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Canada

Post-secondary students call for changes to online exam rules as cheating concerns rise

Regular exam anxiety 'gets magnified up to the nth degree' by use of exam-monitoring tools: Student rep

Jessica Wong · CBC News · Posted: Oct 25, 2020 4:00 AM ET | Last Updated: October 25

With many Canadian colleges and universities forced into online learning by the pandemic and experts reporting rising cases of academic misconduct, students are raising concerns about how they're being assessed and some technological tools being used for it. (Syda Productions/Shutterstock)

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Canadian colleges and universities are in the midst of midterm exam season. But with many students forced to trade in-person lectures and labs for online learning during the pandemic

and experts reporting rising cases of academic misconduct, students as well as some instructors are raising the alarm about the software being used to assess them.

Cheating is nothing new, but academic integrity experts have flagged that academic misconduct — which includes plagiarism, falsifying information, submitting work completed by someone else and unauthorized collaboration and sharing of test questions or answers — has been on the rise worldwide since the pandemic began.

"It's not anything that's specific to one university, college or higher educational institution. It's really been a response to the stress that people are experiencing under these unique conditions," said Amanda McKenzie, director of the University of Waterloo's office of academic integrity.

"It's been a pivot for everyone, instructors and students alike, and that means we really have to shift in the way that we're providing our instruction to students, as well as the way that we assess students."

The tools that many institutions are employing this year include remote proctoring software designed to monitor students taking online exams and programs that lock down computer systems — for example, to block the opening of a side chat, new browser window or additional program — as they complete a test, quiz or exam.

WATCH | What's it like to log on to a remotely proctored exam:

Concerns over e-proctoring post-secondary exams

8 days ago | 2:13

David Draper from the University of Alberta Students' Union demonstrates how to log on for a remote-proctored exam and why students are concerned about the assessment tool. 2:13

With this new generation having grown up so comfortable seeking and sharing information online, "it's really important at higher educational institutions that we're clear about what they can access, what they should access and how they should use that information," McKenzie said.

"If you're accessing information on the internet to answer questions, without answering them yourself, you're not really learning that content."

- **U of O students wary of 'extreme' anti-cheating software**

- **University of Manitoba uses anti-cheating software to monitor remote exams**

There are some courses or departments at Waterloo that have e-proctoring in place for exams, McKenzie said, noting that in certain cases, these may be linked to outside requirements from professional agencies (e.g., for board or licensure exams).

However, she said that the southwestern Ontario school encourages its instructors begin by considering other assessment methods.

"Every institution has probably considered proctoring tools," she said.

"It's not our first choice."

'It's really important at higher educational institutions that we're clear about what [students] can access, what they should access and how they should use that information,' says Amanda McKenzie, director of academic integrity at the University of Waterloo. (Submitted by Amanda McKenzie)

At the University of Alberta, school officials have published information about effective assessments for online studies, including highlighting methods that offer an alternative to the "typical sit down, block off an hour to write an exam," said David Draper, vice-president academic of the University of Alberta Students' Union, in Edmonton.

"But there are a lot of professors who are still doing the sit-down, e-proctored exams," said the fourth-year arts student. "It just locks down your computer, turns on your webcam and just focuses in on you and scrutinizes every single one of a student's actions for the entire time."

Students have come forward to the students' union raising concerns about these programs, he said.

'We're being monitored way more intently than ever before on our exams, and our overall mental health is degrading,' says David Draper, vice-president academic of the University of Alberta Students' Union. (CBC)

Exam anxiety 'magnified' to nth degree

Some students with disabilities have told him that they rely on specific screen-reader software that's incompatible with remote proctoring software. Students of colour have had problems where the application doesn't recognize their faces, and they're told repeatedly to move somewhere with better lighting, Draper said.

"In a regular year, exam anxiety has a massive impact on students.... When you have your entire life, your entire location scrutinized to immense detail, that just gets magnified up to the nth degree," he said.

"We [have a greater] workload for classes, we're being monitored way more intently than ever before on our exams and our overall mental health is degrading."

- **University of Regina students worried anti-cheating software will invade privacy**

- **Carleton students raise privacy concerns about anti-cheating software**

Kristin Smith, vice-president advocacy of the University of Manitoba Students' Union (UMSU), has heard similar worries from her peers in Winnipeg.

"Students obviously have a lot of anxiety around being watched through a camera while they take an exam, and specifically they were concerned that some of their movements would be unduly flagged as being suspicious and then lead to false accusations of academic dishonesty," said the third-year arts student.

They've asked a wide range of questions, she recounted, from more general (What if I need to use the restroom? What happens if I lose my internet connection?) to specific privacy concerns

(Could my photo and identification information be leaked? Will my information be used for advertising?).

- **Software used by U of Regina to prevent exam cheating has security breach, temporarily shuts down**

- **Western students alerted about security breach at exam monitor Proctortrack**

"What a student should be focusing on during an examination is demonstrating their knowledge, not having to think about every movement, having this anxiety about whether they're going to be flagged."

'What a student should be focusing on during an examination is demonstrating their knowledge, not... having this anxiety about whether they're going to be flagged,' says Kristin Smith, vice-president advocacy of the University of Manitoba Students' Union. (Submitted by Kristin Smith)

The UMSU assembled a list of recommendations for the university's consideration of assessment during the pandemic, including the use of remote proctoring. Though Smith said she and her colleagues recognize that some courses may require e-proctored exams, "it just has to be implemented correctly."

Being considered cheaters before submitting any work

The adoption of certain kinds of assessment tools can make students feel like they're being considered cheaters or academically dishonest before they've even submitted any work, according to academic integrity expert Ceceilia Parnther.

- **University cheating might be up — but don't just blame students**

Students are being asked to jump through hoops — showing where they live, being in an interruption-free space with bright lighting, having an internet connection that doesn't drop, maintaining consistent eye contact or interaction with a webcam, keeping still and/or silent — in addition to knowing the course content, she said.

"When you have things like this that are embedded now as part of a course and students have to navigate who they are and what they look like to take exams, it presents an entirely new set of challenges, and it increases anxiety," said Parnther, an assistant professor in the department of administrative and instructional leadership at St. John's University in New York.

Whether or not a student is actually cheating, a feeling of being watched or judged to a different standard can fuel anxiety that contributes to lower achievement "but also a likelihood that a student might consider doing those things that would help them to get an edge."

WATCH | Professor outlines why students might consider cheating:

'Cheating occurs for a number of reasons,' says education prof
8 days ago | **0:59**

Professor Ceceilia Parnther explains why some students might feel inclined toward academic misconduct during the pandemic. 0:59

"The question becomes 'what do we do, as institutions, to create the conditions where students feel they have the opportunity to be engaged, that they understand what their responsibility is in the learning process?'" Parnther said.

"We're never going to stop students from cheating…. But I think that we can get students more engaged and more invested in feeling like doing honest work matters."

Rethinking how to teach, assess students

The act of moving most students online hasn't turned more students into cheaters, according to Sarah Elaine Eaton, an associate professor at the University of Calgary's Werklund School of Education.

She said that approximately a decade of research prior to the pandemic showed that in cases where the same course was taught in-person and online, there was less cheating in the latter instance. Instead, she blames the rise of academic misconduct on the uncertainty of the pandemic itself.

- **14 University of Calgary students accused of misconduct for sharing answers in chatroom**

"We have people teaching online who have never taught online before. We also have students learning online who have never learned online before. So we have a situation where expectations are not clear, assessments may not be appropriate for the online environment and students may not understand what is OK to share," said Eaton, whose research focuses on academic integrity.

Sarah Elaine Eaton, associate professor at the University of Calgary's Werklund School of Education, says she's proud of the students raising concerns about the use of online tools in how they're being assessed. 'Institutions should have been asking those questions before they signed the contracts.' (CBC)

The pandemic has challenged educators to rethink how they teach and assess students, in particular, those instructors who haven't changed their methods for years, she said.

While a multiple choice test might be appropriate in some cases, there are also a host of alternative ways to gauge what students have learned, Eaton said, from one-on-one oral exams via Zoom to collaborative group projects to having students create a podcast or infographic.

Student groups have also recommended essays, papers, open book and take-home exams, as well as assignments or quizzes weighed more evenly throughout the course (versus one massive final exam), as different assessment methods that don't require online proctoring software and are more likely to curb academic misconduct from the start.

WATCH | Schools implement online exam monitoring to stave off cheating but spark controversy:
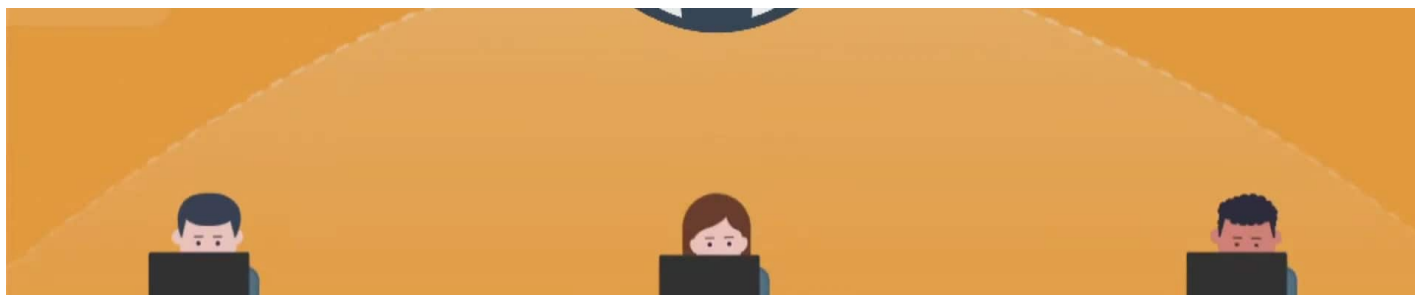
Universities use exam monitoring software to stave off midterm cheating

12 days ago | 2:00

With post-secondary students learning from home, universities implement new virtual exam monitoring software to avoid cheating during midterms but it comes with limitations. 2:00

Eaton believes the questions students have raised about some of these online tools — about privacy and specific student populations placed at a disadvantage, for example — are ones everyone should be concerned about.

"I'm actually super proud of the student groups that are driving that conversation because institutions should have been asking those questions before they signed the contracts," she said.

Still, she said many Canadian schools are re-evaluating how they assess students as the pandemic continues.

They're considering questions such as **"**Can we have exams with real proctors who are teachers that have a relationship with students?" Eaton said.

"Can we do in-person if the exams are absolutely needed, so that we can preserve the integrity of the exam and also help to preserve the mental health of our students?"

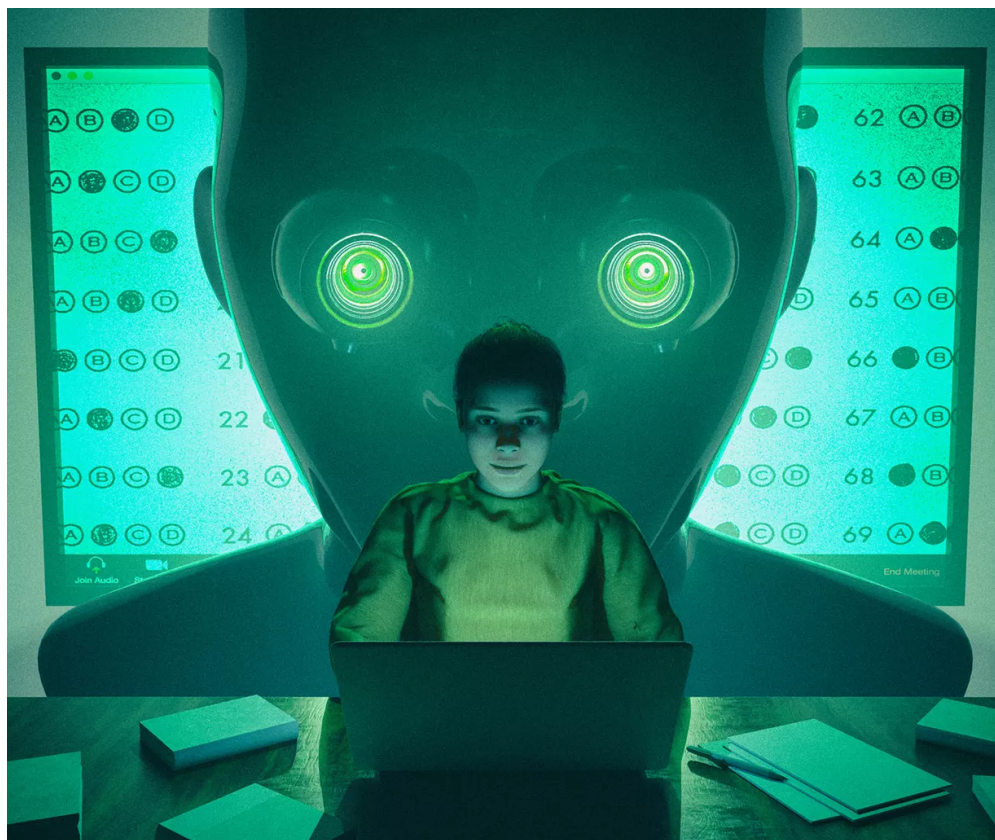*With files from Deana Sumanac-Johnson and Nigel Hunt*

POPULAR NOW IN NEWS

Illustration by William Joel / The Verge

EXAM ANXIETY: HOW REMOTE TEST-PROCTORING IS CREEPING STUDENTS OUT

As schools go remote, so do tests and so does surveillance

By Monica Chin | @mcsquared96 | Apr 29, 2020, 8:00am EDT

The stranger on the Zoom call appeared to be sitting in a tent. He wore a black headset and a blue lanyard around his neck. Behind him was white plastic peppered with pictures of a padlock.

"Hi," the stranger intoned. "My name is Sharath and I will be your proctor today. Please confirm your name is Jackson and that you're about to take your 11:30PM exam."

"Correct," said Jackson Hayes, from his cinder-block dorm room at the University of Arizona.

When he'd signed up for an online class in Russian cinema history, he'd had no idea it meant being surveilled over video chat by someone on the other side of the world. Hayes learned about it via an item on the class syllabus, released shortly before the semester began, that read "Examity Directions." The syllabus instructed Hayes and his classmates to sign up for Examity, an online test-proctoring service.

To create his account, Hayes was required to upload a picture of his photo ID to Examity's website and provide his full name, email, and phone number — pretty banal stuff. But it got weirder. At the end, he typed his name again; Examity would store a biometric template of his keystrokes.

"THE WEBSITE LOOKED LIKE IT WAS BUILT IN 2008"

"It feels so jury-rigged together," Hayes says. "The website looked like it was built in 2008."

A month later, Hayes was preparing to take his first practice exam, with an Examity proctor watching him over Zoom. Hayes didn't want to download Zoom — he'd heard about its laundry list of security concerns — but it was required to take his midterm.

Sharath told Hayes to share his screen, and then to display both sides of his driver's license in the webcam's view. "I need to see your desk and workspace," the proctor said. "Please rotate your webcam 360 degrees so I can see the area around you." Hayes complied. "Please take a step back and show me the entire desk," the proctor instructed. Again, Hayes obeyed.

Then he had to answer some security questions. Chrome thought one of the fields was for a credit card and autofilled.

"Why the fuck did that show up?" Hayes asked.

"First and last name without space," said Sharath, unperturbed.

Hayes quickly unselected the box, but his card's last four digits and expiration date had already been displayed.

Finally, Hayes was instructed to grant the proctor remote access to his computer. "Please open your system preferences and click on the lock icon," the proctor said monotonically. "Please enter your computer password. Perfect. Thank you."

AT THE BEGINNING OF 2019, EXAMITY ESTIMATED THAT IT WOULD PROCTOR OVER 2 MILLION EXAMS

The proctor entered a password, using Hayes' computer, and the test — taken online through Examity's portal — began. Sharath watched Hayes work, through his webcam, the entire time.

"I was like, holy shit, this is not good," Hayes says.

The pandemic has increased our reliance on video chat, but remote proctoring was on the rise long before the first instance of COVID-19. The University of Arizona is one of over 500 schools that use or have used Examity in some form. It's not the only webcam-proctoring service out there: other schools use similar live programs like ProctorU, automated services like Proctortrack, or plagiarism-detection algorithms like Turnitin. But while the novel coronavirus didn't start the trend, it did exacerbate it. Online proctoring has seen an explosion of business as schools around the world are forced to move their classes online; the CEO of a similar service called Proctorio predicted that his service would increase its value four to five times this year.

Examity's proctors told me they've been inundated with new tests since the start of the outbreak, and the company's CEO Jim Holm confirmed that some employees have taken on additional hours. "We are grateful for our employees and their flexibility in supporting our partners during this time," he adds.

Examity is one of the fastest-growing online-proctoring services. Employees estimate that the company had around 10 proctors in 2014, but had several hundred by the end of 2015, and it now employs over a thousand. (*The Verge* spoke to three Examity proctors and one former proctor for this story and granted them all anonymity to avoid retaliation from their employer.) The company doubled in size between 2018 and 2019, and it was named the fastest-growing ed-tech company in North America by Deloitte's Fast 500. At the beginning of 2019, the company estimated that it would proctor over 2 million exams for higher education alone.

But students aren't all on board with the widespread adoption of these services, and they haven't been for over a decade. In 2006, a group of students at McLean High School in Virginia collected 1,190 signatures for a petition against the school's required use of Turnitin. "It's like if you searched every car in the parking lot or drug-tested every student," McLean senior Ben Donovan told *The Washington Post* at the time.

"IT'S LIKE HAVING SOMEONE STANDING OVER YOUR SHOULDER"

And in 2015, after Rutgers mandated the use of Proctortrack in some online courses, a group of students revolted, circulating a petition against it that collected over 900 signatures. Shortly after the petition began, the university announced it would offer students the option to take their exams in person.

The University of Arizona's administrators believe most students don't mind the software. "They know this is an expectation because their professors put it out there," says Kristin Ziska Strange, UA's assistant director of technology and innovation. "It makes some people anxious. We have some students who are like, 'I hate this, this isn't cool.' But most of our students understand that this is a part of what their faculty members want them to do."

That hasn't been Hayes' experience. "Every student I know finds this the creepiest thing ever," Hayes says. On his campus, he finds, "the predominant feeling towards Examity is 'Screw this.'"

Takashi K., who requested that I withhold his surname to avoid repercussions from his school, is a student at St. Charles Community College in Missouri who has used Examity for multiple classes. None of his friends like it either. "Anyone I have spoken to about it agrees that at the very least it's a suspicious or annoying thing they have to do," he says.

On paper, there's not much difference between taking a test in front of a professor or TA and taking a test in front of your webcam. "Whether it's face to face or whether it's online, taking a test in general is stressful," says Melody Buckner, associate vice provost of digital learning and online initiatives at the University of Arizona. "Whether it's a professor or TAs walking around the class watching you take the exam, or whether it's someone through a computer, it's stressful. We realize this… and we work with faculty on trying to

determine what's going to be the best way to proctor your students and give them as little anxiety as possible."

But students who have used Examity say it *feels* much weirder than proctoring with a professor or TA. They're being watched closer up, by a stranger, and in a place more private than a classroom. In speaking to me, students described their experiences as everything from "uncomfortable" to "intrusive" to "sketchy." "It's basically like having someone standing over your shoulder staring at your screen the whole time," Takashi says.

That's not far from what the proctors are actually doing. Tushar, a former Examity proctor who worked for the company from 2014 to 2015, says, "we closely watch the face of the student to see if there is something suspicious, like suspicious eye movements, or if the student is trying to mumble something to somebody else outside the room." (They monitor one student at a time.)

"YOUR TRANSMISSION OF YOUR DATA TO OUR SITE IS DONE ENTIRELY AT YOUR OWN RISK."

Proctors also continuously scan students' surroundings. "If we see any kind of book, if I see somebody else there, there's a chance the student may copy," Tushar says. Each time a proctor sees a suspicious movement, they can raise a "flag" in Examity's system. After enough flags, Examity forwards the video to the student's instructor.

Examity's proctors certainly understand that students might find their product invasive. "I feel some type of guilty," another proctor, Dhruv, tells me — and he believes most of his co-workers feel the same way. Drhuv has seen personal information and messages on students' screens before. But he still enjoys the work and says he would never share anything he saw. "We all will be careful," he says. "No problem with that."

Holm says the creepiness is a necessary trade-off for an effective service. "Certainly, all proctoring environments, either in-person or online, require a level of monitoring that can present discomfort to students, but is critical to ensure the integrity of each exam," he says. He notes the similarity of the Examity experience to that of an in-person testing center, which might monitor its kiosks with cameras. "We also understand that trust is not given, but must be earned. This principle drives everything we do at Examity, from our

hiring and training practices to the technology that enables our platform, to the integrity of each proctoring experience."

But the company's attitude toward personal data is more concerning; its privacy policy does little to put naysayers at ease. It states that Examity may collect a number of personal details from students who test with it, including student names, addresses, biometric records, driver's license numbers, and passwords. The company can use such details to analyze usage patterns and share them with third parties.

Holm tells *The Verge* that data breaches should not be a concern. "Examity employs a wide range of security controls — administrative, technical, and physical," he says. "For obvious reasons, we do not disclose specifics about these additional controls. However, we do invest heavily in continuous development and testing of the security architecture of the Examity platform precisely to prevent such a compromise."

Still, Examity's privacy policy is clear that the company can't guarantee the security of personal data. "Your transmission of your data to our site is thus done entirely at your own risk," it reads. That is, Examity takes no responsibility for protecting students' personal data, which they are required to provide in order to pass their classes.

Harold Li, a security expert who has consulted for a number of large tech companies and is currently a vice president at ExpressVPN, believes Examity's dangers go beyond technical inconvenience. "It's a huge security issue for students to be required to install third-party software that they don't have the opportunity to meaningfully vet themselves, and give a stranger full remote access to their computer," Li says. "At a minimum, it sets a bad precedent and establishes dangerous security habits."

Li says Examity's process is rife with potential privacy nightmares. "The proctoring software could have a security vulnerability that results in a hacker taking advantage of the remote control capabilities, the proctor could use their position of power to maliciously socially engineer the student to allow them to install malware, or the proctoring platform could leak data including student ID cards and other personal information to identity thieves."

It's easy to see the argument for services like Examity at a time when over 6 million US students are enrolled in online college courses. I spoke to several students who

appreciate the ability to take tests at home due to their distance from campus, familial responsibilities, or other circumstances that make online classes attractive in the first place.

And that does seem to be Examity's primary mission: to open up online courses to students who couldn't take them otherwise. "Online education has the potential to dramatically expand access and respond to the needs of a digitally connected generation of students," Holm tells *The Verge.* "Our work has always been about validating the learning experience to ensure the quality of the degrees, certifications, and credentials that our partners provide."

To use Examity, students are required to have a computer with a working webcam, a stable internet connection, and a private room where they can take their tests alone. Those don't sound like unreasonable asks, especially for folks who are already enrolled in an online class. Buckner at the University of Arizona says most UA students don't have trouble using the software. "Students know their studies are going to be online," she tells *The Verge.* "They realize they have to have certain equipment to be able to do a fully online program." Buckner says UA students can check out laptops and webcams from the university's library, and that the school provides a physical testing center for students who need the space. "We are trying to accommodate students as much as we can during this crisis," she says. "We're trying to cover all our bases."

Still, some students believe that the service may cause more accessibility issues than it prevents.
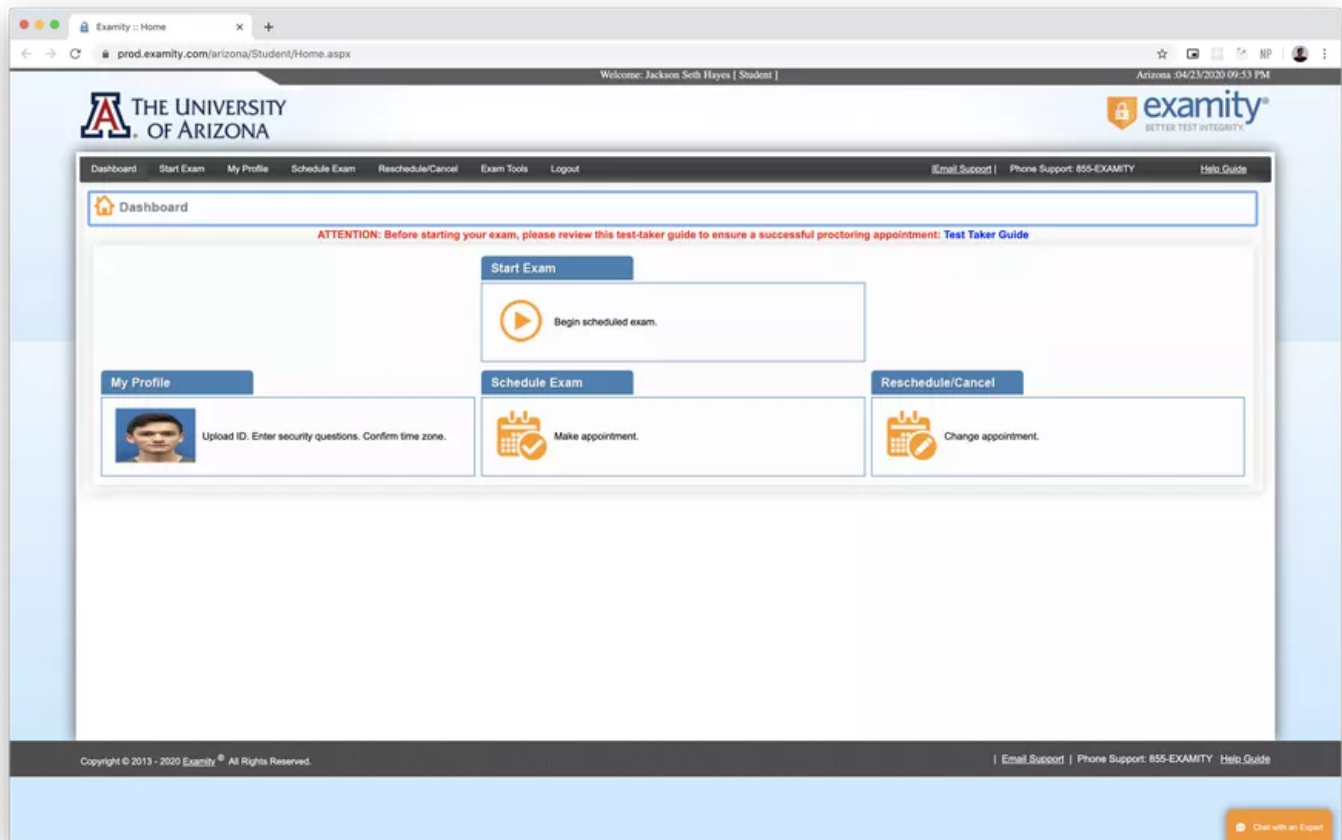
An Examity portal

Sandra L., who also requested that I withhold her surname, used Examity for a midterm in her astronomy class at Ocean County College in New Jersey. She had never used Zoom before and couldn't get the program to work on her two-year-old iMac. She had no way to get another computer; the college's computers had no webcams. Her first assigned proctor was so frustrated that she hung up the call; Sandra called back and got another proctor who still couldn't figure out the problem. Eventually, Sandra gave up and took a zero on the test.

"Just a real bad experience," she says. "I would not recommend Examity to anyone."
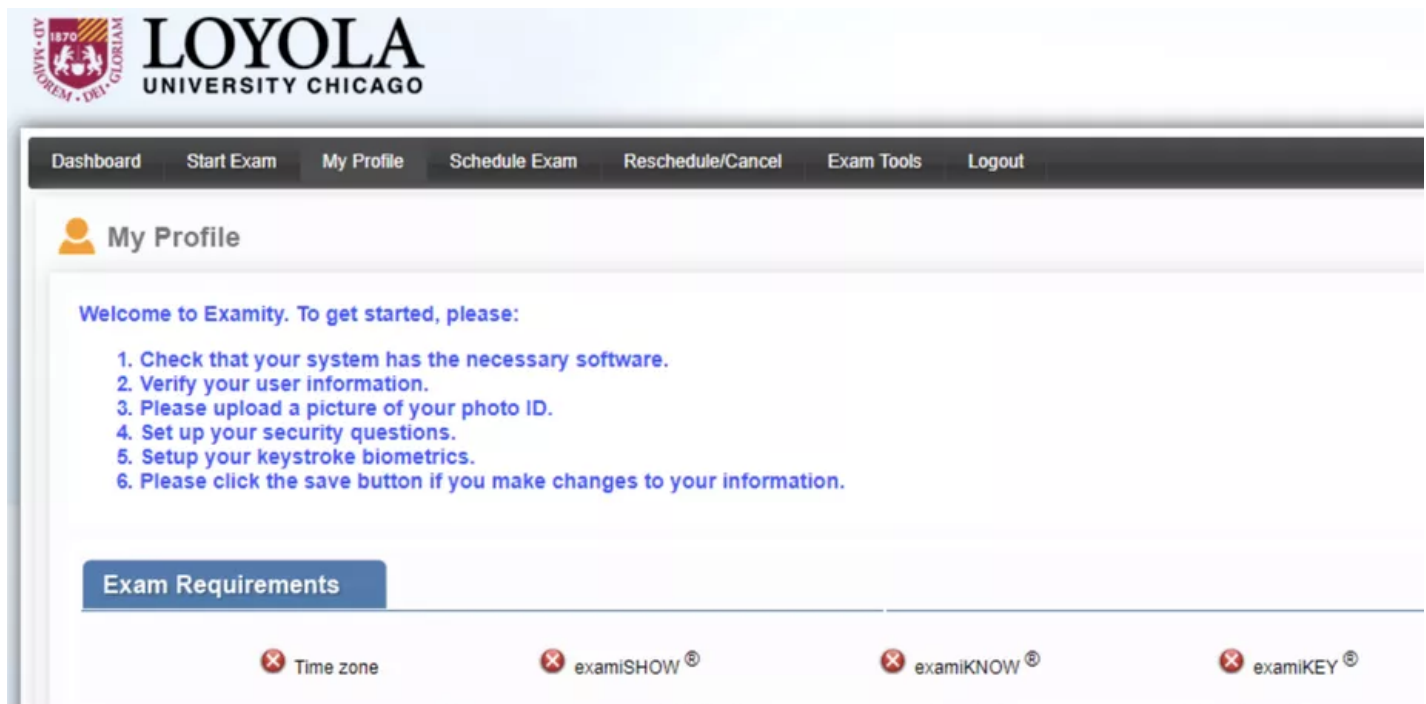
Examity's registration page. | Image: Loyola University Chicago

She wasn't the only one. So many of her classmates had similar technical issues that Sandra's professor decided not to use the program for the final exam.

A Yale student, who used Examity for a summer class, says she spent hours troubleshooting technical issues before she could begin her midterm. A number of her classmates also had trouble starting at their assigned time. For students she knew who were squeezing the test into a lunch break or juggling other commitments, the delays were a problem.

Takashi says the portal has crashed twice in the middle of his testing. After one of the crashes, his proctor called his cellphone to ask why he'd dropped the call.

A University of Wisconsin student says that Examity makes testing especially difficult for parents. Examity requires that students be in an empty, silent room while they test. For the student, who lives with their two young children, this was a tall order. "It is difficult for a non-traditional student to be alone and quiet," the student says. "I have a family in a tiny home." The student didn't protest, but others did; the professor stopped using Examity a month after introducing it.

The weirdness and the technical inconvenience might be worth the trade-off if Examity reliably caught cheaters. While every student I asked said they had never cheated with Examity (or at least didn't admit to it), they all thought it could be done.

Tricksters across the internet have developed workarounds. One Reddit user was successfully able to keep a cheat sheet pressed against their computer screen, out of the webcam's view. They were also able to use their phone during the test. When the proctor asked to see their phone, the student showed them a case with the Apple logo and a camera drawn inside, then dropped it into a backpack. "I passed the test and that was that," the student wrote. "It's hilarious to think these companies can prevent cheating."
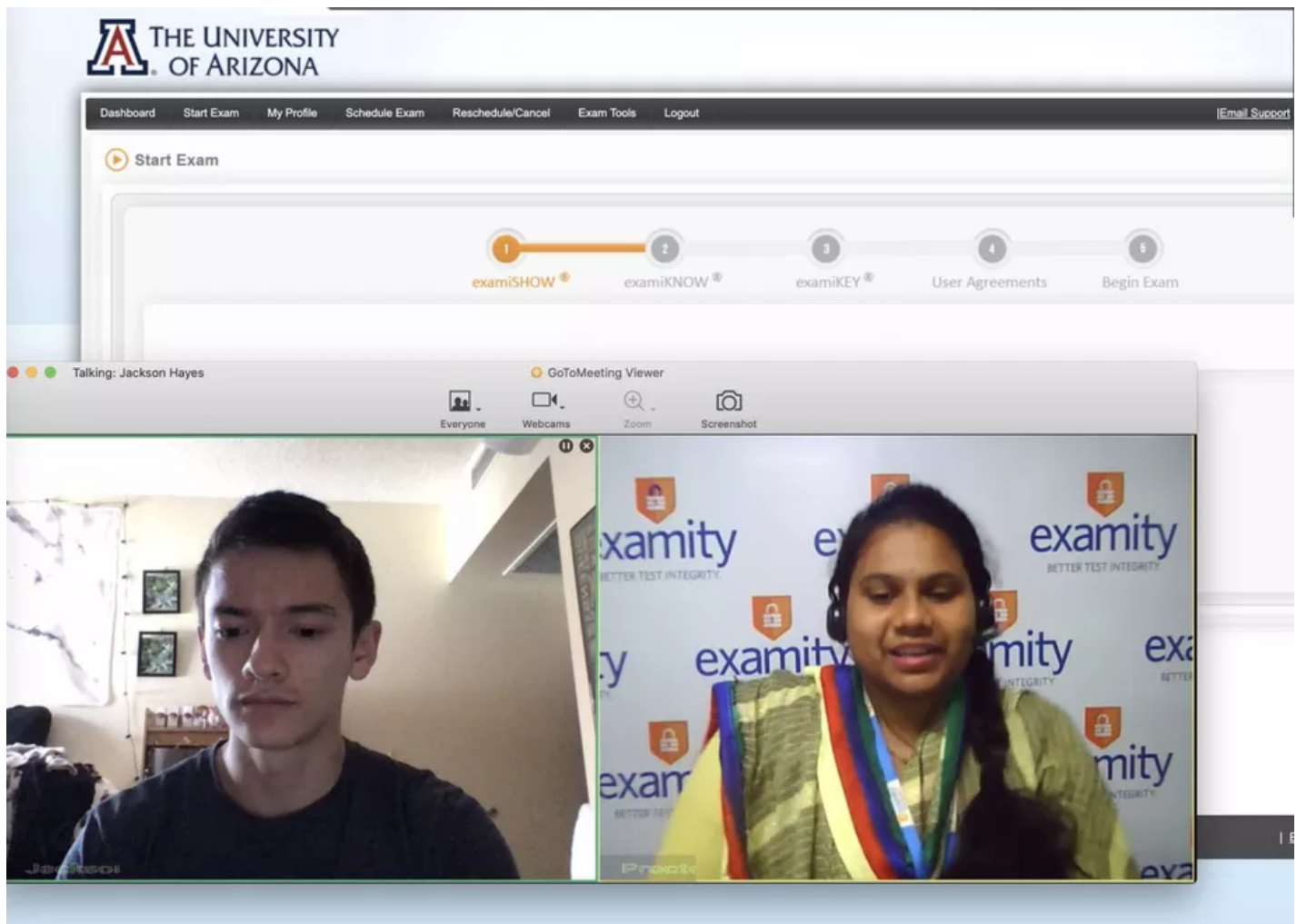
A screenshot of Examity's proctoring process. | Image: Jackson Hayes

Other commenters brainstormed a range of techniques. "Print your notes on plastic transparency, the stuff they use for overhead projectors," noted one user. "Static cling will

hold it to the screen." "49-inch ultrawide with an iPad taped to the right side of it," suggested another. "Rename your icons with formulas," floated another.

In 2015, software engineer Jake Binstein wrote an exhaustive array of workarounds, including virtual webcam software, projecting tests to conspirators in another room, and putting the answers on the inside of sunglasses. But his list, he noted, contains just a fraction of the tricks students might try. "If professors think students won't go to these lengths in order to skip studying — they're fools."

Examity's website says its proctors are required to have "years of technical support accomplishments" and go through eight weeks of intensive training; in theory, they should be catching every trick in the books. This seems to differ from reality, however. The proctors I spoke to said they had no proctoring experience before joining Examity, their training lasted around a month, and it was not particularly intensive.

"IT'S LIKE A DIGITAL ARMS RACE"

The company is headquartered in Massachusetts, but the proctors are in Hyderabad, one of India's largest cities. There are a number of Examity job postings in Facebook groups for recent college graduates in the area. One, in a group called "Fresher Jobs Hyderabad," lists "good communication skills" as the sole requirement. (Holm stands by the information on the website. "In nearly every case, we provide our proctors with an eight-week training course.")

As for cheaters, Holm says that Examity is constantly adapting to new strategies; he notes that the company keeps proctors informed of novel tricks and keeps policies and procedures updated as they evolve. The proportion of cheaters that Examity deters (or catches), however, is a less important question. What is clear is that as universities find new ways to curb cheating, students find new ways to cheat. And as the cycle escalates, invasive procedures and technical requirements continue to stretch beyond what many students are comfortable with.

"It's like a digital arms race," Hayes says. "When people find new ways to cheat, you have to find new ways to stop them. But Examity is the nuclear option."

"STUDENTS NEARLY ALWAYS FIND SOME WAY TO CHEAT"

Gabi Martorell, a psychology professor at Virginia Wesleyan University, believes that arms race isn't worth the trade-offs. Instead, she says, it illustrates the limitations of tests as assessment tools.

"In my experience, students nearly always find some way to cheat if they really want to," says Martorell. "I would rather set up a situation where students are less likely to cheat." She has moved her classes away from multiple-choice tests and placed more emphasis on open-book evaluations, projects, and papers where answers aren't easily found on Google.

But as some professors abandon Examity, others jump on board, especially as travel bans and campus closures related to COVID-19 force universities around the world to scale up their online instruction. Southern Cross University in Australia piloted the platform for its health courses, despite concerns that some students couldn't access the bandwidth or hardware necessary. Only 20 out of 24 students in China were able to take their scheduled exams, a result the university considered a success.

As classes move online and demand for proctoring grows, Examity continues expanding. The company has hired 150 US-based proctors since the end of March, and 150 additional support professionals. Meanwhile, the pandemic has forced the company to close its office in Hyderabad. Live proctoring was suspended for a few weeks, but the proctors are now back online and working from home. "The scope and scale of this particular challenge for higher education is something that no one could have predicted," Holm says. "As we navigate this uncharted territory, we are working very closely with both existing and new partners to meet the increased demand."

The company rolled out a new interface in February, intended to create a better experience for test-takers. Hayes, who took a midterm on the new platform in March, says the same problems persist. And despite their frustrations, he and his classmates assume Examity isn't going anywhere. "When you're a student, you have no choice," he says. "This is school in 2020." ■

FEATURED VIDEOS FROM THE VERGE

IMAGE: GETTY IMAGES / COMPOSITION: JASON KOEBLER

Students Are Rebelling Against Eye-Tracking Exam Surveillance Tools

Invasive test-taking software has become mandatory in many places, and some companies are retaliating against those who speak out.

TF   By Todd Feathers

By Janus Rose
NEW YORK, UNITED STATES

24.9.20   [Facebook] [Twitter] [Snapchat]

As a privacy-minded computer science student preparing to start his first year at Miami University, Erik Johnson was concerned this fall when he

movements, microphones record noise in the room, and algorithms log how often a test taker moves their mouse, scrolls up and down on a page, and pushes keys. The software flags any behavior its algorithm deems suspicious for later viewing by the class instructor.

In the end, Johnson never had to use Proctorio. Not long after he began airing his concerns on Twitter and posted a simple analysis of the software's code on Pastebin, he discovered that his IP address was banned from accessing the company's services. He also received a direct message from Proctorio's CEO, Mike Olsen, who demanded that he take the Pastebin posts down, according to a copy of the message Johnson shared with Motherboard. Johnson refused to do so, and is now waiting to see if Proctorio will follow up with more concrete legal action, as it has done to other critics in recent weeks.

"If my professors weren't flexible, I'd be completely unable to take exams," Johnson said. "It's insane to think that a company [or] CEO can affect my academic career just for raising concerns."

His case is just one example of how college campuses are revolting against the use of digital proctoring software, and the aggressive tactics employed by proctoring companies in response to those efforts. In recent weeks, students have started online petitions calling for universities across the world to abandon the tools, and faculty on some campuses, like the University of California Santa Barbara, have led similar campaigns, arguing that universities should explore new forms of assessment rather than subjecting students to surveillance.

Surveillance at Home

Algorithmic proctoring software has been around for several years, but its use exploded as the COVID-19 pandemic forced schools to quickly transition to remote learning. Proctoring companies cite <u>studies estimating</u> that between 50 and 70 percent of college students will attempt some form of cheating, and warn that cheating will be rampant if students are left unmonitored in their own homes.

Like <u>many other tech companies</u>, they also balk at the suggestion that they are responsible for how their software is used. While their algorithms flag behavior that the designers have deemed suspicious, these companies argue that the ultimate determination of whether cheating occured rests in the hands of the class instructor. The companies consider the algorithms proprietary and Proctorio, in particular, has reacted swiftly to prevent anyone with access to its training material or underlying code from disclosing their analyses.

"Any plan that calls for schools to just 'stop using' proctoring will make cheating more common than it already is, escalating a severe threat to all higher education," Scott MacFarland, the CEO of ProctorU, another proctoring vendor, wrote in an email to Motherboard. Comparing his product's deterrent effect to that of more ubiquitous surveillance technology, he added "we may not love the idea of being on camera every time we visit a bank or go to a convenience store, but no one is suggesting taking them down."

2,686 students across 29 courses found that those whose exams weren't monitored using Proctorio received grades 2.2 percent lower than those whose were. The authors concluded that the results were likely a result of cheating by students not using Proctorio. But a 2019 study involving 631 students found that test takers who felt higher levels of anxiety during exams performed worse, and that the cohort of students monitored by proctoring software felt more anxiety than those who weren't.

A SLIDE FROM PROCTORIO'S TRAINING MATERIALS, DETAILING HOW THE SYSTEM MEASURES "SUSPICION LEVELS" WHILE STUDENTS TAKE EXAMS.

Students' and educators' objections to exam proctoring software go beyond the privacy concerns around being watched and listened to in their bedrooms while they take a test. As more evidence emerges about how the programs work, and fail to work, critics say the tools are bound to hurt low-income students, students with disabilities, students with children or other

Every day for the last week, Ahmed Alamri has opened ExamSoft and attempted to register for the practice version of the California state bar exam. Every time, the software's facial recognition system has told him the lighting is too poor to recognize his face. Alamri, who is Arab-American, has attempted to pass the identity check in different rooms, in front of different backgrounds, and with various lighting arrays. He estimates he's attempted to verify his identity as many as 75 times, with no success. "It just seems to me that this mock exam is reading the poor lighting as my skin color," he told Motherboard.

Alamri isn't alone. Law students around the country are organizing to fight against the use of any kind of digital proctoring software like ExamSoft on bar exams. In California, two students have filed an emergency petition with the state supreme court requesting that it cancel the exam entirely and institute a new form of assessment. A similar effort is underway in Illinois, while Louisiana, Oregon, and Wisconsin have already scrapped their upcoming bar exams as a result of student pressure. Other states, including New York, are fumbling for solutions as deadlines for the exams quickly approach; at one point, New York's test proctor announced it was going to ban the use of "desktop computers" to take the test.

In their petition, the students say the use of ExamSoft discriminates against people of color because facial recognition technology has been shown on numerous occasions to be worse at recognizing people with darker skin tones, and particularly women of color. The California bar exam would require test takers to verify their identity with facial recognition checks eight separate times, according to the petition, and a single failure would end the test.

71.5 percent of Asian/Pacific Islander respondents, 81.4 percent of Southwest Asian North African respondents, and 75.9 percent of Latinx, Latino/a, Hispanic respondents" reported that they either would not have reliable internet during the exam, or were unsure whether their connection would be reliable.

"They aren't taking into consideration people from underprivileged communities," Alamri said. "This sort of online exam is really measuring a person's generational wealth and not their knowledge of the law."
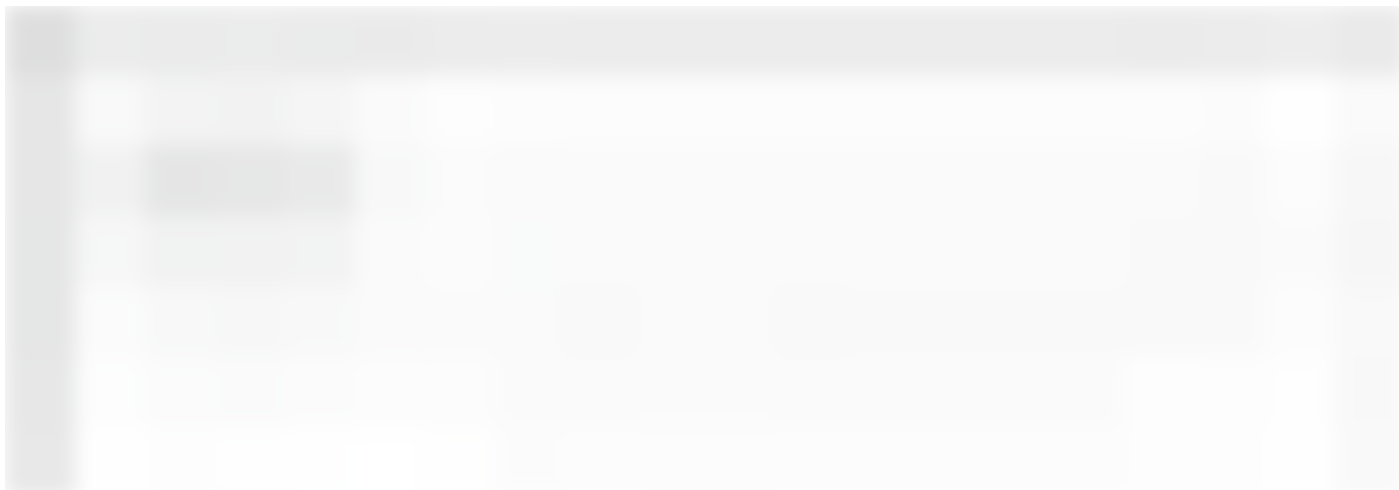
Abnormalities

Another major point of contention between proctoring companies and university communities has been the algorithmic techniques the software uses to detect potential cheating.

In training documents Proctorio provides to universities, the company explains that its software determines whether a test-taker's "suspicion level" at any given moment is low, moderate, or high by detecting "abnormality" in their behavior. If a student looks away from the screen more than their peers taking the same exam, they are flagged for an abnormality. If they look away less often, they are flagged for an abnormality. The same goes for how many keystrokes a student makes while answering a question, how many times they click, and a variety of other metrics. Variation outside the standard deviation results in a flag.

That methodology is likely to lead to unequal scrutiny of people with physical and cognitive disabilities or conditions like anxiety or ADHD, Shea Swauger, a research librarian at the University of Colorado Denver's Auraria

ideal is treated with suspicion," he said.

A SLIDE FROM PROCTORIO'S TRAINING MATERIALS DETAILING HOW THE SOFTWARE DETECTS "ABNORMALITIES" BY ANALYZING KEYSTROKE PATTERNS.
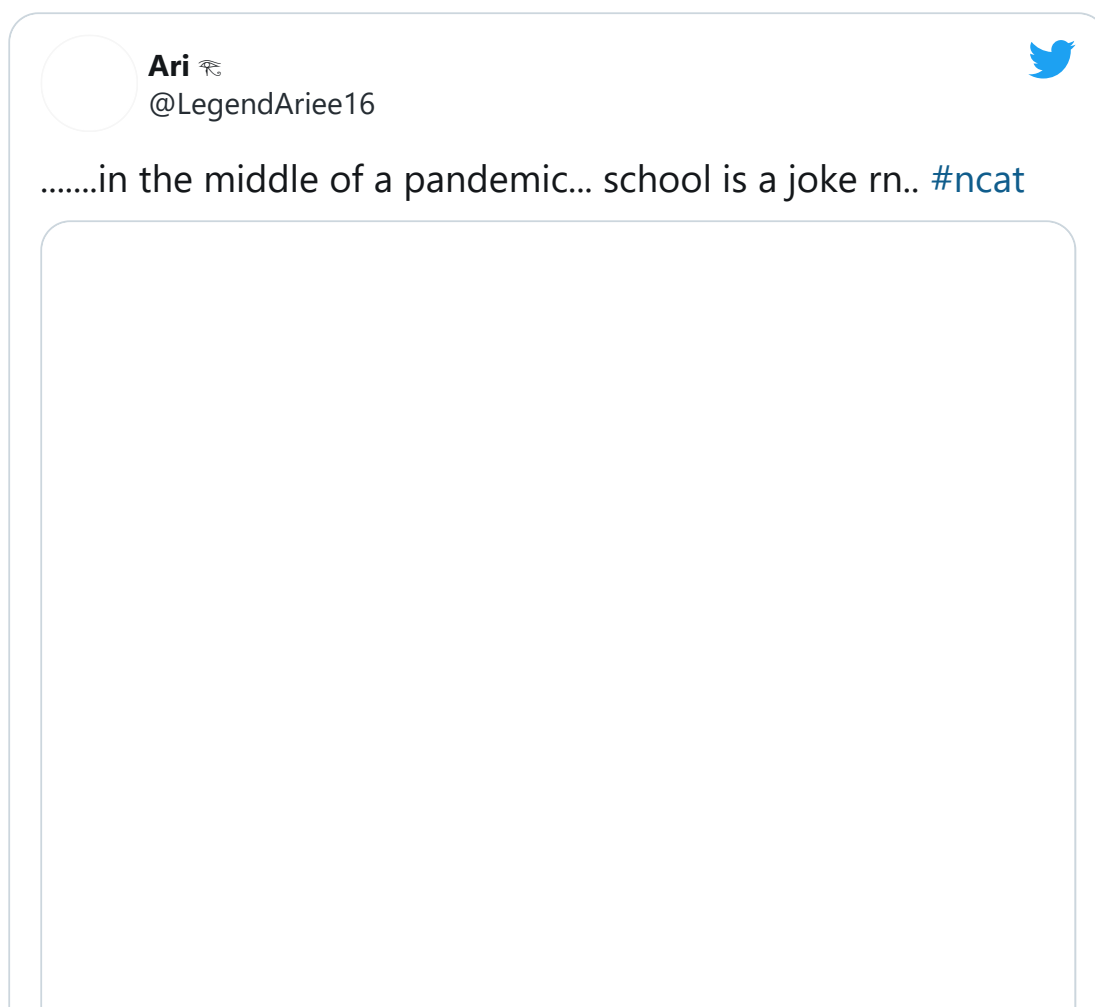
Proctorio and other proctoring companies strongly disagree with that assessment. "The biggest thing is that we're not making any sort of academic decisions, we're just providing a quicker way [for teachers] to review places in the exam based on the things they're looking for," Olsen, Proctorio's CEO, told Motherboard in an interview. Teachers can choose which types of behaviors to monitor, and it's up to them to decide whether an abnormality constitutes cheating, he added.
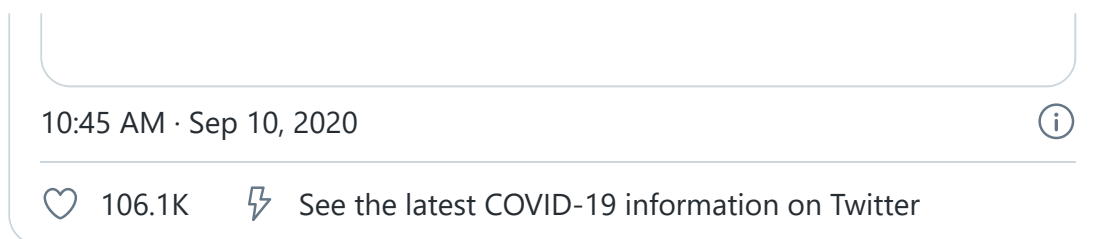
Students from multiple schools across the US told Motherboard that while teachers ultimately choose whether and how to use exam-monitoring software like Proctorio, they often do so with no guidance or restrictions from the school's administration.

"Each academic department has almost complete agency to design their curriculum as far as I know, and each professor has the freedom to design their own exams and use whatever monitoring they see fit," Rohan Singh, a

Singh says that students at the school objected after professors began using an exam-monitoring software called Respondus without proper notice at the end of the spring semester, when many universities began converting to online learning. He added that while it's ultimately up to the instructor how the software is used, it generally helps teachers who are predisposed toward doling out Academic Dishonesty Reports, or ADRs. "As a rule of thumb, the professors who choose to use Respondus are the professors more inclined to use their discretion to hand out ADRs," he said.

Nearly a dozen other students told Motherboard that they or their peers had objected to professors' use of exam-monitoring software at other state universities across the US.

> **Ari** 𓂀
> @LegendAriee16
>
> ....in the middle of a pandemic... school is a joke rn.. #ncat

10:45 AM · Sep 10, 2020

♡ 106.1K ⚡ See the latest COVID-19 information on Twitter

In April, Swauger, who is organizing an effort to convince the University of Colorado system to drop Proctorio, published a peer-reviewed article critical of algorithmic proctoring in the journal Hybrid Pedagogy. In response, Proctorio sent a letter to the journal demanding a retraction. The journal's editors declined.

The company's response to Ian Linkletter, a learning technology specialist at the University of British Columbia, in Vancouver, was even sharper. After Linkletter began sharing Proctorio training videos and documents that explained the company's abnormality methodology on Twitter, the videos were removed from YouTube, and Proctorio filed for a court injunction to prevent Linkletter from sharing its training material. Linkletter declined to comment for this article due to the pending legal case.

Olsen said Proctorio welcomes public critiques of its service, but takes action when critics share records the company hasn't made public.

Other proctoring companies have also been litigious when faced with criticism.

In March, after students approached faculty members at the University of California Santa Barbara, the faculty association sent a letter to the school's administration raising concerns about whether ProctorU would share student data with third parties. The faculty asked UCSB to terminate its

In response, a ProctorU attorney threatened to sue the faculty association for defamation and violating copyright law (because the association had used the company's name and linked to its website). He also accused the faculty association of "directly impacting efforts to mitigate civil disruption across the United States" by interfering with education during a national emergency, and said he was sending his complaint to the state's Attorney General.

Although ProctorU never filed a lawsuit against the UCSB faculty association, the threat had a chilling effect on professors' willingness to discuss the software.

Holt, one of the faculty members who first raised questions about proctoring software, declined to talk to Motherboard specifically about the ordeal or ProctorU. But in general, she remains worried about the spread of proctoring tools on campuses.

"We must do better than subjecting our students to surveillance and violations of their privacy," she said. "We must do better than allowing algorithmic policing through biometric surveillance as the new normal for education."

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Students Are Pushing Back Against Proctoring Surveillance Apps

Special thanks to legal intern Tracy Zhang, who was lead author of this post.

Privacy groups aren't the only ones raising the alarm about [the dangers of invasive proctoring apps](). Through dozens of petitions across the country, and the globe, students too are pushing school administrators and teachers to consider the risks these apps create.

Schools must take note of this level of organized activism.

Students at the [University of Texas at Dallas are petitioning the school]() to stop using the proctoring app Honorlock. The petition has over 6,300 signatures, notes that Honorlock can collect "your face, driver's license, and network information," and calls use of Honorlock a "blatant violation of our privacy as students." Students at [Florida International University are petitioning their school]() to stop using Honorlock as well, gathering over 7,200 signatures. They highlight the amount of data that Honorlock collects and that Honorlock is allowed to keep the information for up to a year and, in some cases, 2 years. Students at [California State University Fullerton are petitioning the school]() to stop using Proctorio, calling it "creepy and unacceptable" that students would be filmed in their own house in order to take exams. The petition has over 4,500 signatures.

But it's not just privacy that's at stake. While almost all the petitions we've seen raise very real privacy concerns—from biometric data collection, to the often overbroad permissions these apps require over the students' devices, to the surveillance of students' personal environments—these petitions make clear that

proctoring apps also raise concerns about security, equity and accessibility, cost, increased stress, and bias in the technology.

A petition by the students at Washington State University, which has over 1,700 signatures, raises concerns that ProctorU is not secure, pointing to a July 2020 data breach in which the information of 440,000 users was leaked. Students at University of Massachusetts Lowell are petitioning the school to stop using Respondus, in particular calling out the access that its Ring-0 software has on students' devices, and noting that the software "creates massive security vulnerabilities and attack vectors, and thus cannot be tolerated on personal devices under any circumstances." The petition has over 1,000 signatures.

Students at the University of Colorado Boulder raise concerns about the accessibility of proctoring app Proctorio, saying that "the added stress of such an intrusive program may make it harder for students with testing anxiety and other factors to complete the tests." The petition has over 1,100 signatures. The Ontario Confederation of University Faculty Associations wrote a letter speaking out about proctoring technologies, noting that the need for access to high-speed internet and newer computer technologies "increase [students'] stress and anxiety levels, and leave many students behind."

In addition to privacy concerns, the petition from students at Florida International University notes that because Honorlock requires a webcam and microphone, "students with limited access to technology or a quiet testing location" are placed at a disadvantage, and that the required use of such technology "does not account for students with difficult living situations." A petition against Miami University's use of Proctorio notes that its required use "discriminates against neurodivergent students, as it tracks a student's gaze, and flags students who look away from the screen as 'suspicious.' This, too, "negatively impacts people who have ADHD-like symptoms." The petition also noted that proctoring software often had difficulty recognizing students with black or brown skin and tracking their movements. Their petition has over 400 signatures.

Students have seen success through these petitions. A petition at The City University of New York, supported by the University Student Senate and other student body groups, resulted in the decision that faculty and staff may not compel students to participate in online proctoring. After students at the University of London petitioned against the use of Proctortrack, the university decided to move away from the third-party proctoring provider.

Students have seen success through these petitions.

Below, we've listed some of the larger petitions and noted their major concerns. There are hundreds more, and regardless of the number of signatures, it's important to note that even a few concerned students, teachers, or parents can make a difference at their schools.

As remote learning continues, these petitions and other pushback from student activists, parents, and teachers will undoubtedly grow. Schools must take note of this level of organized activism. Working together, we can make the very real concerns about privacy, equity, and bias in technology important components of school policy, instead of afterthoughts.

*****

If you want to learn more about defending student privacy, EFF has several guides and blog posts that are a good place to start.

- A detailed explanation of EFF's concerns with [unnecessary surveillance of proctoring apps is available here](#)
- Our [Surveillance Self-Defense Guide to student privacy](#) covers the basics of techniques that are often used to invade privacy and track students, as well as what happens to the data that's collected, and how to protect yourself.
- Proctoring apps aren't the only privacy-invasive tools schools have implemented. Cloud-based education services and devices can also jeopardize students' privacy as they navigate the Internet—including children under the age of 13. From Chromebooks and iPads to Google Apps for Education, [this FAQ provides an entry-point to learn about school-issued technology](#) and the ramifications it can have for student privacy.
- Parents and guardians should also understand the risks created when schools require privacy-invasive apps, devices, and technologies. [Our guide for them is a great place to start](#), with ways to take action, and includes [a printable FAQ](#) that can be quickly shared with other parents and brought to PTA meetings.
- All student privacy-related writing EFF does is collected on [our student privacy page](#), which also includes basic information about the risks students are facing.
- In the spring of 2017, we [released the results of a survey](#) that we conducted in order to plumb the depths of the confusion surrounding ed tech. And as it turns out, students, parents, teachers, and even administrators have lots

of concerns—and very little clarity—over how ed tech providers protect student privacy.

- COVID has forced many services online besides schools. Our [guide to online tools during COVID](#) explains the wide array of risks this creates, from online chat and virtual conferencing tools to healthcare apps.
- Some schools are mandating that students install [COVID-related technology](#) on their personal devices, but this is the wrong call. [In this blog post,](#) we explain why schools must remove any such mandates from student agreements or commitments, and further should pledge *not* to mandate installation of any technology, and instead should present the app to students and demonstrate that it is effective and respects their privacy.

*****

Below is a list of just some of the larger petitions against the required use of proctoring apps as of September 24, 2020. We encourage users to read the privacy policies of any website visited via these links.

- [Auburn University](#) students note that "proctoring software is essentially legitimized spyware."
- [NJIT](#) petitioners write that while students agreed to take classes online, they "**DID NOT** agree to have [their] privacy invaded."
- [CUNY](#) students successfully leveraged 27,000 signatures to end the "despicable overreach" of proctoring app Proctorio.
- Students at the [University of Texas at Dallas](#), [Dallas College](#), and [Texas A&M](#) called the use of Honorlock "both a blatant violation of our privacy as students and infeasible for many."
- [University of Tennessee Chattanooga students](#) say that "Proctorio claims to keep all information safe and doesn't store or share anything but that is simply not true. Proctorio actually keeps recordings and data on a cloud for up to 30 days after they have been collected."
- [Washington State University](#) students note that in July, "ProctorU had a data breach of 440,000 students/people's information leaked on the internet."
- In a letter to the Minister of Colleges and Universities, the [Ontario Confederation of University Faculty Associates](#) argue that "Proctortrack and similar proctoring software present significant privacy, security, and equity concerns, including the collection of sensitive personal information and the need for access to high-speed internet and newer computer technologies, These requirements put students at risk, increase their stress and anxiety levels, and leave many students behind."
- In a popular post, a self-identified student from [Florida State University wrote on Reddit](#) that "we shouldn't be forced to have a third-party company invade our privacy, and give up our personal information by installing what is in reality **glorified spyware** on our computers." An

accompanying [petition by students at FSU](#) says that using Honorlock "blatantly violates privacy rights."

- [CSU Fullerton](#) students call it "creepy and unacceptable" that students would be filmed in their own house in order to take exams, and declare they **"will not accept being spied on!"**
- [Miami University](#) petitioners argue that "Proctorio discriminates against neurodivergent students, as it tracks a student's gaze, and flags students who look away from the screen as 'suspicious' too, which negatively impacts people who have ADHD-like symptoms." The petition goes on to note that "students with black or brown skin have been asked to shine more light on their faces, as the software had difficulty recognizing them or tracking their movements."
- [CU Boulder](#) students say that, with Proctorio, the "added stress of such an intrusive program may make it harder for students with testing anxiety and other factors to complete the tests."
- [UW Madison](#) students are concerned about Honorlock's "tracking of secure data whilst in software/taking an exam (cookies, browser history); Identity tracking and tracing (driver's license, date of birth, address, private personal information); Voice Tracking as well as recognition (Specifically invading on privacy of other members of my home); Facial Recognition and storage of such data."
- [Florida International University](#) students note that "Honorlock is allowed to keep [recordings of students] for up to a year, and in some cases up to 2 years." The petition also notes that "Honorlock requires a webcam and microphone. This places students with limited access to technology or a quiet testing location at a disadvantage…You are required to be in the room alone for the duration of the exam. This does not account for students with difficult living situations."
- [Georgia Tech](#) petitioners are concerned that data collected by Honorlock "could be abused, for example for facial recognition in surveillance software or to circumvent biometric safety system."
- [University of Central Florida](#) students argue that "Honorlock is not a trustworthy program and students should not be forced to sign away their privacy and rights in order to take a test."
- [UMass Lowell](#) students call out the "countless security vulnerabilities that are almost certainly hiding in the Respondus code, waiting to be exploited by malware and/or other forms of malicious software."
- [University of Regina](#) students argue that "facial recognition software and biometric scanners have been shown to uphold racial bias and cannot be trusted to accurately evaluate people of color. Eye movement and body movement is natural and unconscious, and for many neurodivergent people is completely unavoidable."

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Saskatchewan

University of Regina students worried anti-cheating software will invade privacy

Software 'a tool that an instructor can go back and look at if they perceive something untoward': U of R VP

CBC News · Posted: Sep 22, 2020 2:14 PM CT | Last Updated: September 22

The University of Regina selected Proctortrack to monitor students taking online exams as they learn remotely because of the pandemic. (CBC)

comments 💬

University of Regina students are concerned that the computer program being used to monitor students taking exams remotely this fall will invade their data privacy.

Proctortrack is an online proctoring program that can help detect academic misconduct, according to its website, in part by "continuous identity verification throughout the exam via facial recognition." It accesses a computer's webcam during the exam, and offers "multi-factor biometric authentication" to verify a student's identity, according to the website, including face or ID scans.

The U of R selected the software as a way to ensure students who are learning remotely this term aren't cheating when taking their final exams online. But some students at the university say it's invasive, and a petition to get rid of the software has already received more than 1,700 signatures.

"By allowing this software access to my computer, I would be giving it access to my audio recordings of my home, video recordings of my home, and of biometric data and scans of my face," said Julian Wotherspoon, an undergraduate student who signed the petition.

She added that what she types on the keyboard would also be accessible to Proctortrack.

"It's just not a level of surveillance that I'm comfortable with," Wotherspoon said.
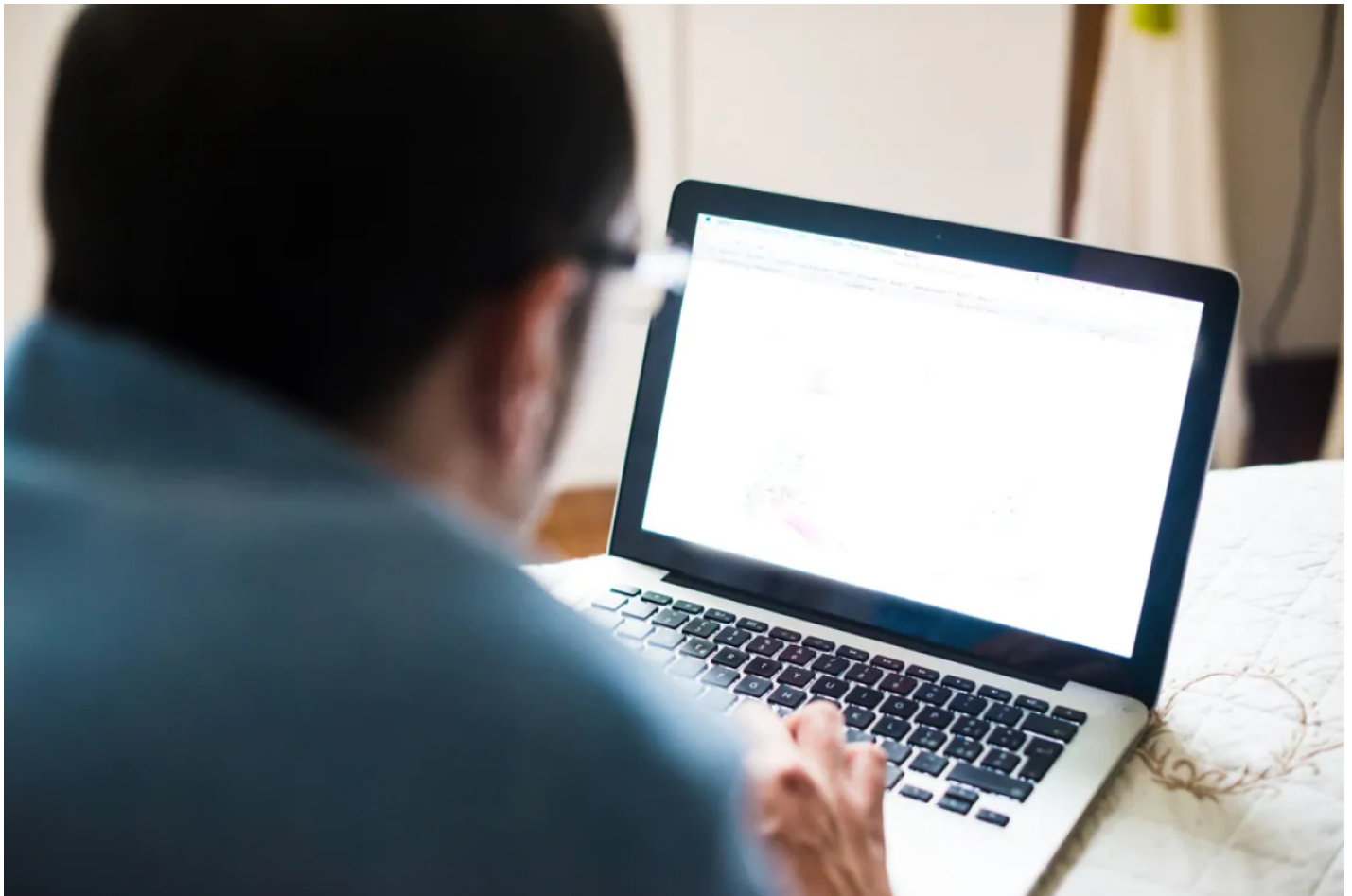
Undergraduate student Julian Wotherspoon says she has concerns about the possibility of hackers gaining access to information gathered by Proctortrack. (Eugenio Marongiu / Shutterstock)

Wotherspoon said she's also concerned about the possibility of hackers gaining access to personal information.

But the interim provost and vice-president of academics at the University of Regina says there's "a lot of misinformation and misunderstanding out there about remote proctoring, and in particular Proctortrack."

- **Sask. university students to continue remote classes through winter 2021**

"I do appreciate and understand that students are concerned whenever a new technology is introduced, and especially around a stressful time like final exams," said David Gregory.

In an interview with CBC Radio's *The Morning Edition*, he said the program does not do things like watch eye movements or iris scans. He also said it doesn't track keystrokes, but the the FAQ section on Proctortrack's website suggests that the software can do that.

The software doesn't monitor a person's web browser history, or view or read personal files on their computer, according to the website.

▶   **The Morning Edition - Sask   10:32**

Anti-cheating software raises privacy concerns for U of R students

New software for remote learning can help professors detect if students are cheating on exams but its use at the University of Regina has spurred a petition and complaints about attacks on student privacy. We'll hear how the university aims to address those concerns. 10:32

Proctortrack works similarly to how students would be surveyed when taking exams on campus, Gregory says.

Before the pandemic, students had to present their ID cards and were subjected to video surveillance. Proctortrack does the same thing, Gregory explained.

When a student logs on for their exam, the software will ask to confirm the student's ID and the camera will verify whether the face matches that on the ID card.

The software uses the camera to take photos at random and records audio, then sends that to a server where it is stored for 180 days — about six months — in case an investigation is required, he said.

"It does not determine academic misconduct," he said. "It is simply a tool that an instructor can go back and look at if they perceive something untoward on the exam itself."

The software can flag what it deems to be unusual behaviour, and the instructor can then review the video, said Gregory.

A student leaving their room would be an example of activity that is flagged, he said. But if a student had to use the washroom, for example, there are ways to announce that to the program so they are not flagged.

The university took several months to select Proctortrack. After the selection, the selection committee met with the students' union and held a town hall meeting to address questions and concerns about the software, said Gregory.

The university also tested Proctortrack over the summer to make any necessary adjustments, he added.

While she understands that there are challenges to finding alternative ways to monitor students taking exams, Wotherspoon believes the university is taking the simpler solution, not the right one.

- **University of Manitoba uses anti-cheating software to monitor remote exams**

Instead of relying on exams and Proctortrack, she suggests having students do final projects, presentations, or open book exams. She has tried making alternative plans with the university but has had no luck, she said.

With files from The Morning Edition

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An ed-tech specialist spoke out about remote testing software — and now he's being sued

Faculty, staff, and students say they've had enough

By Monica Chin | @mcsquared96 | Oct 22, 2020, 3:04pm EDT

Photo by OLI SCARFF/AFP via Getty Images

Between August 23rd and 24th, Ian Linkletter, a learning technology specialist at the University of British Columbia (UBC), made a series of tweets criticizing a software that his school uses. The software was called Proctorio, an online test-proctoring tool that

monitors students for suspicious behavior while they take virtual exams. The tweets contained links to unlisted YouTube videos describing various aspects of the program, taken from Proctorio's help website for instructors.

"This video from Proctorio's YouTube channel shows how the Abnormal Eye Movement function works," he tweeted at 8:44PM PT on the 24th. "This is the one that will show you, beyond a doubt, the emotional harm you are doing to students by using this technology."

"This video from Proctorio's YouTube channel shows how you can configure the Record Room feature," he wrote at 8:47. "This feature gives you the ability to configure whether you will make students record their room at the start of an exam or throughout it."

"THEY ARE AFRAID OF THE TRUTH."

One by one, the YouTube videos disappeared. The first went down two hours and 11 minutes after Linkletter tweeted it. The next vanished after just twelve minutes. By 10:14PM on the 24th, all the videos were gone.

Over the next week, Linkletter continued tweeting. "Proctorio is afraid. They are afraid of students. they are afraid of the truth. They are afraid of what they have made," he wrote on the 26th. "Proctorio can't hide. We know their CEO. We know he's unethical. We know how the software works. We know it's the worst," he wrote on the 28th.

Then, in early September, Linkletter got an unexpected call from a reporter at the *Vancouver Sun.* Proctorio was suing him for tweeting the videos, as well as a screenshot of its website — the company claimed he'd infringed its copyright and distributed confidential material. Linkletter was under an injunction order.

It's part of a growing split between remote proctoring services and the academics who use them. Linkletter's experience is just one of a string of high-profile spats involving Proctorio, as teachers and students call out what they see as invasive tracking. But as critics are discovering, the law is giving Proctorio an unexpected advantage, allowing the company to shut down criticisms by appealing to copyright law.

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Proctorio is meant to help schools answer a newly urgent question: How do you catch cheaters when they're taking an exam at home? The problem has inspired a growing business of remote proctoring services, which monitor students during their tests, since long before COVID-19. Proctorio was founded in 2013; some competing platforms like ExamSoft were around as early as 1998. But the tools have expanded in the wake of COVID-19 and the resulting rush to remote and blended learning environments. Over 400 universities now use Proctorio, from Harvard and Columbia to UT Austin and Kent State.

The tool has proctored over 16 million exams this year, compared to six million in 2019, Proctorio CEO Mike Olsen estimated in an interview with *The Verge*. He expects "25 to 30 million exams" by the end of this year.

"THIS IS A MASSIVELY IMPACTFUL TECHNOLOGY."

Unlike services like Examity and ProctorU, which can put students in front of a live proctor, Proctorio is fully algorithmic, using what its website describes as "machine learning and advanced facial detection technologies." The software is able to, through a student's webcam, record them as they work, and monitor the position of their head to track whether they're looking at their test. Proctorio flags any suspicious signs to professors, who can then go back and review its recordings. Instructors don't have to use this feature — there are other tools, too. Professors can track what websites students are visiting during their exam and can bar them from features like copy / paste, multiple screens, or printing for the duration.

Since the beginning of the school year, many students have spoken out against the technology. Petitions with thousands of signatures have called it ableist and discriminatory, intrusive, unsafe, inaccessible, and huge invasion of privacy. Members of UBC's population were vocally opposed to Proctorio throughout the summer, in both an open letter and UBC's subreddit. (Olsen noted that "We have about 3.6 million active weekly students on the platform. There's a lot of students who are using our product every day around the world and they're not saying anything.")

The students' comments were what ultimately drove Linkletter to speak out. "I wanted people to listen to student concerns," he says. "This is a massively impactful technology

— it has huge reach and a lot of students are being required to use it. I don't think people are hearing the concerns."

But Linkletter has his own issues with Proctorio as well. He believes the tool causes unnecessary anxiety among his students. He also thinks it adds an aura of tension and distrust to an environment that's already stressful. "We need to be trauma-informed in the way that we're teaching, and part of being trauma-informed is being understanding, and being forgiving, and trusting people," he says. "I feel like this is the total opposite."

Katrina Martin, a University of Minnesota student who uses Proctorio, agrees. "My experience with Proctorio has been nerve-wracking, to say the least," she told *The Verge.* "Every time I take a test I worry about accidentally acting suspicious while the camera's watching. All it takes is my boyfriend interrupting me and the school could accuse me of cheating."

"EVERY TIME I TAKE A TEST I WORRY ABOUT ACCIDENTALLY ACTING SUSPICIOUS"

Linkletter also worries that the algorithm may be discriminatory against minority users, including those who have darker skin tones, certain disabilities, or who require face coverings. Proctorio contests this — "If you have a student who needs accommodation ... in most instances the faculty know about that and it's not a big deal," Olsen told *The Verge.*

But remote classes have complicated the prospect of "accommodations" for some students. One university library employee (who asked to remain anonymous because "Proctorio seems to be very aggressive with people who say negative things about them") told me that some of her students without computers or stable internet at home have had trouble finding a public place to take their Proctorio tests. Students were required to remove face coverings so that the software could verify their identities before the test — but her facility requires face masks. "It was really frustrating," she says. "It creates barriers for students who do not own their own computer, do not have reliable internet access at home, or who do not have a private space for taking exams." The library has had to repurpose some study-group rooms for individual test-taking.

Martin had to take her first chemistry test in a Starbucks parking lot because she didn't have the bandwidth at home to accommodate Proctorio. "Support said 'Have you tried

connecting to better Wi-Fi?'" Martin said. "Like that was, in any way, going to help me."

+

Linkletter filed his response in British Columbia's Supreme Court on October 16th. Proctorio's lawsuit, he says, is "groundless" — he believes it's a message to the company's myriad vocal critics.

"They sued me to silence me," Linkletter says. In his first month of fighting Proctorio's lawsuit, he's already spent tens of thousands of dollars. "It doesn't just deter me by making me put all my energy and money on this. They thought it would deter the entire community."

Olsen, of course, disputes this characterization. "We disagree that sharing confidential information is the same thing as criticism," he says. "Posting these kinds of things ... it risks students learning how to circumvent the software and it risks the safety and security of the millions of students who use the software." (In his affidavit, Linklatter denies that he shared anything confidential, and links to multiple websites and documents where the information he tweeted has been publicly available.)

Still, it wouldn't be Proctorio's first attempt to hush its opposition. This past March, as *Motherboard* also reported, the company asked the journal *Hybrid Pedagogy* to retract a peer-reviewed article warning educators that algorithmic proctoring tools could be discriminatory (the journal declined). When a UBC student posted on Reddit in June that a Proctorio support representative had gone "MIA" while he had a technical issue during an exam, Olsen accused the student of lying and posted screenshots of their chat log in response. And earlier this fall, when Miami University student Erik Johnson posted snippets of Proctorio's code on Pastebin, Olsen sent him a Twitter DM demanding that he take down the posts.

But this lawsuit appears to have amplified concerns about Proctorio within higher education. Not only is Linkletter still tweeting, and not only have prominent outlets like *Motherboard* already covered his story, but the suit has rekindled the outcry at UBC. Throughout October, over 100 students signed a second open letter to UBC's leadership ("A Renewed Call To Action Against Proctorio") demanding again that the university stop using Proctorio. "The continued patronage of this company while it sues one of the

valued members of our community is something that, as a UBC community, we cannot stand for," the letter reads.

In a statement, UBC associate vice provost Simon Bates said, "The educational technology landscape is changing rapidly and we are presently undertaking an environmental scan of new tools and their capabilities that may be more suitable for approaches to remote invigilation." Bates noted that UBC faculty decide whether to use Proctorio on an individual basis.

The blowback isn't limited to Linkletter's campus, though — support is pouring in from ed-tech professionals around the world. A GoFundMe that Linkletter created to cover his legal fees has raised over $28,000 from over 400 different donors. And since the beginning of September when the lawsuit was first filed, hundreds of university faculty, staff, administrators, and students from across the US and Canada, as well as countries including South Africa, Australia, the UK, Italy, and Mexico have signed an open letter titled "In Defence of Ian Linkletter."

"We need critics like Ian to force transparency in spaces where it is difficult to find, as we cannot critique what we don't know," the letter reads. "Ian's attempts to shine light in these dark corners should be — and are, by the EdTech community — met with gratitude."

"This is a company that would very much like for us all to shut up," said Brenna Clarke Gray, coordinator of educational technologies at Thompson Rivers University who spearheaded the letter.

Olsen isn't surprised to see the pushback — but he insists it's overblown. "At the end of the day, this is a restraining order that is intended to defend our IP," he says. "We're not trying to take his money, we're not trying to silence critics, and we're not trying to get anyone fired."

But issues of privacy and access when it comes to online education are bigger than Proctorio and a single dispute over Youtube links. Online classes, and the heightened concerns about dishonesty that come with them, will outlast the pandemic. Remote proctoring isn't going anywhere.

That's why Gray spoke out, despite the fact that her school doesn't use Proctorio — she wants that conversation to continue. And it's important, she says, that people aren't scared to participate. "The support that our community is showing Ian is very important to ensure that there is a space for critique of any of these tools," Gray said. "It's very important that people stand up and show that silence is not going to be our response."
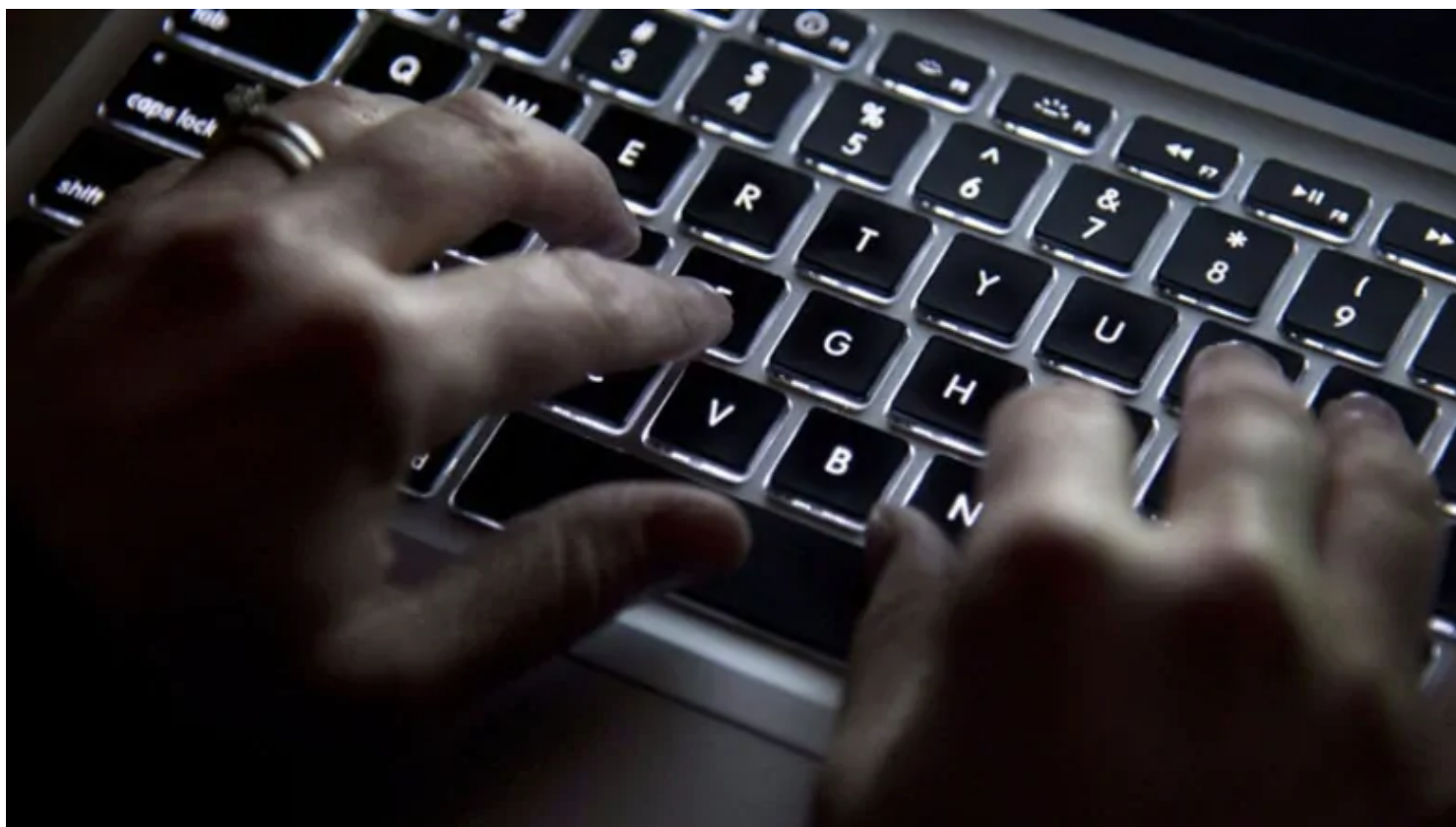
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Manitoba

University of Manitoba uses anti-cheating software to monitor remote exams

Ethicist raises concerns about program's ability to lock students' computers and monitor webcams

[Austin Grabish](#) · CBC News · Posted: Aug 18, 2020 5:00 AM CT | Last Updated: August 18

The University of Manitoba has been using software that relies on artificial intelligence and webcam monitoring to catch cheaters during exams. (The Canadian Press)

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The University of Manitoba is using anti-cheating software that records students' webcams during some remote exams to ensure academic integrity during the COVID-19 pandemic.

But an ethicist and the students union are raising concerns about the program's artificial intelligence and webcam monitoring abilities, which use facial detection, motion and keyboard activity to catch cheaters.

The program the U of M has been piloting during summer courses is called Respondus and has already been used at other schools in Canada. The school is now making the software available during the fall term for optional use by instructors at the U of M.

"What is a little bit troublesome is there's a lack of clarity on where these things are being stored and who can access [them] outside of the institution itself," said Jelynn Dela Cruz, president of the University of Manitoba Students' Union.

The union has heard concerns about the software from students in recent days, she said, and is now in talks with university administration about the program, which locks down a student's screen, uses advanced algorithms for facial detection, motion, and data from the computer to identify patterns and anomalies associated with cheating.

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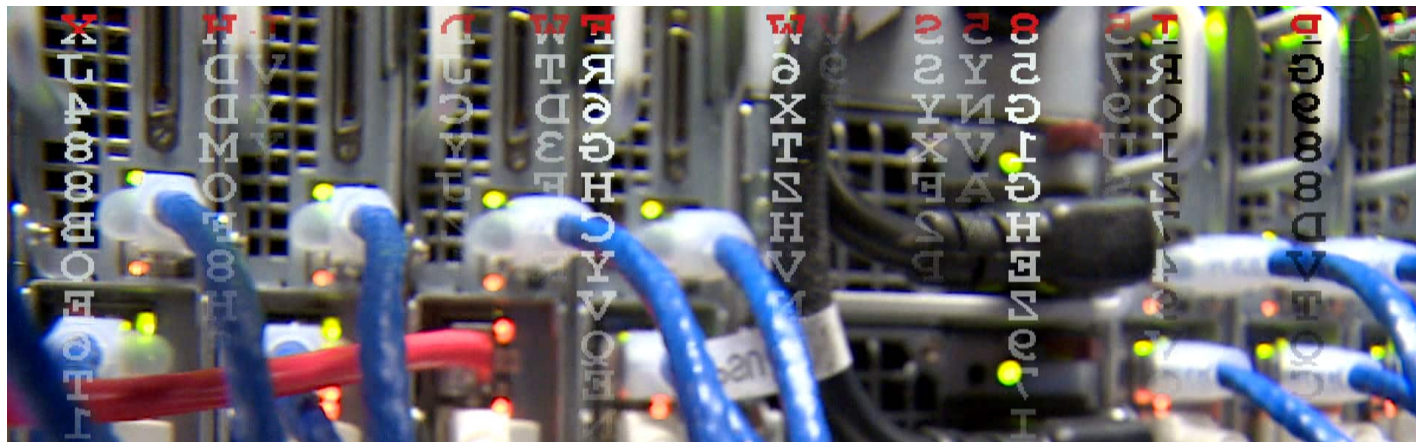
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3 months ago | 2:08

The University of Manitoba is using anti-cheating software that records students' webcams during some remote exams to ensure academic integrity during the COVID-19 pandemic. 2:08

Dela Cruz said not every professor is using the software. Instead, some are choosing to use another program during exams that have all students in a class visible on webcam.

"Students have come to us voicing concerns about their classmates watching them during the exam, especially if they have accessibility needs that they're not necessarily comfortable sharing with the rest of the class."

The University of Manitoba has told faculty the program went through a rigorous evaluation before being approved.

"This software has undergone all the required considerations for privacy and security," U of M spokesperson Chris Rutkowski told CBC.

He said Respondus files are kept under secure means in the company's cloud, are not stored locally and are removed after the university's appeal period.

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He added that since students are watched by their peers in classes, it "is also anticipated that students would prefer to focus on writing their exams and not be watching their classmates."

But U of M associate professor Neil McArthur, who is an ethicist, said he won't be using the software this fall.

"To have software that not only locks a student's computer but monitors their eye movements and their physical movements I think is a clear violation of privacy," he said.
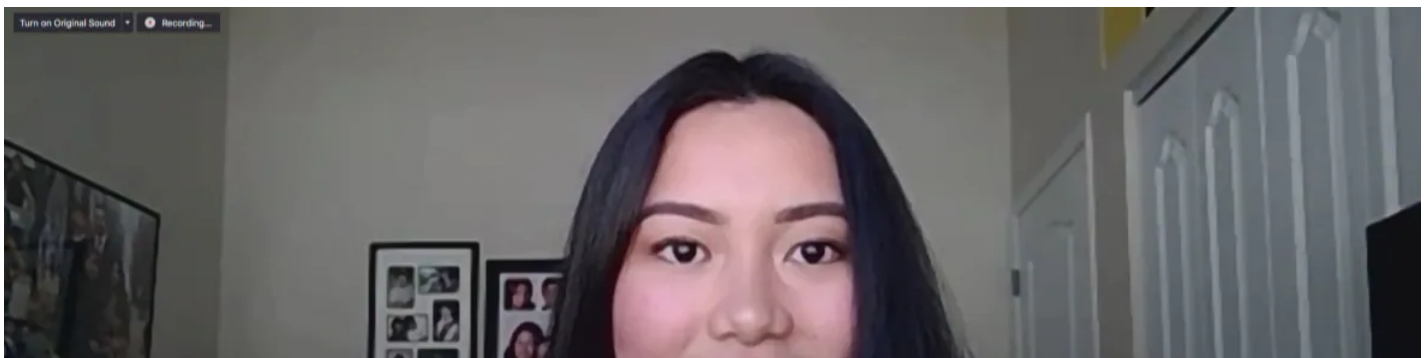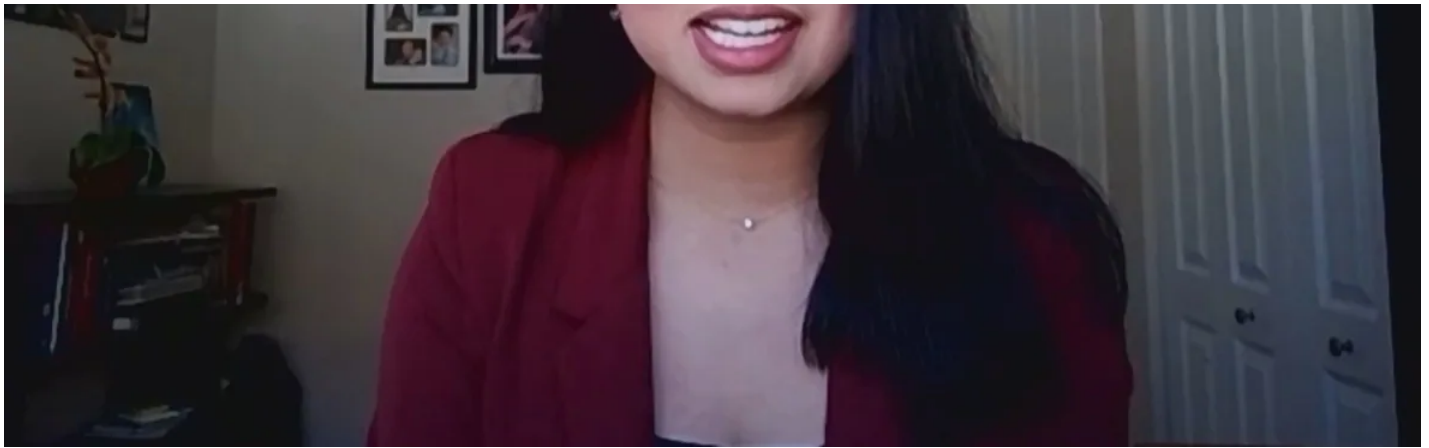
Jelynn Dela Cruz, president of the University of Manitoba Students' Union, said in recent days students have come forward with concerns about their webcams being remotely monitored during exams. (CBC)

McArthur said even if the U of M asks for students' consent before using the program, it's problematic in his view.

"The consent is complicated because what they're consenting to is in a sense coerced in that they need to compete for this in order to get to pass the course and write the exam."

He said instead of using the anti-cheating software, he will give students take-home exams they have 24 hours to complete.

"I try to give exam questions that are specifically tailored to the class material, so that you know, if they want to spend that 24 hours cramming desperately and reading all the class material if they haven't done that up till now, that's fine, because what they're doing basically is doing the course, which is what I want them to do."

The University of Regina said it is using anti-cheating software as a pilot with this summer's final exams.

The University of Winnipeg said a few departments are currently using live proctoring on Zoom while students are writing tests. it is investigating invigilation software and plans to run a pilot with it in a few courses this fall.

"Our faculty members are looking both at invigilation methods and a test construction that will inhibit opportunities to cheat, as well as alternative types of evaluation that don't involve a set test or exam," said U of W spokesperson Kevin Rosen.

Red River College said it is not using anti-cheating software and instead is taking a proactive approach toward academic integrity.

Neil McArthur says he won't be using the software in his remote classroom this fall. (Warren Kay/CBC)

"Our approach includes increased education and access to supports for students, anchored by an online learning module and class sessions to outline the risks and consequences to cheating," said college spokesperson Conor Lloyd in an email.

"By increasing the ways in which we evaluate students, we are able to provide more comprehensive assessments and take the weight off of a single exam. Our ultimate goal with this approach is to discourage cheating online and ensuring our students can access resources and supports early on to help them with their programs this fall."

Respondus COO Jodi Feeney said its programs are designed with student privacy as a basic requirement.

Before the pandemic, the company had business relationships with the majority of Canadian universities, she said.

The company also said that just because students get a proctoring flag when they move away from their computers, it doesn't necessarily mean they'll get bad grades.

"For example, if the student goes to the door because someone is knocking on it, a flag is likely to appear in the proctoring results. However, when the instructor sees what happened in that segment of the video, the flag is likely to be ignored," company CEO David Smetters said in a statement.

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