



Tell me more about...

Online proctoring



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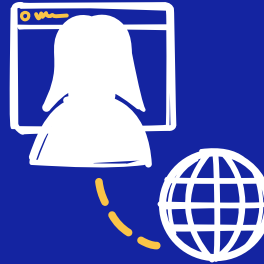


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Introduction



Why online proctoring

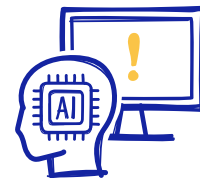
The days when proctoring, or online proctoring, was restricted to a scheduled time and physical location or test centre are over. The advent of Computer Based Testing (CBT) and the move to online and remote testing, has created a need for secure administration and technological advances have made secure remote testing with online proctoring possible.

Faster internet speeds, High Definition (HD) video and audio and biometric identity verification all increase the potential for tests to be proctored remotely. These technological advances also mean that online testing is more scalable, affordable and flexible for organizations - while enhancing security. At the same time, the process is more convenient for test takers, who can take a test from the office or comfort of their own home.





A bit more about...*Artificial Intelligence and online proctoring*



The pandemic triggered a wholesale move to remote testing, and with this move came the need to maintain test security with measures such as online proctoring.

The mass adoption of online proctoring caused understandable concerns about test taker privacy and the validity of test outcomes; in particular, when Artificial Intelligence (AI) was used to minimize cost and speed up implementation.

PSI never uses automated proctoring that relies exclusively on AI to monitor for potential dishonesty.

We are committed to proctoring that is human-focused and technology assisted, with the use of the latest, most appropriate technology. Combined with effective content, online proctoring is a secure, non-invasive, cost effective and extremely convenient alternative to traditional onsite proctoring.

What is online proctoring?

Online proctoring is a technology-enabled alternative to traditional secure testing methods.



A proctor is a trained and trusted individual who has traditionally been present in the room during tests, to improve security and support test takers.

A proctor's role is to:

- ▶ Check and verify the identity of test takers before a test.
- ▶ Prevent, identify and report any misconduct during the test.
- ▶ Answer any questions or concerns that test takers might have.

Proctoring can be conducted online by a proctor who is able to observe tests remotely, through the webcam and microphone on their device. This can replicate traditional proctoring for test takers in the comfort of their own home, or almost anywhere else.







"In 2018, there was a 10% increase in organizations using online proctoring with video/sound recording and identity authentication as part of the testing process compared to 2017."



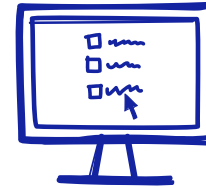


Who uses online proctoring?

Organizations that provide high stakes testing:

- ▶ Professional associations
- ▶ Government agencies
- ▶ Certifying bodies
- ▶ Awarding organizations
- ▶ Educational institutions
- ▶ Online educators
- ▶ Test providers
- ▶ Commercial organizations
- ▶ Publishers

In *what kind of tests* is online proctoring used?

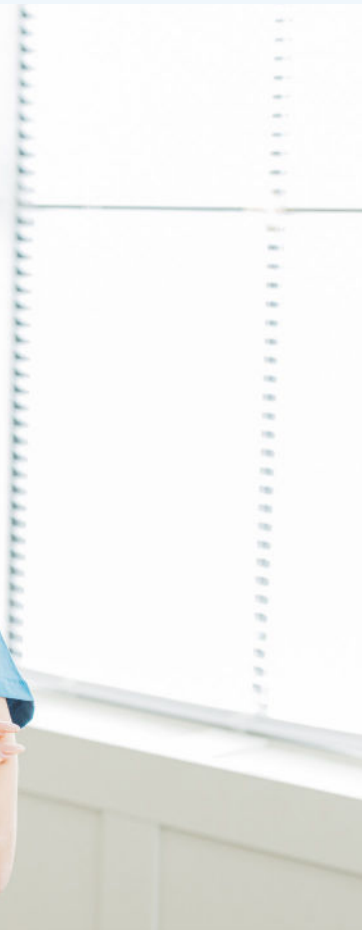


Virtually any kind of test that is delivered online can be delivered using online proctoring, including:

- ▶ IT certification and digital skills
- ▶ Government programs
- ▶ License to practice
- ▶ Professional tests
- ▶ Competency based tests
- ▶ Performance based tests
- ▶ Academic tests
- ▶ Language testing
- ▶ Entrance tests
- ▶ Talent assessment

What are the *benefits* of online proctoring?





Benefits for *organizations*

Security of test content

Data privacy compliance

Program differentiation

Flexible, multi-modal delivery

Predictable test costs

Integrity of organization, program
and credential protected



Benefits for *test takers*

Easy ID verification

Maximum Professional
Indemnity Insurance
(PII) protection

Responsive, up-to-date
testing experiences

Bring your own device
(BYOD) options

Convenient scheduling
and test times

Flexibility of test location

What are the
most common
questions
about online
proctoring?





Is online proctoring secure?



Yes. With the application of innovative technology, online proctoring is increasingly seen as secure as physical test centres, particularly when it comes to delivery in certain geographies.

Security is largely the same between online proctoring and test centres, and test pass rates are the same. What's more, with multi-modal test delivery, organizations are able to opt for a level of security that's appropriate for their needs using both online proctoring and physical test centres.



**High stakes
testing such as
license to practice**



**Higher security
measures**

**Tests with less
serious consequences
placed on outcome**



**Elevated security
may not be necessary**



Is online proctoring *off-putting* for test takers?



No. Our research shows virtually no difference between how test takers rate the experience of onsite or online proctoring.ⁱⁱ Test takers rated online proctored tests favorably and ratings of testing conditions were virtually uncorrelated with test performance.

Because online proctoring delivers a seamless journey, from ID verification through to test submission, the test taker experience can be enhanced:



Tests can be taken at convenient locations.



Many tests can be taken in the office or the test taker's own home.



Timing is more flexible for the test taker.



There is less travel time.



Reduced expenses and decreased anxiety for test takers.



Access to credentials is increased by removing the geographic barriers presented by physical testing centres.



Does an online proctor have **remote access** to a test taker's device?



No. A secure lockdown browser means that an online proctor will never require remote access to a test taker's device. A secure browser provides a fair testing environment where a test taker is unable to copy, paste, access other websites or applications.



Should I be concerned about **data security**?

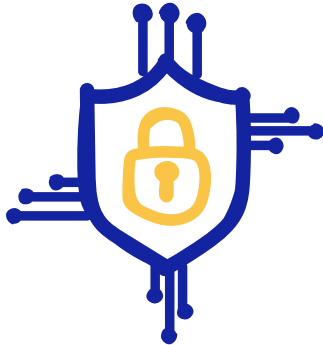


No. Technology such as Learning Tools Interoperability and Application Programming Interfaces safeguard data security and privacy. Enabling single sign-on and seamless integration with your existing Learning Management System and workflows.





"Online proctoring is increasingly seen as secure as physical test centres."



Can organizations continue to use *onsite proctoring*?



Yes. Research supports multi-modal program involving test centres and online proctoring to address different needs.ⁱⁱⁱ With increased access to emerging technology at both work and home, test takers are more likely to choose testing organizations that are flexible, and deliver an experience that is convenient, seamless, and integrates the latest technology.

As with any development in the current climate of change, the risk of doing nothing is the greatest risk of all. Organizations that don't adopt technology will get left behind.



Is online proctoring *expensive*?

No. A secure lockdown browser means that No. The cost of online proctoring can be significantly less than the cost of onsite proctoring.



With different options, such as live or record and review proctoring, there is an appropriate solution for every organization seeking to protect the security of tests while addressing test takers' needs.



Can *all* certifications be online proctored?

Yes. All tests that can be delivered online can be proctored online.



There are different levels of security available and different technology can be specified. What's more, the reputation of your organization, programs and credentials is reinforced, as research shows that in online tests, just like in the classroom, instances of malpractice increase substantially if the test is not proctored. ^{iv}

What are the *different options* for online proctoring?

Online proctoring solutions are not all created equal. Every organization has different needs when it comes to security, acceptable levels of risk, test taker experience, and budget.

When these needs have been assessed, there are two main options:



1. Live online proctoring



2. Record and review proctoring



1. Live online proctoring

How does *live online* proctoring work?

Live online proctoring is a highly secure method of test delivery. No specialized hardware is needed and live online proctoring can take place on most devices with a stable internet connection, working webcam and microphone.





For test takers

- ▶ **Live online proctoring is an incredibly flexible and convenient option for test takers,** who won't need to take time off work to travel long distances to a test centre.
- ▶ **Test takers can easily download a secure browser to their device that prevents them taking any unsanctioned or unprescribed actions during the test.** This may include browsing the internet, taking screen grabs, running a virtual machine, using instant messaging with third-parties or accessing any other applications.



For organizations

- ▶ **Online proctoring is scalable**, and unlike the traditional approach places no undue pressure on physical centres or proctors at certain times of the year.
- ▶ While live online proctoring does need to be scheduled, it is extremely flexible and **a proctor can be booked with around 24-48 hours' notice**.
- ▶ **The ratio of test takers to proctors is typically around 8 to 1**. This is similar, and often better, than in a physical test centre, and can be lowered if required.
- ▶ **There is reduced potential for collusion between test taker and proctor**. The proctor can only communicate via text message within the secure browser.
- ▶ **PSI's secure browser doesn't require remote access to a test taker's computer**, so an organization's firewall and security systems are never breached.

PSI has established two stages to live online proctoring. This improves the experience, reduces administrative burden, and increases security:



A check-in administrator meets and greets the test taker who shows their photo ID to the camera and takes a selfie while the administrator observes. The photographs are compared in order to authenticate the ID. The test taker may also be required to complete a room scan by rotating their device through 360° so that the administrator can check the test location.



The test is then released and delivered through the secure browser.



An online proctor, who has been trained specifically on live online proctoring, takes over at this point. During the test itself, the webcam is left on to show the immediate surroundings in the room. If the proctor sees anything suspicious, he or she can either give the test taker a warning or pause the test to investigate further.



"Because a dedicated device isn't required for live online proctoring, this solution is often used with bring your own device testing (BYOD)."

The type of organizations that use live online proctoring:

- ▶ **Certifying organizations**
- ▶ **Tech companies**
- ▶ **Universities/colleges**
- ▶ **Healthcare certification programs**



2. Record and review proctoring

We don't conduct full high-stakes testing - is there a more *cost-effective* alternative?

Yes. Organizations looking to increase test security, particularly those moving from non-proctored tests, often find that record and review proctoring is an ideal solution. Record and review proctoring is suitable for high stakes testing, as well as a significant step up in security from an unproctored test environment.

How does record and review proctoring work?

Record and review proctoring is very similar to the live proctoring process. Test takers still download the secure browser and go through the same ID authentication process in order to access the test. The whole session is then recorded via webcam and a proctor reviews the recording after the test has taken place to flag and report on incidents. Only one recording is reviewed at a time by a professionally trained proctor.

The main difference between live proctoring and record and review proctoring is the fact that during a live proctored session a proctor can intervene when witnessing an incident. Whether a test sponsor prefers intervention or detection of misconduct is often the determining factor in the decision about which solution to adopt.



"Record and review proctoring is a significant step up in security from an un-proctored test environment."



The future of online proctoring

The number of online proctoring options has more than doubled since 2012. So it's imperative that credentialing organizations stay on top of the latest developments to keep up with the competition.



Enhanced test taker experience

Enhanced test taker experience continues to be a major focus, not least because it increases a program's marketability.

Enabling easier access to the online proctoring experience via single sign-on can improve the test taker experience by allowing a smooth transition from a certifying organization's website to the scheduling platform. Branding the scheduling platform with an organization's colors and logo adds to this by maintaining a seamless process, look, and feel.

Test takers are at various stages of their career and have differing personal and professional priorities. Developments in online proctoring allow you to be flexible, offer convenient scheduling, and deliver strong support services.



For more information on how to deliver the best possible test taker experience read:

**How to prepare
test takers for
online proctoring** ➔



Innovative data forensics

These data forensics employ statistical trends and analytic techniques to detect potentially fraudulent behaviour that may indicate cheating, theft of intellectual property, or a security breach. It's an effective way to identify anomalous testing behaviours, as statistics are sensitive to different patterns of responses.

PSI's data forensics approach is supported by thorough research and investigative evidence and is a flexible approach to mitigate security test risks.^v



For more information read:

Data forensics ↗
for online testing



Digital identity *management*

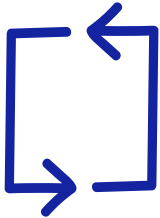
Digital identity management combines behaviour, location, use of device and other data such as email address and credit card information to authenticate a test taker's identity. With online proctoring, digital identifiers might also involve biometric markers such as facial recognition, fingerprints, retinal scans and keystroke analysis.

Are online proctors *trained* and *assessed*?



Yes. At PSI, online proctors are fully trained to recognize the behaviours associated with malpractice and take the appropriate action when they see them.

As well as an intensive training course, all online proctors sit a test under 1 to 1 supervision. Before qualifying, there is a probationary period which involves increased analysis of data by a qualified proctor.



How are knowledge and skills kept up to date?

After the probationary period, proctors undergo regular supervision and spot checks for anomalies in their data. A proctor will always clearly see the rules for every test they are overseeing, so they are fully aware of any special regulations or restrictions. For example, conditions such as it being an open book test or whether calculators are allowed.





Case study

Multi-modal testing to deliver innovation and ensure integrity.

The challenge

With over 166,000 certification holders and over 140,000 members in more than 180 countries, the Information Systems Audit and Control Association (ISACA) had growing concerns about the scalability, security and availability of its certification test delivery. The leadership at ISACA knew that its paper-based testing model was outdated.

The solution

PSI provides test development, psychometric services including job analysis and standard setting, and multi-modal test administration (computer-based/test centre, remote online proctored) for ISACA.

PSI worked closely with ISACA to identify their priorities, such as adding more international test centres (especially in China).



"From 2016 when we met PSI to now, both ISACA and PSI have grown so much and have learned so much. That's being part of a family and a rewarding partnership. "

Kim Cohen

Director of Credentials, ISACA



In conclusion...

Despite the recent rapid adoption of online proctoring, it is still an often misunderstood area and awareness about the different solutions that are out there, and their potential, can be low. However, there are multiple options available that cater for different security needs, budgets and test taker experience requirements.

There is a solution that works for everyone - ranging from live to record and review proctoring. At the same time, online proctoring is a fast developing area. As the capabilities and client confidence increase, this powerful solution will have an increasing impact on the sector. Further improving our abilities to maintain the security and integrity of online testing without compromising test taker experience.





The PSI Bridge platform provides superior online proctoring - from customizable test security and identity authentication, to multi-modal delivery and custom reports and analytics.

It works seamlessly with any test delivery system and supports every phase of the test lifecycle - from creation to results review:

- ▶ Enterprise integration, with no remote access required
- ▶ Automated test security with options for live online proctoring and record and review proctoring for different levels of security
- ▶ Multi-modal delivery
- ▶ Identity checking and authentication
- ▶ Custom reporting and analytics



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