

# Replicating an offline exam

Mercer | Mettl's progressive  
solutions digitized Great Lakes  
Institute of Management's  
(GLIM) critical graduation exams



welcome to brighter

# About the institution



Great Lakes Institute of Management (GLIM) is a private business school in India, founded in 2004 by Professor Bala V. Balachandran. Over the past 15 years, GLIM has successfully imbibed several best practices from the leading global business schools. It has adapted them to suit them to Indian realities better and introduced several innovations in management education.

It is the youngest AMBA accredited business school in India and one of the youngest globally and ranks in the top 10 in several popular rankings. GLIM credits its success to a carefully designed blend of rigorous learning from world-class academicians, regular exposure to global thought leaders, community service, experiential learning, numerous student-driven initiatives and peer learning.



# Challenges and requirements

GLIM has proactively pioneered several innovations, such as embracing the internet-and-mobile-technology-enabled blended and online learning, making high-quality management education available to learners across the gamut. The management also incorporated a learning management system (LMS) to administer in-class online program exams, assessing that the pen-and-paper assessment process may need a technical overhaul in the future.

However, it had no inkling that the COVID-19 pandemic would expedite the need for the transition much sooner than anticipated. With the spread of the contagion, the lockdowns pressurized the administration to discontinue in-class teaching and campus activities. Academia made significant efforts in a short timeframe to continue with its courses online. However, the situation turned for the worse for some students.



Four hundred final-year students were slated to take their exams and either join their company of choice or seek employment in the job market. But the lockdown occurred a week before the completion of the academic year, putting breaks on their aspirations.

The situation necessitated quick intervention, and the management was nimble in chalking out a strategy to ensure that the institution delivered on its graduation-related timelines. Interestingly, given its familiarity with online exams, it did not consider the format difficult to implement. Hence it could mitigate the challenges emanating from the pandemic and safeguard students' careers. However, academia pointed out that while it had used an LMS to administer online exams, the students had taken the assessments in physical classrooms (center-based exams) with human-led proctoring.



**If GLIM shifted its exams to the remote online format, could it still preserve its transparency, integrity and fairness?**

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How GLIM safeguarded its students and untied its academia's Gordian knot amid a pressing deadline is a fascinating story. However, before highlighting its details, mentioned below are the requirements academia cataloged to enable continuity in giving and taking exams online:



## Scalable bandwidth

GLIM was hosting students from across India's towns and cities and globally for its programs. Considering unreliable internet infrastructure worldwide, the institution sought partnership with a steady, consistent, seamless platform and proctoring provider. A system that could ensure equitable internet reach beyond borders, allowing for fair access and a glitch-free connection between faculty and students.



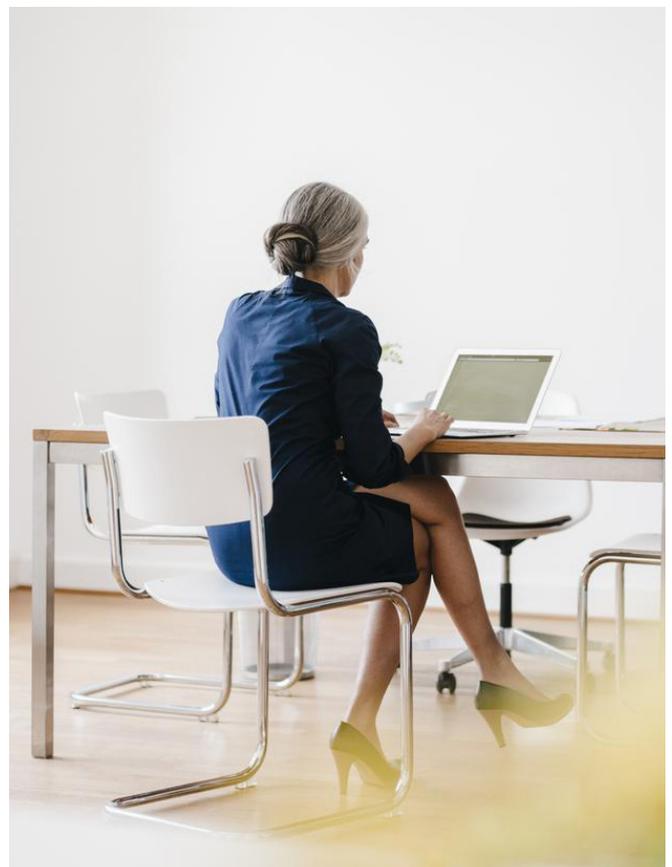
## Remote supervision

GLIM students had taken their exams online, intermittently, via an LMS. But it did not have the provision for linking it to a basic invigilation software. Exams were going remote, which worried educators about possible malpractice attempts. Hence, GLIM mandated a dynamic proctoring system that allowed real-time monitoring, constant interaction and utmost visibility. It also needed in-house proctoring training for its faculty to maintain the examination drive's security and confidentiality, ensuring proper identification.



## Robust online system

GLIM required an unparalleled system to conduct hassle-free examinations online. Thus, it sought a specific set of tools and features to aid in reliable exam paper creation, management and verifiable analytics generated for insights. It also mandated a cheating prevention system with AI elements as the management needed to make high-stakes decisions about students' future based on their exams' results. Therefore, it mandated preventing academic dishonesty and negating any issue concerning usability, accessibility or location constraints.



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## Exam-taking experience

GLIM was shifting a broad spectrum of exams online. These tests were in different formats, including multiple-choice questions, open-ended questions, equations and calculation-based questions. However, while some exam-takers were comfortable taking their exams online, many still preferred the traditional pen-and-paper medium, given their lack of confidence and exposure to the online means of assessment. Therefore, academia scouted for a solution that offered all students a fair and seamless writing experience.



## Data privacy

GLIM was fixated on protecting the exams' integrity and test-takers' data. Hence, its requirement also included a highly secure system that ensured the best data privacy protection and security practices. Besides, it mandated secure encryption, regular security updates and an audit trail of access controls, given commonplace cyberattacks and misuse of information.



# Discovering Mercer | Mettl

GLIM understood that it needed a permanent solution to ensure that young graduating students did not bear the brunt of the COVID-19-induced disruption. Thus, the management evaluated multiple platform-and-proctoring systems for its exams, but every solution seemed inadequate. Amid looming uncertainty, Mercer | Mettl's team responded to the institution's needs.

Initially, Mercer | Mettl's team spent considerable time understanding GLIM's internal structures (users and their roles), assessment formats, type of questions, amongst other things. It patiently identified challenges and preferences to anticipate GLIM's needs.

After a thorough evaluation, Mercer | Mettl's team offered a detailed execution plan with a few product-level customizations, catering to GLIM's requirements. That aside, the team also demonstrated remarkable agility in making provision for numerous online demo tests. These tests helped students gain familiarity with and confidence in the online system. The exercise also helped solidify Mercer | Mettl's assertions about the integrity of its assessments and the reliability of its software.

The checks and balances built into the Mercer | Mettl system and the team's unflinching pursuit to negate academia's problems emboldened GLIM to shift its critical examinations online.





Mercer | Mettl has provided us with an acceptable alternative to the traditional paper-and-paper way of giving exams without losing out on functionalities or academic rigor. I am convinced about and comfortable with Mercer | Mettl's system and will continue to use it for my exams, whether students are on campus or not.

**Prof. Sanjoy Sircar**

Program Director, PGPM & Professor of Finance  
Great Lakes Institute of Management



# Solution

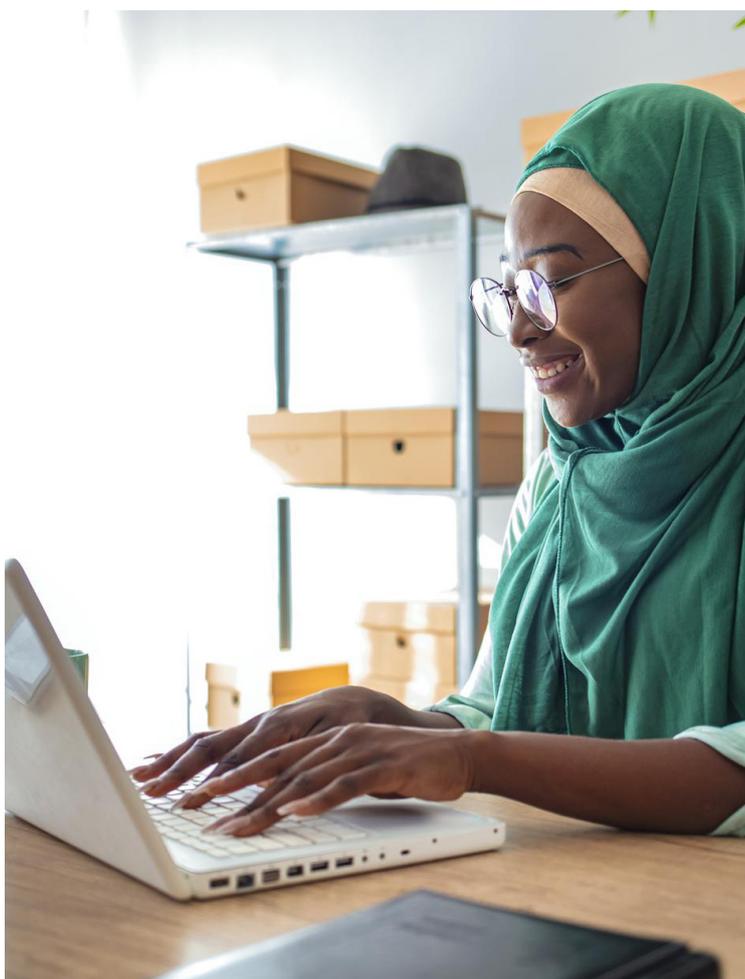
## Mercer | Mettl EXAMIN- An online proctoring and examination system

Mercer | Mettl advocated its most viable value proposition- Mercer | Mettl EXAMIN. It is a futuristic, reliable and scalable technology, in tune with the undergoing shifts in the education landscape. Mercer | Mettl EXAMIN is an innovative and impeccable solution for administering and validating exams online. Besides, it was also the key to preserving academic continuity for GLIM by averting current and potential crises.

## Here is how GLIM's faculty reaped the benefits of the functionalities and processes of Mercer | Mettl's online examination system:

### Freedom to host and schedule exams

- Mercer | Mettl's user-friendly and easy-to-navigate platform allowed GLIM's faculty to set up various academic exams without any assistance.
- A rich repository of 26 different question types, considering GLIM's various exams format compared to regular B-School exams, enabled it to create objective, subjective and multimedia-oriented question papers. Furthermore, exam-takers were appearing for their tests from different time zones. Thus, faculty created multiple sets of test papers to ensure fair and challenging exams.
- Well-defined test settings enabled GLIM's faculty to host purposeful tests at different time slots. Also, a dedicated admin dashboard helped gain detailed and real-time insights into the assessment process.



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## Internet accessibility

- Mercer | Mettl's system offered a minimum upload speed of 512kbps to give and take the exam online. This minimal requirement abated GLIM's technical difficulties associated with sluggish internet speed and intermittent connectivity globally.
- Whether academia or the students logged in using dongles, fiber optic, cellular data or Wi-Fi systems, sufficient bandwidth facilitated a seamless online examination process. This arrangement enabled a wider reach and participation remotely.



## Live proctoring training

- Mercer | Mettl's team also trained GLIM's faculty and staff members on the nuances of proctoring to add an extra layer of security to the semester exams and low-stakes internal assessments, such as quizzes, assignments, etc.
- During the exam sessions, the team prepped the faculty with expectations and shared best practices concerning AI and live proctoring to smoothen the learning curve.
- The newly trained proctors were soon well-versed with online invigilation, validating test-takers' identities and negating any academic-or-exam-integrity-related concern.

## Artificial Intelligence (AI) proctoring

- Mercer | Mettl's anti-cheating features ensured that the test-takers were always visible on-screen because of the advanced AI algorithm.
- AI performed transparent supervision and validated its detections by continuously analyzing students' behaviors and surroundings to prevent suspicious activities.
- AI, trained with more than 2.8 million proctored assessments, helped newly trained in-house proctors detect up to 18 dynamic digressions with over 98% accuracy. Besides, the powerful proctoring engine flagged cases such as the non-visibility of face/ presence, mobile phone detection, distracted eye movement.

## Mettl Secure Browser (MSB)

- Mercer | Mettl's limited navigation control feature was another advanced anti-cheating solution that boosted the varsity's confidence in securing its exams, ensuring a highly secure and controlled online environment.
- MSB locked the students' test screens and prevented them from opening new browser tabs/incognito tabs/windows. It blocked functions such as copying/pasting and restricted shortcut keys and finger swipes.
- It also prevented access to secondary devices, such as cables, hard drives or external devices, such as the USB or internet dongles. If applicants synchronized any such device before the test or attempted to synchronize them during the test, MSB would not let the exam commence and immediately log out the applicant.
- It did not allow exam-takers to move out of the application before completing their test.

## Disruption tolerance

- Mercer | Mettl enabled GLIM to enforce disruption tolerance to prevent students from purposely logging out of the exam and indulge in unwarranted activities. Disruption tolerance restricted the number of times any student could log out and log back onto the system.
- The management could take stringent action against repeated offenders. If the students had logged off due to a genuine reason, they could only resume the exam after obtaining special permission from the concerned authority.

## Integrity and performance analysis

- Mercer | Mettl utilized its proprietary algorithm, the 'Credibility Index,' to meet GLIM's mandate of in-depth reports of the students' integrity and performance to guarantee reliable and transparent results declaration.
- The report took inputs from various proctoring flags and the 'test finish' status to create a detailed analytical report. It displayed valuations as "high," "medium," and "low" to examiners, helping identify students who may have resorted to cheating. The Index also empowered GLIM to graduate or promote the most deserving students.
- Besides, the reporting tool gave the faculty access to detailed, relevant and accurate data, helping them determine students' potential and performance.

Here is how GLIM's students enjoyed a seamless user experience while using Mercer | Mettl's online exam system:

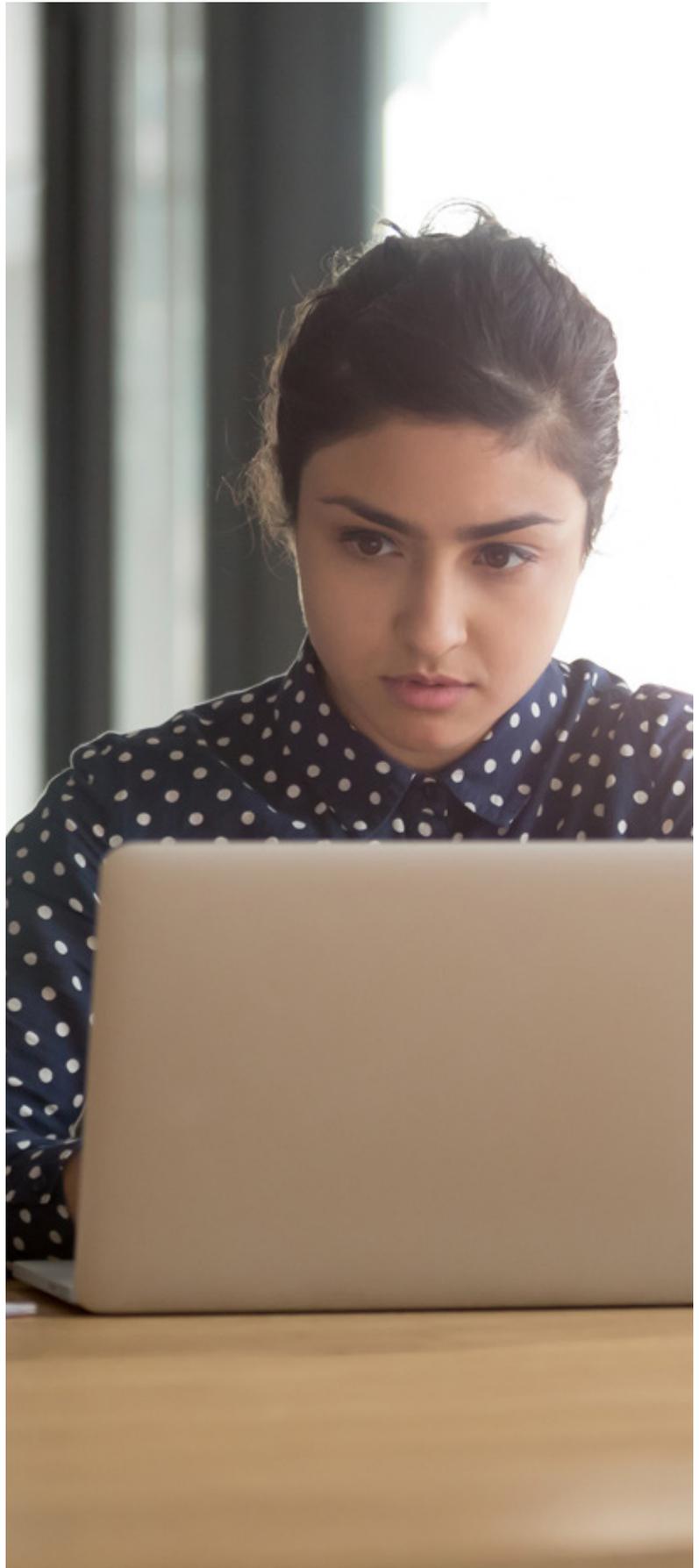


## From pen to digital

- An undeniable advantage of Mercer | Mettl's examination platform was using a unique examination solution called the QR Code. This feature enabled students to write the answers on paper, scan the document using a QR code and upload the images using their cellphones.
- The system enabled directly uploading the answer sheets onto the examiner's system. Thus, many students who still preferred writing by hand but wanted to enjoy the digital benefits could use this feature.
- The solution replicated and created a real-life exam experience to retain a written exam's traditional look and feel without impacting the test-taking experience.

## The test-taking process

- The online exam-taking platform was interactive, easy-to-use with no complaints about the anxiety that inhibited students' ability to perform to their potential.
- The students were even given an extended log-in window or made to wait in the 'waiting room,' given the likelihood of intermittent internet connectivity. This waiting room was a webpage with customizable instructions and a prominently displayed 'test start' timer. Once the time was up, the test started for all students at the same time. Beginning the test at the same time negated any possibility of some students using cheating tactics.
- Custom-built and powerful basic and scientific calculators also accorded students a pleasant experience.
- An internal 'stop system' ensured if a student got logged out due to a valid technical snag, the exam started from where the glitch occurred. The student got the same time left before they got disconnected for attempting the remainder of the exam.
- Furthermore, a user-friendly process did not require students to download software and tutorials. It ran seamlessly on applications' systems, irrespective of their location. Thus, students could take their tests confidently. And the management experienced no change in their experience.
- A seamless and successful online process also ensured that students did not need to wait for weeks or even months for their exams' results. This agility helped the institution maintain its intended academic timeline.



## Data safety to ensure the integrity

Mercer | Mettl's focus on stringent cybersecurity protocols addressed GLIM's concern about data breaches, unauthorized access and privacy at every stage of the examination process. Hence, it implemented the following procedures to ensure absolute fairness and security during each exam session:

- **Data security**

Mercer | Mettl's host, Amazon Web Services (AWS), proved to be a highly secure cloud-based platform for storing exam papers and their computation.

- **Data encryption in transit and at rest**

HTTPS (256-bit SSL encryption) ensured secure data transmission and that webcam proctored tests ran without downloading the software. Similarly, Mercer | Mettl created an uncompromised maximum security storage environment for applicants' data, questions and exam results.

- **Access rights management**

Mercer | Mettl's team ensured the available data's safety and encryption by defining clear access rights, log reports and audit trails of various system resources.

Strict guidelines with multi-factor authentication for managing the exam-related material prevented unauthorized access to the mechanism.

Mercer | Mettl validation included GDPR compliance and ISO 27001:2013 certification.

- **Proctoring stopped**

as soon as the test-takers finished their exam without any intervention.



## Stellar customer support

- Mercer | Mettl's commitment to ensuring exam continuity for GLIM's test-takers warranted the team to work round the clock to keep the software up-to-date, compatible and error-free.
- Mercer | Mettl provided GLIM intensive onboarding support through a dedicated customer support manager and a SPOC.
- The team proactively and promptly addressed technical lags, if any, ensuring no student was disadvantaged during the online exam. An outlined and well-structured workflow resulted in students completing their exams successfully with minimal stress.

# Impact

GLIM did not have to defer the examination process until the COVID-19-mandated lockdowns were lifted. It found online exams an excellent alternative to the traditional paper-and-paper exams without compromising any functionality or academic rigor. With help from Mercer | Mettl's team, faculty continued in the new 'normal' by reshaping its education and examination strategies. Also, students did not lose out on their invaluable academic terms and could seek suitable employment opportunities after graduation.

## Some highlights included:

- GLIM could shift semester exams, critical graduation exams, quizzes and assignments online.
- Almost one thousand students across courses went online with exams. Besides, close to 25,000 assessments have been delivered so far.
- Mercer | Mettl's proctoring technology empowered GLIM to conduct over 40,000 hours of proctoring online.
- Real-time updates on candidates' activities on screen and the ability to quickly identify malpractices ensured excellent and relevant results.
- Mercer | Mettl's reliable audit trail of the exams provided GLIM information about its students' potential and performance.
- No student faced any internet connectivity-related constraint.
- A dedicated Mercer | Mettl SPOC continued to work closely with GLIM's team.
- GLIM took several landmark steps to reduce its carbon footprint. And using Mercer | Mettl's software ensured it continued employing environmentally-friendly energy.

# The way forward

GLIM comprehended that disruptions were inevitable, but a pause in academic continuity could negatively impact students' future. Hence, academia plans to embrace the online examination approach for all forms of assessments for the foreseeable future to negate existing threats and those that may emerge from unforeseen circumstances.



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# About us

At Mercer | Mettl, our mission is to enable organizations to make better people decisions across two key areas: acquisition and development. Since our inception in 2010, we have partnered with more than 4,000 corporates, 31 sector skills councils/government departments and 15+ educational institutions across more than 90 countries.

✉ [mettlcontact@mercer.com](mailto:mettlcontact@mercer.com)

🌐 [www.mettl.com](http://www.mettl.com)

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## Robust Information Security System



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