from the main server
- Full control over software stack (agent server, netboot)
- Highly scalable 80 thousand exams conducted in a day



## RPS **Result Processing System**

Student lifecycle management system for universities



#### Student onboarding

Student's institute, course, and semester management

Curriculum management

Exam form-filling based on examination type and student history

Monitoring form-filling and result upload status

Result processing and publishing

Assigning appropriate semesters to the students (in case of elective semesters)

Monitoring form-filling status and approving exam forms

Downloading and issuing exam hall tickets

Uploading marks of internal exams and monitoring marks entry status

Student exam attendance management

Downloading and issuing grade cards to students

View details of assigned course, semesters, subjects, credits etc.

Apply for exams (regular, backlog, and revaluation)

Download exam hall tickets

View published results of all subjects & semesters

Other student services





## **Curriculum Management**

Faculty, course, semester, and subject management. Change of pattern is also supported.



Year-wise, semester-wise, and coursewise fee distribution matrix is supported.



University admin, college admin, and student profiles are supported in the system.



Integration with Razorpay and Atom is supported for online fee payment.



Exam forms can be filled online. Exam form is intelligently shown based on student backlog subjects, attendance etc.



## **Result Calculation**

Complex result calculation mechanisms are supported through a feature called Result Processing Pipelines (RPP).



Various logs are maintained when



Student promotion rules can be



College staff can enter student's

results are uploaded and modified.

created and customised in the system.

internal marks by uploading a CSV file.



System can generate digital copy of degree certificates from a predefined template.



Highly customisable complex result processing algorithms can be easily created in the system.



Various form-filling and results data can be exported from the system in CSV format.



Exam time-tables can be created in the system.

**Grade Card Generation** 

Grade cards are automatically generated as an output of result processing pipelines (RPP)

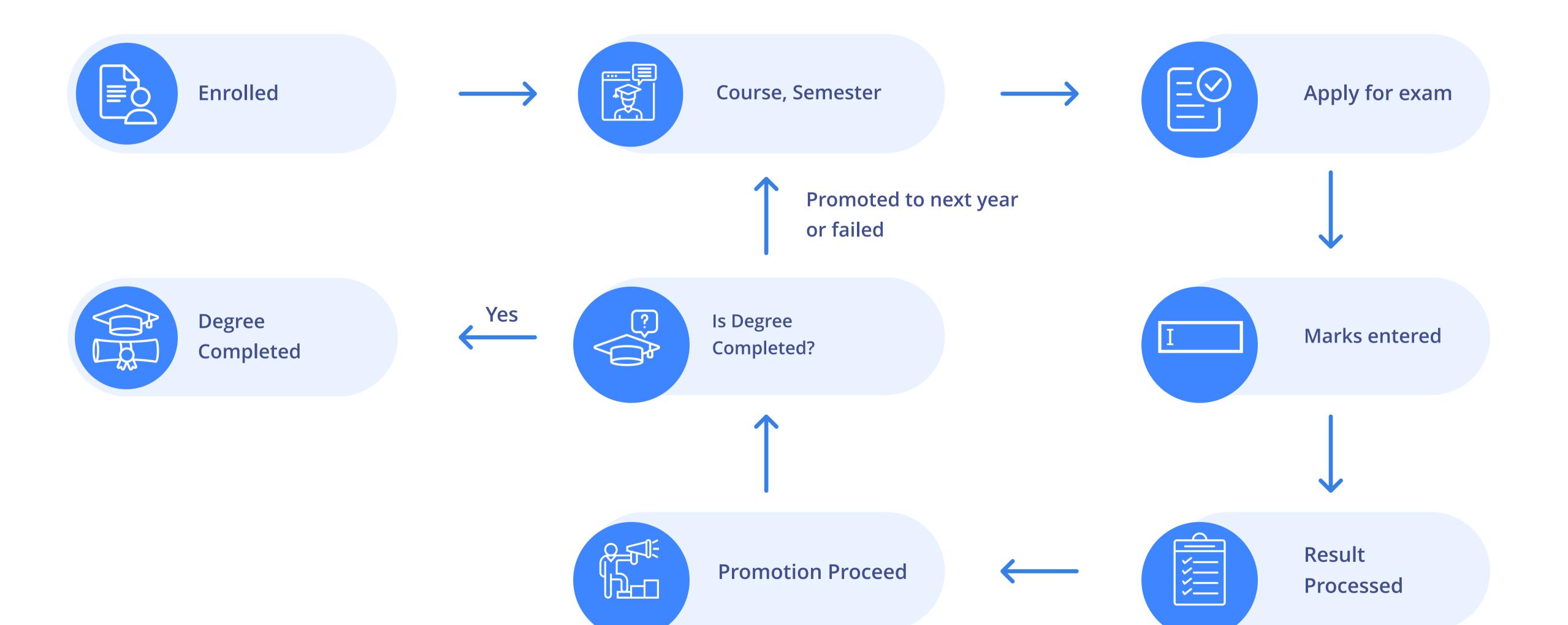


Students can apply for result redressal and raise other service requests through the system.

### **RESULT PROCESSING PIPELINE**



## STUDENT LIFECYCLE





- Millions of student results have been processed
- Lakhs of grade cards have been issued
- More than 50 thousand students are registered
- Used by state level & other prominent private universities
- Seamless integration with other Uniapps products

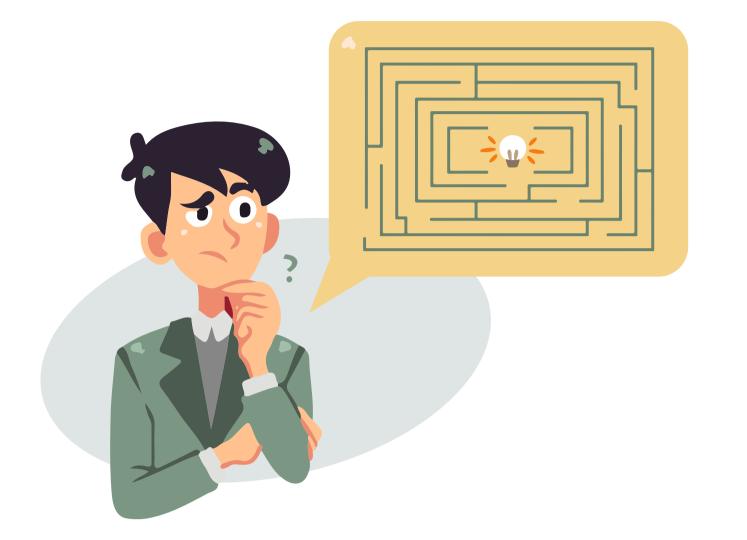


## **Question Paper Management**

Question paper lifecycle management; appointments to manuscripts

## PROBLEMS WITH TRADITIONAL METHODS

QPM



- Appointments do not reach paper setters on time
- Acknowledgements have to be created manually
- Offline tracking processes are error prone
- No log of who accessed manuscripts
- No way to know submitted question papers in realtime
- Data required for paper setter remuneration needs to be compiled manually

## **OUR SOLUTION**





#### Step 1 - Send Appointment

Send appointments through email and notify by SMS.

## Step 2 - Receive & ACK

- Prioritisation of DTP based on exam timetable
- Send bulk appointments
- Update remuneration data before final acknowledgement
- QPM acts as a question bank for QPD system



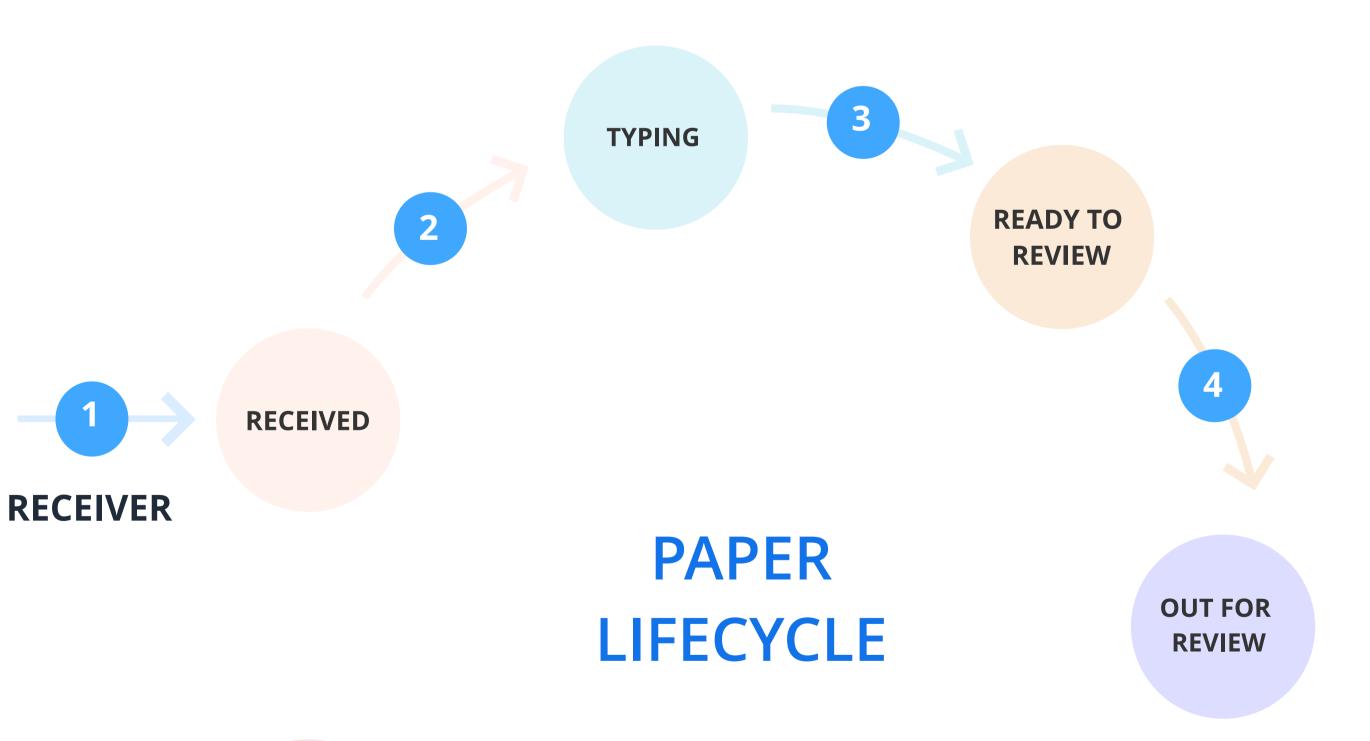
Search by appointment number and receive papers at manuscript dept.

### Step 3 - Assign Barcode

Assign unique barcode sticker on each envelope and mask subject and other information.

**Step 4 - Dtp Process** Typing, proof reading, PDF creation.

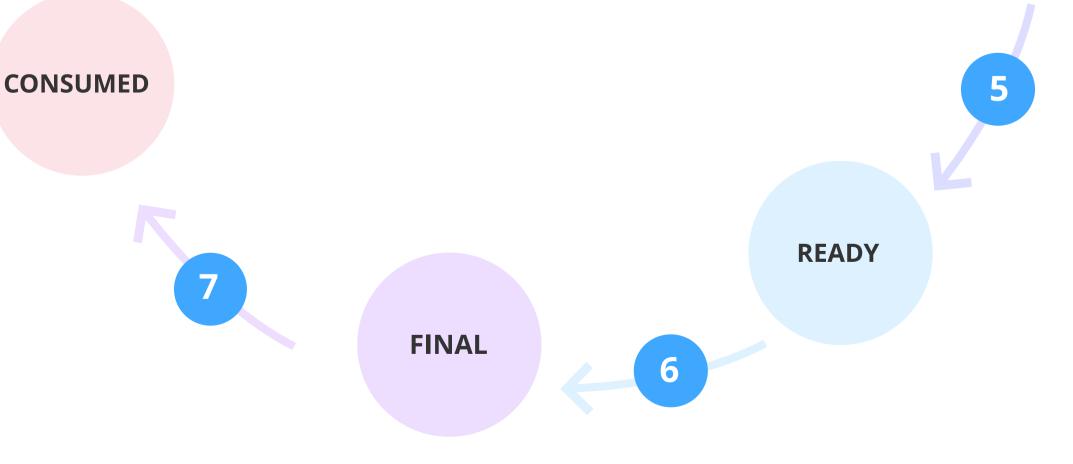
- QPD picks question papers randomly from QPM pool
- Integration is seamless and adds great value to QPD system



Step 5 - Ack & Store Print PDF, final acknowledgement letter. Store manuscript in strongroom.

## HIGHLIGHTS

- Thousands of appointments sent from our system at reputed universities
- Lakhs of question papers inwarded, DTP processes completed
- Paper availability for the next 30 days is shown
- Paper tracking is done based on a masked barcode instead of subject details

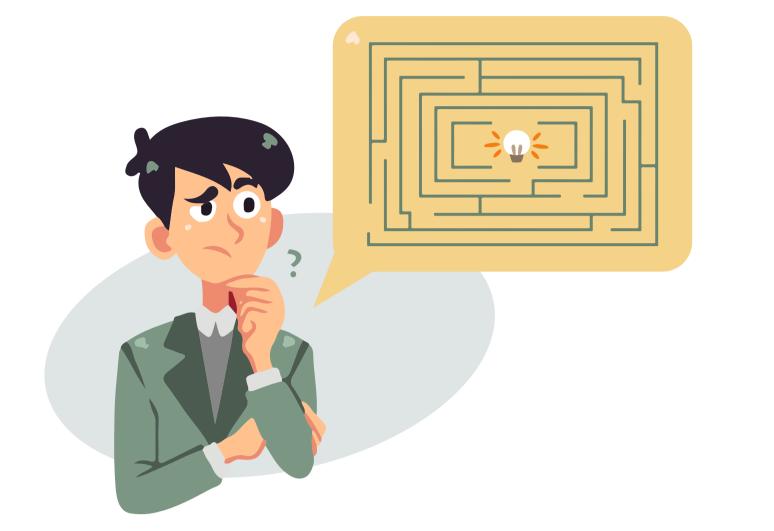




## RRS Result Redressal System

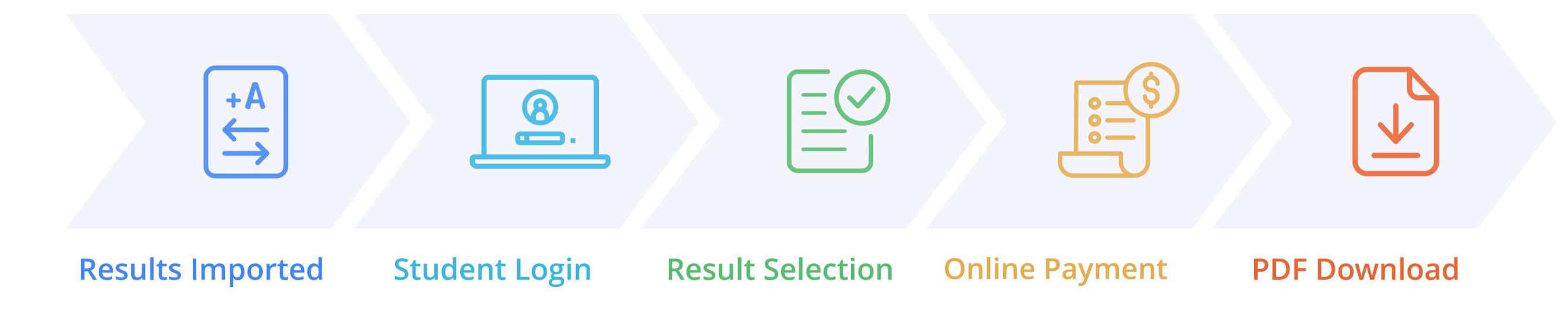
Quick delivery of answer paper photocopies to students through an online system

### PROBLEMS WITH TRADITIONAL METHODS



- Offline photocopy application process takes time and is error prone
- Middle-entities involved (colleges, admins etc) in delivery process
- Payment reconciliation is a big problem
- Same process has to be repeated in sequence for revaluation and recounting taking even more time
- Universities are unable to complete redressal process before start of next exams
- If process is not completed on time, students are forced to repeat exam in next semester







- Date restrictions on result selection for redressal
- Result selection order can be enforced (e.g. revaluation is allowed only after photocopy is processed)
- Daily report of new redressal applications
- Student email and mobile number are verified by system



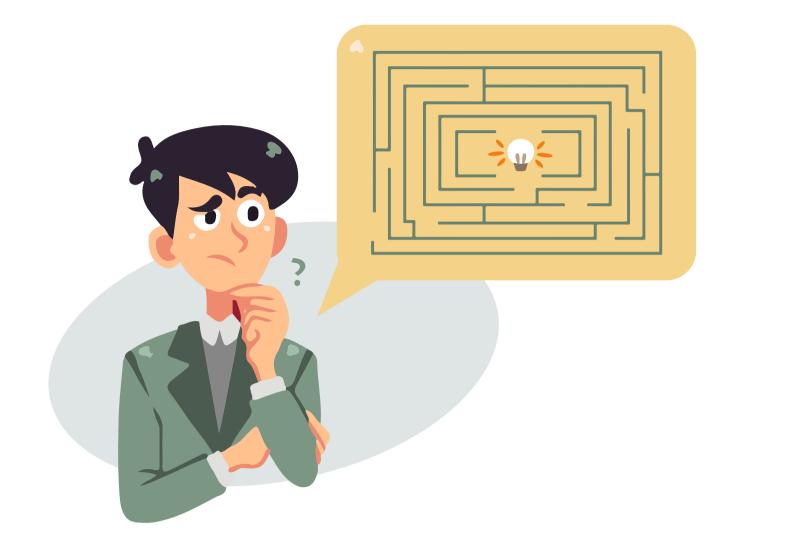
- We have delivered photocopies (PDF) instantly when our customers have integrated with our On-screen Marking System
- When deployed as a stand alone system (without OSM), we have been able to deliver photocopies within a couple of days
- Payment gateway transfers fees directly to university bank account
- Colleges are not involved in the process



## SES Student Enrolment System

PRN generation, student document verification, and onboarding to university

### PROBLEMS WITH TRADITIONAL METHODS



- Large number of student documents need to be collected and verified
- Variety of student fees based on various eligibility criteria
- Offline payment is slow and cumbersome
- Various reports and statistics need to be compiled for management review
- Document storage requires space and physical protection





#### **Step 1- Student Registration**

Student registers with email and mobile number. Both email are mobile are verified through OTP



### Step 2 - Form Filling



Student fills out bio, educational details, scholarship eligibility, and other information

### Step 3 - Document Upload

Photo, signature, allotment letter, caste certificate, mark sheet, income certificate etc.

### Step 4 - Payment & Submit

Payment is calculated based on course, caste, scholarship etc.

### Step 5 - Document Verification

Colleges or sub centres verify student document and approve the application



#### Step 6 - PRN Generation

Upon approval, PRN is automatically generated and assigned to student



- Simple step-by-step student application process
- Online document verification by college admins
- Automatic fee calculation and online payment
- Various reports and statistics



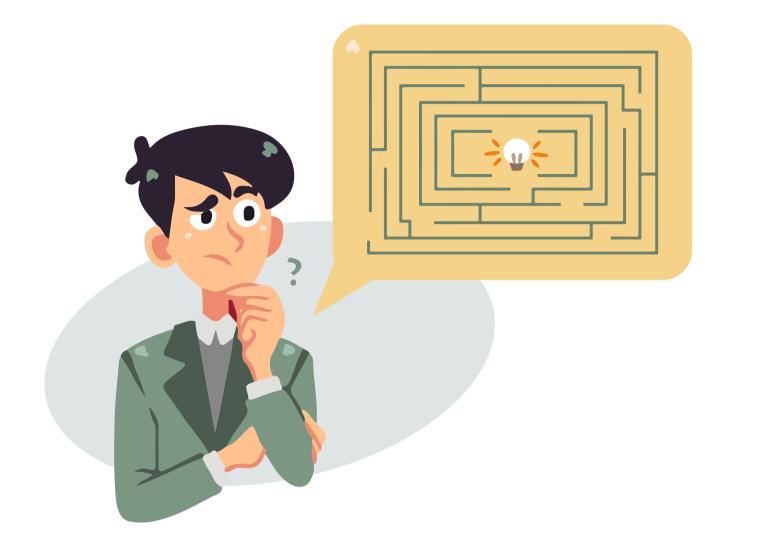
- Over 1 lakh online admissions completed
- Real-time admission statistics are available
- Automatic fee calculation based on several parameters such as caste, income, course, domicile etc.
- Online document verification for colleges and universities
- Automatic PRN generation



## QPG **Question Paper Generation**

Rule based automatic question paper generation from question bank

### PROBLEMS WITH TRADITIONAL METHODS



- Paper setter submits question paper instead of questions. Therefore, the system is not completely secret
- Offline submission of question papers requires paper setters to be physically present at the examination department
- Randomisation and regeneration of question papers from old papers requires manual intervention
- Layout and type-setting needs to be done manually for each paper





#### Step 1- Send Appointment

Send appointments to paper setters through QPM system



#### **Step 2 - Upload Questions**



Paper setters upload ODT files or MS Word files with questions in required format



#### Step 3 - Create Rules

Paper setters create rules for paper generation



#### Step 4 - Generate Papers

System automatically generates required number of papers (PDF)



- Improves secrecy because even the paper setters have no insight in the generated question paper
- Focus shifts to creating better questions and improving question bank
- Seamless integration with QPM, QPD systems



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