

# Remote Proctoring

## Scenario

Officials at a midsized state institution have been looking to expand their nursing program to include online courses, though concerns about secure testing have held back that growth. This semester they have begun a pilot program for remote proctoring to address the apprehensions both of accreditors and some faculty. Caroline, a junior in the program, is participating in the pilot. She is staying with her grandmother, who is recovering from a fall. To keep abreast of her studies, Caroline has signed up for three online courses. Remote proctoring will allow her to take her midterm and final exams without having to travel the 120 miles to the campus testing center.

Early in the term, Caroline installs the remote proctoring application. On the day of her first midterm, she downloads the exam file. A face appears in a window on Caroline's monitor. Ben, the proctor who will observe her during the test, introduces himself. Then, with Caroline's permission, he takes control of her computer to enter the password that opens her examination file.

Caroline focuses on her test and largely forgets she's being watched, except when she sees the small projected image of her own face in the lower-right corner of her screen. But halfway through the test, she rolls her shoulders and stretches her right arm to ease her tense muscles. A buzzing alarm and a message scrolling across her screen indicate she is outside camera range. She pulls her hand back quickly, but her exam disappears, replaced by Ben's face in the monitor window. "Could you please angle the camera off to your right?" Caroline is soon back to her test, careful to keep her hands where they can be seen. That evening, a survey requests feedback about the proctoring system. Caroline notes that the logistics and the requirements of the system are initially somewhat awkward, but she says it is worth adapting to the process to take her exams online.

Faculty and administrators in the nursing department discuss initial student responses. The consensus at this stage is that remote proctoring could help the program expand its enrollment and would satisfy accreditors. Some members of the faculty who have so far been reluctant to teach online because of the lack of control for exams are sufficiently reassured by the remote proctoring system that they say they are ready to consider moving some of their courses online.

## 1 What is it?

**Remote proctoring allows students to take an assessment at a remote location while ensuring the integrity of the exam.** Online education, in particular, faces the challenge of conducting trustworthy assessments at a distance. Though some institutions use testing centers or require that students come to campus for exams, a growing range of digital tools endeavor to fill this need. These might include a web-based service that provides synchronous remote monitoring by a human being or a video recording of student behavior during a test. The twin goals of all such systems are to ensure that people taking tests are the people they claim to be and that test-takers do not cheat during the exam.

## 2 How does it work?

For a typical remote proctoring system, students install the software on their computers. When the assessment begins, the application accesses the student's computer and its camera. The student confirms his or her identity, either by holding up an ID to the camera or through other kinds of identity checks, such as biometric authentication, including facial recognition. Alternatively, students might be asked to type a short phrase so their keystrokes can be analyzed and compared to previous samples. In some cases, a password that only the proctor knows is needed to begin the assessment, requiring the proctor to take control of the student's computer to enter the password. **A lockdown mechanism may be used to prevent students from accessing web browsers or other applications.** During testing, the camera records the test and, in some systems, relays the video to a human proctor in real time who observes student eye movements and other behaviors for signs of cheating, compiling a report after testing. In other cases, software may flag student behavior that could indicate cheating, and these instances can be reviewed by faculty later.

## 3 Who's doing it?

**Colleges and universities are using a variety of commercial and homegrown tools to support remote proctoring.** The University of Mississippi has implemented ProctorU for remote testing for online courses. Students can take an exam wherever they choose (in a residence hall or apartment, for example), and in some cases can also decide when

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to take the test. When connected to the ProctorU web-based service, students are observed by a live proctor who submits a report about each student. At Rutgers University, students take exams with ProctorTrack, which scans faces and knuckles through a webcam to verify identity; throughout the exam, the system uses algorithms to flag behavior that might signal cheating. The University of Central Florida developed an in-house system called ProctorHub, which integrates existing software and online services coordinated through the campus installation of Canvas. An equipment checkout program ensures that students who lack a webcam can secure one for a proctored exam.

## 4 Why is it significant?

Although a determined cheater can generally find a way to beat any system, **online proctoring systems are sufficiently effective to serve as a deterrent** to a considerable amount of misconduct. Online courses that do not provide a secure means of assessment may not be deemed reliable by other learning venues or by accreditors. At a minimum, academic testing—whether in a classroom or online—should include the ability to verify the identities of students taking assessments. The Higher Education Opportunity Act of 2008 requires colleges and universities to verify the identity of students to ensure those who register for an online course are the ones who participate. Beyond identity verification, faculty and administration generally feel it's important to include safeguards against cheating on assessments, and providing a proctor is a time-honored method of achieving that goal.

## 5 What are the downsides?

Some commercial proctoring services are expensive, with per-student prices that can be prohibitive for a large-enrollment course. While online proctoring systems do provide a practical way to validate online courses for accreditation, the procedures to do so make some users uncomfortable. Students may find the lockdown software and webcam recordings intrusive. Letting students know exactly what to expect in an online proctoring session is vital and can substantively reduce the stress of what many see as an invasion of privacy. Students need to know that they must have an approved ID on the day of testing and that they may need to download software or allow a proctor to access their computers for entering an exam password or for trouble-

shooting. Websites that suggest ways to beat remote proctoring are relatively easy to find, and the effectiveness of human proctors monitoring online sessions can be uneven. **A wide range of ethical considerations accompany software that takes video of students**, records information on their IDs, and may capture video of their living quarters. Some of these services are more intrusive than others. A proctor may insist that a student scan the entire room with the camera before the exam, including angling a mirror to view areas beneath the ordinary level of webcam viewing. Or a student might be reminded that someone is watching by showing a small inset video image of the student throughout the test. Students sometimes find these processes “creepy,” which could give faculty pause when considering the effect this could have on student evaluations.

## 6 Where is it going?

Because they offer a way to support academic integrity in online contexts, **remote proctoring tools might become a staple of online courses**. The current trend is toward enhancing the tools through artificial intelligence, particularly by incorporating machine analysis of a student's biometric responses. Hardware such as smartwatches and fitness monitors may be employed to detect changes in pulse and temperature and send such data to proctoring software for analysis. Existing tools for facial recognition, sound recognition, and keyboard analysis will be expanded to try to discern cheating through such factors as facial expression, head movement and position, tone of voice, and typing rhythm.

## 7 What are the implications for teaching and learning?

For faculty, **the digital tools that support remote proctoring provide a reasonable level of security for exams taken remotely and so provide validation for online education**. For students, these systems offer an opportunity to complete online assessments in a variety of times and places. The confidence of a secure testing option that remote proctoring provides could persuade faculty who are reluctant to teach online to try it. On the other hand, the limitations of remote proctoring might persuade other faculty to move some portion of their course content away from high-stakes exams and toward continuous assessment strategies, whether that involves team engagement, forum interaction, or video projects.