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19 IN THE UNITED STATES DISTRICT COURT
20 FOR THE DISTRICT OF ARIZONA

21 Erik Johnson,

No.

22 Plaintiff,

COMPLAINT
(Jury Trial Demanded)

23 vs.

24 Proctorio Inc.,

25 Defendant.

26
27 **INTRODUCTION**

28 1. This is a civil action seeking a declaratory judgment of noninfringement under the Copyright Act, 17 U.S.C. §§ 106, 107, as well as injunctive relief and damages for misrepresentation of copyright claims under the Digital Millennium Copyright Act (“DMCA”), 17 U.S.C. § 512(f), in order to finally quash a campaign of

1 harassment designed to undermine important concerns about software used by
2 universities around the United States to monitor student activity.

3 2. As a consequence of the COVID-19 pandemic, schools and universities
4 have increasingly adopted surveillance software to observe students as they complete
5 assignments and tests electronically. These “proctoring” computer programs, like the
6 Proctorio Software owned by Defendant Proctorio Inc. (“Proctorio”), are ostensibly
7 intended to ensure adherence to assignment rules and to identify potential cheating by
8 relying on surveillance methods such as face detection,¹ eye movement tracking,
9 keyboard and mouse monitoring, and audio and visual recording. Students, teachers,
10 and civil liberties advocates have noted that such software may compromise student
11 privacy and digital security while exacerbating socioeconomic divides in student
12 performance.

13 3. Plaintiff Erik Johnson, a college student whose university uses the
14 Proctorio surveillance software, is one such critic. After carefully reviewing publicly
15 available information, including portions of Proctorio’s software code, Johnson
16 concluded that the Proctorio software code contradicted Proctorio’s claims about its
17 software and raised a number of privacy, security, and equity concerns. To inform his
18 classmates and the public, he shared his conclusions on Twitter, a social media website.
19 To help explain his conclusions, Johnson linked to excerpts of the software’s code that
20 he had uploaded to the code-sharing websites Pastebin and GitHub. This code was
21 found in files that were automatically saved to Johnson’s computer when he installed
22 the software. Johnson’s use of the code was a textbook fair use, and obviously lawful
23 under Section 107 of the Copyright Act.

24 4. Proctorio promptly responded by pressuring Johnson to delete his code
25 analysis. When Johnson resisted, Proctorio turned to the DMCA to force the material’s
26 removal. As a result of Proctorio’s false claims, Twitter removed several portions of

27 ¹ Face detection is a technology that detect faces as well as facial movement and
28 direction within an image or video.

1 Johnson’s critical commentary, and Pastebin and GitHub removed the code excerpts
2 Johnson shared to support his assertions.

3 5. Johnson has made every effort to explain the lawfulness of his conduct to
4 Proctorio, to no avail. To ensure that Proctorio will finally cease its efforts to abuse
5 copyright law to interfere with his speech, Johnson has no choice but to seek a
6 declaration of noninfringement.

7 **PARTIES, JURISDICTION, AND VENUE**

8 6. Plaintiff Erik Johnson is an individual domiciled in Libertyville, Illinois.

9 7. On information and belief, Defendant Proctorio is a corporation that
10 maintains a principal place of business in Scottsdale, Arizona.

11 8. This Court has subject-matter jurisdiction over this claim under the
12 Copyright Act (17 U.S.C. §§ 101 *et seq.*), 28 U.S.C. §§ 1331 and 1338, and the
13 Declaratory Judgment Act (28 U.S.C. § 2291).

14 9. On information and belief, Proctorio has sufficient contacts with this
15 district, both generally and in connection to the events herein alleged, that it is subject to
16 the exercise of this Court’s jurisdiction.

17 10. Venue is proper in this district under 28 U.S.C. § 1391.

18 **GENERAL ALLEGATIONS**

19 **A. Johnson’s Speech**

20 11. Erik Johnson is a security researcher and an undergraduate student in
21 computer engineering at Miami University in Oxford, Ohio. Due to the COVID-19
22 pandemic, Johnson attended all of his classes virtually from his home in Illinois from
23 August 2020 through December 2020. Although he returned to campus in January 2021,
24 Johnson’s courses have continued to be conducted almost exclusively online.

25 12. During this period of remote schooling, some of Johnson’s instructors
26 have chosen to administer exams using remote exam proctoring software offered by
27 Proctorio (the “Proctorio Software”). On information and belief, the Proctorio Software
28

1 works by using eye tracking, face detection, and computer monitoring to surveil exam-
2 takers and flag allegedly “suspicious” behaviors as possible indications of cheating.

3 13. Like many other students, Johnson was concerned about the Proctorio
4 Software, including the risks it poses to students’ privacy and security. Currently,
5 Johnson is a member of a subcommittee appointed by his university’s senate tasked
6 with investigating whether or not the use of remote proctoring services such as
7 Proctorio is in line with his university’s values. He is the only undergraduate on this
8 subcommittee comprised mainly of graduate students and university officials.

9 14. To explore Proctorio’s potential harm to students’ interests, Johnson
10 examined Proctorio Software files that are automatically downloaded to any computer
11 (including Johnson’s) that installs the Proctorio Software: (1) language files, which
12 contain lists of messages that the software is able to display on a computer to the
13 software user (“display messages”) in multiple natural (human) languages, including
14 English²; and (2) a file written in the computer programming language JavaScript that
15 contained both intentionally scrambled (or “obfuscated”) code and non-scrambled plain
16 text.

17 15. On September 7, 2020, following his investigation of the software code in
18 these files, Johnson published a tweet thread³ critiquing Proctorio and the Proctorio
19 Software. Annotated screenshots of these tweets are attached as **Exhibit 1**. Among other
20 things, Johnson’s tweets identified contradictions between Proctorio’s public statements
21 and the actual functionality of the software as indicated by its code; demonstrated the

22
23 ² Language files are used to facilitate software use and adaptation in different
24 countries or regions and allows the software to display the appropriate natural language
based on location.

25 ³ Tweets are user-generated content posted to the social media website Twitter. A
26 thread is a group of tweets linked together by the user who posted them so that the
27 tweets appear in chronological order instead of Twitter’s default of reverse-
28 chronological order. Because users can choose whether new tweets they post are linked
to any of their existing tweet threads, threading allows for discussions longer than the
per-tweet character limit and that span some period of time.

1 invasiveness of the Proctorio Software; illustrated the high level of access that the
2 Proctorio Software has to users' computers; and noted the difficulty of determining the
3 full extent of Proctorio's collection of and access to user data.

4 16. To illustrate the basis for his conclusions, Johnson included, in three of
5 the September 7 tweets, links to relevant software code that he had excerpted from the
6 language files and uploaded to the website Pastebin.⁴ **Exhibit 1** at 1–2.

7 17. In the first of these tweets, Johnson listed various metrics that the
8 Proctorio Software monitors during exams and apparently uses to determine each exam-
9 taker's "suspicion level." He also linked to a code excerpt of the display messages
10 referencing those same metrics. A printout of that code excerpt is attached as **Exhibit 2**.
11 Among the metrics named in Johnson's tweet and found in the linked code is "eye
12 movement," something Proctorio claims its software does not track.

13 18. In the second tweet, Johnson discussed how the Proctorio Software
14 compares different exam-takers to one another using these metrics. He also linked to a
15 code excerpt of the display messages for reporting these statistics. A printout of that
16 code is attached as **Exhibit 3**.

17 19. In the third tweet, Johnson identified various reasons the Proctorio
18 Software may terminate a student's exam, such as interruptions in internet connectivity
19 and plugging in an additional monitor. He also linked to a code excerpt listing the
20 display messages for 20 different bases for exam termination. A printout of that code is
21 attached as **Exhibit 4**.

22 20. In another of his September 7 tweets within the tweet thread, Johnson
23 reported: "In some cases, you will have to scan your room. At the begining [sic] of the
24 exam, and during if your suspicion level raises. Proctorio compiles the footage into a
25

26 ⁴ Pastebin is a website that allows users to upload snippets of text, most often
27 software code, for public viewing. One common use of these "pastes" is to share text
28 referenced in a message that is constrained by character limits, such as the 280-character
limit for tweets.

1 street-view like 360 image of your room/house that your professor can access and
2 seemingly proctorio ‘agents’ too.” With the tweet, Johnson included a screenshot of a
3 tutorial video showing where these room scan images can be viewed (the “Video
4 Screenshot”). **Exhibit 1** at 2.

5 21. Over the next week, Johnson continued to post criticisms of Proctorio and
6 the Proctorio Software to the same tweet thread. In one September 11 tweet, Johnson
7 included a Pastebin link to three lines of software code from a JavaScript file that
8 Johnson understood to identify programs blacklisted by Proctorio—*i.e.*, computer
9 programs that cannot be used simultaneously with the Proctorio Software. **Exhibit 1** at
10 6. That code excerpt, a printout of which is attached as **Exhibit 5**, contained only code
11 that was not scrambled in the source file. The purpose of this tweet was to show that
12 Proctorio prevents users from taking steps that could mitigate the intrusiveness of the
13 Proctorio Software, such as using a virtual machine for “sandboxing.”⁵

14 **B. Fair Use**

15 22. To the extent that the code excerpts associated with Johnson’s September
16 7 and September 11 tweets (collectively, the “Excerpts”) and the Video Screenshot
17 contained copyrightable material, Johnson’s uses of that material are clear-cut fair
18 uses—no different from quoting a book in a book review.

19 23. The fair use analysis centers on four statutory factors: (1) the purpose and
20 character of the use; (2) the nature of the copyrighted work; (3) the amount and
21 substantiality of the portion used; and (4) the effect of the use on the market for the
22 copyrighted work. These factors are analyzed together in light of the fundamental
23 purposes of copyright.

24 24. The purpose and character of Johnson’s uses are noncommercial and
25 educational, serving many, if not all, of the favored purposes identified in the preamble
26 to Section 107 of the Copyright Act. Johnson used the Excerpts and Video Screenshot

27 ⁵ Sandboxing is a computer-security practice that involves isolating a specific
28 program to prevent it from accessing other programs or system resources.

1 to report his findings from his investigation of the Proctorio Software and to provide
2 evidence supporting his assertions. The uses are also transformative: they combined the
3 copyrighted material with the expression in Johnson’s tweets to add new meaning and
4 serve the new and different purpose of sharing evidence-backed criticism of Proctorio
5 with the public.

6 25. The nature of the works at issue—Proctorio’s software code and tutorial
7 video—also weighs in favor of fair use because they are primarily factual or functional.
8 Moreover, Johnson used the works only for their factual content, not their expressive
9 value.

10 26. The amount and substantiality of the copyrighted material used also weigh
11 in favor of fair use. Johnson included only those lines of software code that directly
12 supported his tweets. And the Excerpts were a negligible portion—almost certainly less
13 than 0.1%—of the Proctorio Software’s code. They also were qualitatively
14 insubstantial: the three language file excerpts contained nothing but message text that
15 would be displayed to someone reviewing exam statistics, and the JavaScript file
16 excerpt contained only a list of blacklisted programs. As to the Video Screenshot,
17 Johnson used a single still frame from the full video to demonstrate the ability of
18 professors using Proctorio, and potentially Proctorio employees, to view 360-degree
19 images of students and their homes.

20 27. Finally, Johnson’s use will not cause market harm—at least not the kind
21 of harm copyright law is designed to remedy. The Excerpts—essentially a list of display
22 messages and types of computer programs—are available to anyone who installs the
23 Proctorio Software and cannot possibly serve as a market substitute for the Proctorio
24 Software. Nor does the Video Screenshot serve as a market substitute for the full
25 tutorial video. And to the extent Johnson’s critical uses of the Excerpts may cause
26 Proctorio reputational damage or reduce demand for the Proctorio Software because of
27 what they reveal about it, those are not cognizable market harms under copyright law.
28 *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591–92 (1994).

1 **C. Proctorio’s Campaign of Harassment**

2 28. On September 7, soon after tweeting about Proctorio, Johnson received a
3 private Twitter message from Proctorio’s CEO, Mike Olsen. Olsen demanded that
4 Johnson take down the Excerpts, claiming that they violated Proctorio’s terms of service
5 and “undermine[d] the integrity of the test-taking process.” Olsen did not identify any
6 copyright-related basis for his demand. In reply, Johnson explained that the Excerpts
7 came from files accessible to anyone who installs the Proctorio Software, and that he
8 did not believe he had agreed to any terms of service before accessing them. A
9 screenshot of the exchange between Olsen and Johnson is attached as **Exhibit 6**.

10 29. On September 8, Johnson discovered that his IP address had been banned
11 from accessing Proctorio’s website and services. As a result, Johnson was forced to seek
12 special accommodations for taking exams that his professors administered through
13 Proctorio.

14 30. Based on documents obtained through a records request to Miami
15 University, Johnson is informed and believes that on September 9, a Proctorio
16 representative requested that the university ask Johnson to remove any links to Proctorio
17 materials from his tweets. On information and belief, Proctorio again did not cite any
18 copyright-related basis for its request. The university declined to make any such request
19 of Johnson.

20 31. On October 19, Johnson received an email from Twitter notifying him that
21 the three September 7 tweets that included Pastebin links had been taken down in
22 response to a notice of copyright infringement lodged by Proctorio. The email provided
23 a copy of the DMCA notice, which was signed by Proctorio’s marketing director.
24 **Exhibit 7**. The notice also identified the September 7 tweet that included the Video
25 Screenshot as allegedly infringing, but Twitter did not remove that tweet at that time.

26 32. After receiving the email from Twitter, Johnson discovered that Pastebin
27 had disabled access to the three Excerpts associated with the removed tweets. A notice
28 that appeared in place of each of those Excerpts stated that access had been disabled by

1 Pastebin on September 28. On information and belief, the Excerpts were removed by
2 Pastebin in response to a DMCA notice lodged by Proctorio. Johnson did not receive
3 notice of the removal from Pastebin, and the material has not been restored.

4 33. On October 30, Johnson submitted a counternotice under section 512(g)
5 of the DMCA to Twitter, requesting restoration of his tweets. On November 5, Johnson
6 received an email from Twitter stating that it had found Proctorio's DMCA notices
7 incomplete and had restored Johnson's tweets pending further information from
8 Proctorio.

9 34. On or around November 11, Johnson uploaded the Excerpts to GitHub,
10 another code-sharing website, and appended updates to the September 7 and 11 tweets
11 that provided links to the reposted code excerpts. Screenshots of the updated tweets are
12 attached as **Exhibit 8**.

13 35. On November 23, GitHub informed Johnson that it had disabled access to
14 the Excerpts in response to a DMCA notice submitted by Proctorio. In addition to its
15 allegations of copyright infringement, the notice also falsely stated that Johnson had
16 obtained the code through "reverse engineering and unauthorized hacking." **Exhibit 9**.
17 Johnson submitted a counternotice on November 24, and GitHub restored access to his
18 content on or around December 9.

19 36. On November 29, Johnson discovered that Twitter had once again taken
20 down the three September 7 tweets that were the subject of his October 30
21 counternotice, without notice to him. In addition, Johnson discovered that Twitter had
22 also removed (1) the Video Screenshot from the fourth September 7 tweet identified in
23 Proctorio's September DMCA notice to Twitter and (2) the September 11 tweet about
24 blacklisted programs, which was not mentioned in the September DMCA notice.
25 Counsel for Proctorio confirmed to Johnson's counsel that Proctorio had submitted a
26 second DMCA notice to Twitter. The Excerpt linked to in the September 11 tweet was
27 also removed by Pastebin, again without sending notice to Johnson.

28

1 37. In a November 30 phone call, Johnson’s counsel presented Proctorio’s
2 counsel with the fair use analysis set forth in paragraphs 22 through 27, *supra*.
3 Proctorio’s counsel denied that Johnson’s uses were fair, but that denial was premised
4 on multiple misstatements of fact.

5 38. For example, Proctorio’s attorneys repeated the claim from the GitHub
6 notice that the excerpted code could be obtained only by “reverse engineering” and
7 “hacking,” which they cited to argue that Johnson’s use of the excerpts would harm the
8 market for the Proctorio Software by revealing information (which is not copyrightable)
9 to competitors and exam-takers. On information and belief, Proctorio knew that the
10 excerpted code in fact was contained in unprotected files that could be read by anyone
11 who installed the Proctorio Software (including competitors and exam-takers). *See*
12 **Exhibit 6** (September 7–8 Twitter conversation between Johnson and Proctorio’s CEO).

13 39. Proctorio’s counsel also asserted that Johnson had shared the entirety of
14 the Proctorio Software code. On information and belief, Proctorio would have known
15 from even cursory examination of the Excerpts that they represented only a miniscule
16 portion of the software’s code.

17 40. Despite the fact that Johnson linked to the Excerpts in tweets that both
18 directly related to the linked material and were part of a multi-tweet thread wherein he
19 excoriated and exposed Proctorio for what he viewed as shortcomings of the Proctorio
20 Software and misrepresentations by Proctorio, Proctorio nevertheless asserted that the
21 Excerpts were unconnected to any commentary or criticism. On information and belief,
22 Proctorio knew at the time of sending the DMCA notices to Pastebin and GitHub that
23 the Excerpts were in fact uploaded by Johnson specifically to support his critical
24 commentary.

25 41. Johnson’s counsel informed Proctorio’s attorneys of all of these
26 inaccuracies. But in subsequent email communications, Proctorio nonetheless continued
27 to assert that Johnson’s uses were infringing and did not withdraw its DMCA notices.

28

1 42. On December 22, Johnson submitted to Twitter a counternotice requesting
2 restoration of all content associated with the September 7 and 11 tweets. On January 15,
3 2021, Twitter notified Johnson that it had found Proctorio's DMCA notices to be invalid
4 and had restored the affected tweets and media.

5 43. As a collateral consequence of Proctorio's improper copyright claims,
6 Johnson was informed by a professor that Johnson's application to work in his
7 university's IT Security department will likely be rejected due to his adversarial legal
8 relationship with the school vendor Proctorio.

9
10 **CLAIMS FOR RELIEF**

11 **Count 1**

12 **Declaratory Judgment of Noninfringement**

13 44. Johnson repeats and incorporates herein by reference the allegations in
14 the preceding paragraphs of this complaint.

15 45. There is a real and actual controversy between Johnson and Proctorio
16 regarding whether Johnson's uses of the Excerpts and the Video Screenshot constitute
17 infringement of a copyright interest lawfully held or administered by Proctorio.

18 46. Johnson contends that his creation and use of the Excerpts and the Video
19 Screenshot were and are lawful, consistent with the doctrine of fair use, the Copyright
20 Act, and the First Amendment to the United States Constitution, and judicial decisions
21 construing such laws, doctrines, and provisions.

22 47. Every time that Johnson has linked to excerpts from Proctorio's software
23 code to comment on and criticize the Proctorio Software, Proctorio has exploited the
24 DMCA to undermine Johnson's commentary.

25 48. Proctorio has refused to withdraw its takedown requests. Pastebin has not
26 restored the material that it took down based on Proctorio's claims of infringement.

27 49. Proctorio continues to maintain that Johnson's expression is infringing,
28 even in the face of evidence contradicting core assumptions of its legal arguments.

1 **PRAYER FOR RELIEF**

2 WHEREFORE, Plaintiff Johnson requests the following relief against Defendant
3 Proctorio:

4 1. a declaratory judgment that Johnson’s uses of the Excerpts and the Video
5 Screenshot do not infringe any copyright interest held or administered by Proctorio;

6 2. an order enjoining Proctorio, its agents, servants, employees, successors,
7 and assigns, and all others in concert and privity with Proctorio, from asserting a
8 copyright claim, including the lodging of a notice of infringement with any third party,
9 against Johnson alleging copyright infringement arising out of use of the Excerpts, the
10 Video Screenshot, or any other excerpts of Proctorio Software code or screenshots of
11 Proctorio materials, in connection with commentary or criticism about Proctorio or the
12 Proctorio Software;

13 3. damages according to proof;

14 4. attorneys’ fees pursuant to 17 U.S.C. § 512(f); other portions of the
15 Copyright Act, including Section 505; on a Private Attorney General basis; or otherwise
16 as allowed by law;

17 5. Johnson’s costs and disbursements; and

18 6. such other and further relief as the Court shall find just and proper.
19

20 Plaintiff hereby requests a jury trial for all issues triable by jury, including
21 without limitation those issues and claims set forth in any amended complaint or
22 consolidated action.

23 DATED this 21st day of April, 2021.

24 OSBORN MALEDON, P.A.

25
26 By s/ Eric M. Fraser

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Attorneys for Plaintiff

EXHIBIT INDEX TO COMPLAINT

Exhibit No.	Description
1	Annotated screenshot of September 7–11, 2020 Twitter thread by @ejohnson99
2	Printout of software code excerpt re algorithm metrics
3	Printout of software code excerpt re comparison metrics
4	Printout of software code excerpt re exam termination reasons
5	Printout of software code excerpt re blacklisted programs
6	Screenshot of September 7–8, 2020 Twitter messages between Erik Johnson and Mike Olsen
7	October 19, 2020 email from Twitter Support to E. Johnson re DMCA notice
8	Screenshot of November 11, 2020 Twitter thread by @ejohnson99
9	November 25–December 9, 2020 email thread between GitHub Support and Erik Johnson re DMCA notice

Exhibit 1



Erik Johnson @ejohnson99 · Sep 7, 2020



Hey @proctorio @artfulhacker How do you explain this?
You have strings referencing

"A Proctorio agent will review and verify the test taker's room scan"
and
"live id check"

All while still saying that professors are the only ones who can access recordings and look at students?



14



205



405



Erik Johnson @ejohnson99 · Sep 7, 2020



"Test takers will connect to a live human based on suspicion level during the exam" - seemingly, if you raise enough flags to the algorithm during your exam, Proctorio's "agents" will spy on you. These so-called "agents" appear to have full access to the feed of students' exams.



1



11



128



Erik Johnson @ejohnson99 · Sep 7, 2020



While "verifying room" they can take actions through a UI prompt asking them "How should Proctorio respond to Verify Room violations?" options are:

- Interrupt the exam to ensure compliance
- Immediately remove the test taker from the exam
- Add incident to Proctorio Gradebook



1



8



103



Erik Johnson @ejohnson99 · Sep 7, 2020



Here's a list of metrics Proctorio looks for & flags:

- Changes in audio levels
 - Abnormal clicking
 - Abnormal copy & pastes
 - Abnormal exam duration
 - End times
 - Eye movement
 - # of faces
 - Head movement
 - Abnormal movement of mouse
- & more pastebin.com/2Kbez442



3



20



114





Erik Johnson @ejohnson99 · Sep 7, 2020



They use these metrics to compare you to other students in the class, flagging students and their deviation away from the average number of

- copy/pastes
- resizes
- audio spikes
- head & eye movements
- mouse movements
- keystrokes

pastebin.com/PtPiv8sM



2



6



89



Erik Johnson @ejohnson99 · Sep 7, 2020



Your attempt can be terminated if...

- 2+min disconnection
- Attempt to modify page
- Attempt to download a file
- Plugged in a monitor
- (Un)plugged camera/mic
- "hardware malfunction"
- Switched networks
- Switched Proxies
- Reloaded tab

pastebin.com/gWtv3V9x



2



11



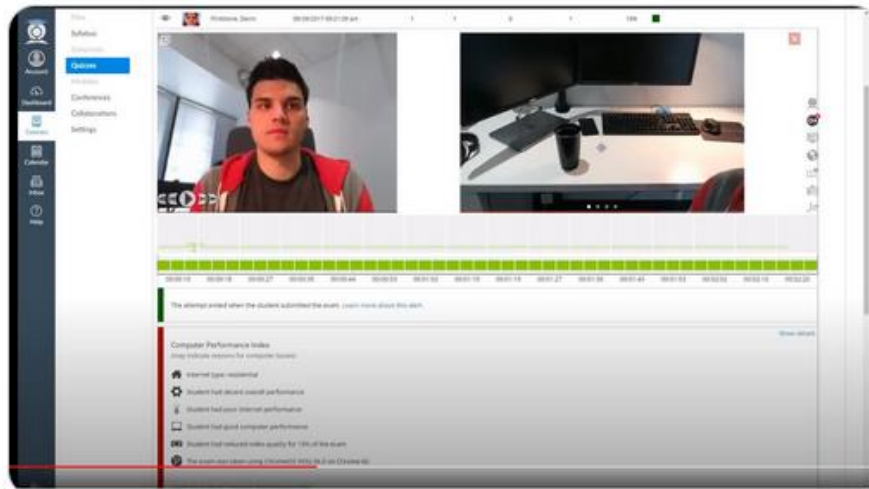
91



Erik Johnson @ejohnson99 · Sep 7, 2020



In some cases, you will have to scan your room. At the beginning of the exam, and during if your suspicion level raises. Proctorio compiles the footage into a street-view like 360 image of your room/house that your professor can access and seemingly proctorio "agents" too.



2



15



83





Erik Johnson @ejohnson99 · Sep 7, 2020

...

If you have a poor internet connection, Proctorio isn't so nice about it...
"No, your connection is terrible and you will experience issues during an exam. If you decide to take an exam on this connection we will notify your institution you were warned and ignored the warning."

2

8

101



Erik Johnson @ejohnson99 · Sep 7, 2020

...

The Proctorio chrome extension "self-destructs" and uninstalls itself if it sees a chrome devtools window open, and redirects students to this page in an attempt to scare them. lti.proctorio.io/hacker It doesn't lock your IP and it doesn't forward anything to an admin.



1

58

168



Erik Johnson @ejohnson99 · Sep 7, 2020

...

A similar thing happens if it detects a proxy az545770.vo.msecnd.net/lti/proxy or a network interception az545770.vo.msecnd.net/lti/intercept
On the topic of proxies/network auditing, Proctorio seemingly routes ALL of your chrome browsing traffic through their servers and hides it from any tools.

1

12

85



Erik Johnson @ejohnson99 · Sep 7, 2020

...

This isn't just active when you're taking a test, it ALWAYS does this if it's installed. For example, if you open Charles/Burp with the proctorio extension installed, you won't see ANY of your network traffic from chrome. I can't see where it's sending data because no DevTools.

2

14

101





Erik Johnson @ejohnson99 · Sep 7, 2020

...

It's seemingly impossible to tell when the proctorio extension is collecting data from your browser and when it's not. It has all permissions whenever installed and could be logging data 24/7. They claim that they use "zero-knowledge encryption" and don't have access to data.

1

16

107



Erik Johnson @ejohnson99 · Sep 7, 2020

...

However, I'm not sure how true this statement is when there's clearly a way for "agents" to view exam streams, when the CEO posts a student's chat logs publicly to attack him, and when they put a law suit against someone linking tutorial videos. see:

	<p>Proctorio is suing one of our UBC champions for student dignity....</p> <p>reddit.com</p>
--	--

1

14

114



Erik Johnson @ejohnson99 · Sep 7, 2020

...

Not only are the privacy concerns very real, but Proctorio, by nature, discriminates against low-class families. Forcing a student to have a private, quiet room with a quality webcam, microphone, stable internet connection, and computer can be nearly impossible for some.

2

36

178



Erik Johnson @ejohnson99 · Sep 7, 2020

...

Students everywhere have been sharing their concerns through tweets, petitions, and more. [@Procteario](#) has a collection of some of these student voices. As a student at [@miamiuniversity](#) I think [@PresGreg](#) and the university needs to reconsider its adoption of the Proctorio spyware.

1

4

88



Erik Johnson @ejohnson99 · Sep 7, 2020

...

Not just MU, but campuses across the country need to take into account the company's practices, CEO's behavior, privacy concerns, and student morale. Change isn't going to happen if the universities and your professors don't know about these things.

1

4

69





Erik Johnson @ejohnson99 · Sep 7, 2020



End of thread for now, but I will update as I come across more information. Hopefully [@artfulhacker](#) will unprivate his account and come out of damage control mode that his actions of posting a student's chat logs incited, and actually address concerns of the public.



2



4



77



Erik Johnson @ejohnson99 · Sep 8, 2020



Here are a few YouTube videos that are "unlisted" however, they are linked to from multiple publicly accessible university websites. Proctorio Gradebook Tour: Shows how Proctorio sorts and displays student attempts by "suspicion level"

youtu.be/Sy_qdEo-52M



2



1



60



Erik Johnson @ejohnson99 · Sep 8, 2020



Here's one that shows some of the Lockdown options: youtu.be/TbLDFUEKs-g

And a full 15 minute demo of Proctorio working in the Canvas LMS.

youtu.be/51s51NQEgJM



1



2



52



Erik Johnson @ejohnson99 · Sep 8, 2020



And here's a few more that aren't very notable and just show where to access certain areas of the software:

youtu.be/k6D72vizidY

youtu.be/OyUI4Ca-lb0

youtu.be/7vG7F5WBCs4

youtu.be/4MOZYxfYYhk

youtu.be/w8RVOORIOLk

youtu.be/BS_OMKxumA8

youtu.be/BxmSb_pvNmA



3



1



54



Erik Johnson @ejohnson99 · Sep 8, 2020



Again, these videos are all located on easily accessible websites that can be found with a quick Google search. Including this PDF document detailing the Proctorio Gradebook: my.namejeff.com/3AalrsH3.pdf



1



1



52





Erik Johnson @ejohnson99 · Sep 10, 2020



No explanation needed. twitter.com/leap4emily/sta...

This Tweet is unavailable.



2



1



40



Erik Johnson @ejohnson99 · Sep 11, 2020



More community response regarding proctoring software. Teachers threatening to force students to pay for a more invasive remote proctoring software. Incredible.



Arie Germaine @LegendArie16 · Sep 10, 2020

.....in the middle of a pandemic... school is a joke rn.. #ncat

[Show this thread](#)

THAT IS AN INDICATION OF EYES MOVING AWAY FROM THE SCREEN.

NOW IF THE PRETORIO BEHAVIOR DOES NOT IMPROVE ON CONNECT QUIZ 3, THEN YOU WILL HAVE TO BUY THE \$15 VERSION OF PROCTORIO.

I TALKED TO Mc-GRAW-HILL AND THEY SAID THAT A LOT OF NEGATIVE BEHAVIOR WAS TAKING PLACE.

I would hate to have to write you up for online cheating which gets filed in the Dean's office.



1



5



86



Erik Johnson @ejohnson99 · Sep 11, 2020



You may be unable to use it if you have any of these installed. It does this by looking at audio/video inputs/outputs, and user agent strings. pastebin.com/BR5ivdmm Sources for all of these files can be found yourself by accessing the chrome directory for extensions. Paths are:



5



2



47





Erik Johnson @ejohnson99 · Sep 11, 2020



Mac: ~/Library/Application\ Support/Google/Chrome/Default/Extensions
/fpmapakogndmenjcfoajifaaonnkpei/1.4.20241.1_0/

Windows: C:\Users\<<Your_User_Name>\AppData\Local\Google
\Chrome\User Data\Default\Extensions
\fpmapakogndmenjcfoajifaaonnkpei\1.4.20241.1_0\



1



2



44



Erik Johnson @ejohnson99 · Sep 11, 2020



The file containing all the UI prompts from the first few tweets is located
at /_locales. Open up the messages.json file in a text editor and read on.
The path containing the application names can be found by searching the
folder's files for a keyword or, /assets/Js2Q.js



1



1



38



Exhibit 2


```
1 "description": "lms metrics abnormal audio desc",
2   "message": "e.g. consistently talking or in noisy room"
3
4
5   "description": "lms metrics abnormal audio title",
6   "message": "Abnormal changes in audio levels highlights test takers that had significant changes in audio activity throughout the exam."
7
8
9   "description": "lms metrics abnormal clicks desc",
10  "message": "e.g. rapidly clicking on various parts of the quiz"
11
12
13  "description": "lms metrics abnormal clicks title",
14  "message": "Abnormal clicking will highlight test takers who interacted with the quiz page less than the rest of the class"
15
16
17  "description": "lms metrics abnormal copy desc",
18  "message": "e.g. excessive copies and pastes"
19
20
21  "description": "lms metrics abnormal copy title",
22  "message": "Abnormal copies and pastes highlights test takers who may have taken material from the exam or brought answers into the exam extensively."
23
24
25  "description": "lms metrics abnormal duration desc",
26  "message": "may indicate help from outside sources"
27
28
29  "description": "lms metrics abnormal duration title",
30  "message": "Abnormal exam duration will highlight test takers who have finished significantly faster or slower than the rest of the class."
31
32
33  "description": "lms metrics abnormal end desc",
34  "message": "may indicate an attempt to bypass system or connectivity issue"
35
36
37  "description": "lms metrics abnormal end title",
38  "message": "End Times will highlight test takers whose LMS end time does not match the Proctorio end time"
39
40
41  "description": "lms metrics abnormal eyes desc",
42  "message": "e.g. consistently looking at different areas of the screen"
43
44
45  "description": "lms metrics abnormal eyes title",
46  "message": "Abnormal eye movement will highlight test takers who may have unauthorized materials within the test environment."
47
48
49  "description": "lms metrics abnormal faces desc",
```

50 "message": "e.g. utilizing additional people"
51
52
53 "description": "lms metrics abnormal faces title",
54 "message": "Abnormal number of faces detected will highlight test takers who may have received help from others during the exam."
55
56
57 "description": "lms metrics abnormal head desc",
58 "message": "e.g. consistently looking at notes or off the screen"
59
60
61 "description": "lms metrics abnormal head title",
62 "message": "Abnormal head movement will highlight test takers who looked away from the camera significantly more or less than the other test takers."
63
64
65 "description": "lms metrics abnormal ip desc",
66 "message": "e.g. collaborating with other test takers on quiz at same time"
67
68
69 "description": "lms metrics abnormal ip title",
70 "message": "Exam Collusion will highlight test takers who took the exam at the same time on the same network"
71
72
73 "description": "lms metrics abnormal keys desc",
74 "message": "e.g. typing more than other test takers"
75
76
77 "description": "lms metrics abnormal keys title",
78 "message": "Abnormal use of keystrokes highlights test takers relying on copy and paste or struggling with free response questions."
79
80
81 "description": "lms metrics abnormal less",
82 "message": "less"
83
84
85 "description": "lms metrics abnormal more",
86 "message": "more"
87
88
89 "description": "lms metrics abnormal mouse desc",
90 "message": "e.g. consistently moving the mouse"
91
92
93 "description": "lms metrics abnormal mouse title",
94 "message": "Abnormal movement of the mouse will highlight test takers who interacted with the quiz page less than the rest of the class."
95
96
97 "description": "lms metrics abnormal resize desc",
98 "message": "e.g. consistently changing quiz window size"
99
100
101 "description": "lms metrics abnormal resize title",
102 "message": "Abnormal resizing of the browser highlights test takers who may have had notes or other material hidden behind the quiz window."

103
104
105 "description": "lms metrics abnormal scroll desc",
106 "message": "e.g. rapidly moving through the quiz"
107
108
109 "description": "lms metrics abnormal scroll title",
110 "message": "Abnormal scrolling will highlight test takers who interacted with the quiz page less than the rest of the class"
111
112
113 "description": "lms metrics abnormal start desc",
114 "message": "may indicate an attempt to bypass system or connectivity issue"
115
116
117 "description": "lms metrics abnormal start title",
118 "message": "Start Times will highlight test takers whose LMS start time does not match the Proctorio start time"
119
120
121 "description": "lms metrics abnormal unfocus desc",
122 "message": "e.g. open separate webpage"
123
124
125 "description": "lms metrics abnormal unfocus title",
126 "message": "Abnormal amounts of navigation away highlights test takers using external applications or material differently than the rest of the class."
127
128
129 "description": "lms metrics frame audio desc",
130 "message": "e.g. talking or noisy environment"
131
132
133 "description": "lms metrics frame audio incident",
134 "message": "Audio levels in the room increased above the threshold"
135
136
137 "description": "lms metrics frame audio short",
138 "message": "Audio Levels"
139
140
141 "description": "lms metrics frame audio title",
142 "message": "Flag Changes in Audio Levels"
143
144
145 "description": "lms metrics frame clicking short",
146 "message": "Clicking"
147
148
149 "description": "lms metrics frame collusion short",
150 "message": "Exam Collusion"
151
152
153 "description": "lms metrics frame copy desc",
154 "message": "e.g. duplicating exam content"
155

156
157 "description": "lms metrics frame copy incident off",
158 "message": "Test taker copied and pasted values"
159
160
161 "description": "lms metrics frame copy incident on",
162 "message": "Test taker attempted to copy and paste values"
163
164
165 "description": "lms metrics frame copy short",
166 "message": "Copy & Paste"
167
168
169 "description": "lms metrics frame copy title",
170 "message": "Flag Copy and Paste"
171
172
173 "description": "lms metrics frame duration short",
174 "message": "Exam Duration"
175
176
177 "description": "lms metrics frame end time short",
178 "message": "End Times"
179
180
181 "description": "lms metrics frame eyes desc",
182 "message": "e.g. look at different monitor"
183
184
185 "description": "lms metrics frame eyes incident",
186 "message": "Test taker's eyes were looking away from the quiz page"
187
188
189 "description": "lms metrics frame eyes short",
190 "message": "Eye Movement"
191
192
193 "description": "lms metrics frame eyes title",
194 "message": "Flag Eye Movements"
195
196
197 "description": "lms metrics frame faces desc",
198 "message": "e.g. multiple test takers taking the same exam"
199
200
201 "description": "lms metrics frame faces incident",
202 "message": "Multiple faces detected in the image"
203
204
205 "description": "lms metrics frame faces short",
206 "message": "Multi-Face"
207
208

209 "description": "lms metrics frame faces title",
210 "message": "Flag Multiple Faces"
211
212
213 "description": "lms metrics frame head desc",
214 "message": "e.g. look at notes"
215
216
217 "description": "lms metrics frame head incident",
218 "message": "Test taker was looking away from the quiz page"
219
220
221 "description": "lms metrics frame head short",
222 "message": "Head and Eye Movement"
223
224
225 "description": "lms metrics frame head title",
226 "message": "Flag Head and Eye Movements"
227
228
229 "description": "lms metrics frame keys desc",
230 "message": "e.g. typing on multiple choice exam"
231
232
233 "description": "lms metrics frame keys incident",
234 "message": "Test taker typed on the keyboard"
235
236
237 "description": "lms metrics frame keys short",
238 "message": "Keystrokes"
239
240
241 "description": "lms metrics frame keys title",
242 "message": "Flag Keystrokes"
243
244
245 "description": "lms metrics frame mouse short",
246 "message": "Mouse Movement"
247
248
249 "description": "lms metrics frame resize desc",
250 "message": "e.g. move browser to uncover other window"
251
252
253 "description": "lms metrics frame resize incident off",
254 "message": "Test taker changed zoom level or re-sized the browser"
255
256
257 "description": "lms metrics frame resize incident on",
258 "message": "Test taker attempted to change zoom level or re-size the browser"
259
260
261 "description": "lms metrics frame resize short",

```
262     "message": "Browser Resize"
263
264
265     "description": "lms metrics frame resize title",
266     "message": "Flag Browser Resize"
267
268
269     "description": "lms metrics frame scrolling short",
270     "message": "Scrolling"
271
272
273     "description": "lms metrics frame start time short",
274     "message": "Start Times"
275
276
277     "description": "lms metrics frame unfocus desc",
278     "message": "e.g. open separate webpage"
279
280
281     "description": "lms metrics frame unfocus incident off",
282     "message": "Test taker navigated away from the quiz page"
283
284
285     "description": "lms metrics frame unfocus incident on",
286     "message": "Test taker attempted to navigate away from the quiz page"
287
288
289     "description": "lms metrics frame unfocus short",
290     "message": "Navigating Away"
291
292
293     "description": "lms metrics frame unfocus title",
294     "message": "Flag New Windows or Tabs"
295
296
297     "description": "lms metrics tamper av desc",
298     "message": "Potential audio/video hardware issue detected"
299
300
301     "description": "lms metrics tamper av title",
302     "message": "Video Tamper"
303
304
305     "description": "lms metrics tamper page desc",
306     "message": "Potential webpage issue detected"
307
308
309     "description": "lms metrics tamper page title",
310     "message": "Page Tamper"
```

Exhibit 3

```
1  "description": "copy/paste",
2  "message": "Test taker $action$ values $val$$ $rel$ than the average.",
3  "placeholders": {
4    "action": {
5      "content": "$1",
6      "description": "the test taker's action based on what the professor enabled"
7
8    "rel": {
9      "content": "$3",
10     "description": "more/less based on the value"
11
12   "val": {
13     "content": "$2",
14     "description": "the test taker's value relative to the average (%)"
15
16
17  "description": "resize",
18  "message": "Test taker $action$ zoom level or browser size $val$$ $rel$ than the average.",
19  "placeholders": {
20    "action": {
21      "content": "$1",
22      "description": "the action the test taker performed based on the professor settings"
23
24    "rel": {
25      "content": "$3",
26      "description": "more/less based on the value"
27
28    "val": {
29      "content": "$2",
30      "description": "the test taker's value relative to the average (%)"
31
32
33  "description": "audio",
34  "message": "Audio levels exceeded the threshold $val$$ $rel$ than the average.",
35  "placeholders": {
36    "rel": {
37      "content": "$2",
38      "description": "more/less based on the value"
39
40    "val": {
41      "content": "$1",
42      "description": "the test taker's value relative to the average (%)"
43
44
45  "description": "head movement",
46  "message": "Test taker was looking away from the quiz page $val$$ $rel$ than the average.",
47  "placeholders": {
48    "rel": {
49      "content": "$2",
```



```

50     "description": "more/less based on the value"
51
52     "val": {
53         "content": "$1",
54         "description": "the test taker's value relative to the average (%)"
55
56
57     "description": "eye movement",
58     "message": "Test taker was looking away from the quiz page $val$% $rel$ than the average.",
59     "placeholders": {
60         "rel": {
61             "content": "$2",
62             "description": "more/less based on the value"
63
64         "val": {
65             "content": "$1",
66             "description": "the test taker's value relative to the average (%)"
67
68
69     "description": "multi face",
70     "message": "Multiple faces were detected in the image $val$% $rel$ than the average.",
71     "placeholders": {
72         "rel": {
73             "content": "$2",
74             "description": "more/less based on the value"
75
76         "val": {
77             "content": "$1",
78             "description": "the test taker's value relative to the average (%)"
79
80
81     "description": "mouse movement",
82     "message": "Test taker moved the mouse $val$% $rel$ than the average.",
83     "placeholders": {
84         "rel": {
85             "content": "$2",
86             "description": "more/less based on the value"
87
88         "val": {
89             "content": "$1",
90             "description": "the test taker's value relative to the average (%)"
91
92
93     "description": "mouse movement",
94     "message": "Test taker scrolled $val$% $rel$ than the average.",
95     "placeholders": {
96         "rel": {
97             "content": "$2",
98             "description": "more/less based on the value"
99
100        "val": {
101            "content": "$1",
102            "description": "the test taker's value relative to the average (%)"

```

```

103
104
105 "description": "mouse movement",
106 "message": "Test taker clicked the mouse $val%$ $rel$ than the average.",
107 "placeholders": {
108   "rel": {
109     "content": "$2",
110     "description": "more/less based on the value"
111
112   "val": {
113     "content": "$1",
114     "description": "the test taker's value relative to the average (%)"
115
116
117 "description": "mouse movement",
118 "message": "Test taker took $val%$ $rel$ time than the average to complete the exam.",
119 "placeholders": {
120   "rel": {
121     "content": "$2",
122     "description": "more/less based on the value"
123
124   "val": {
125     "content": "$1",
126     "description": "the test taker's value relative to the average (%)"
127
128 "A695_8": {
129   "description": "navigation away from the page",
130   "message": "Test taker $action$ from the quiz page $val%$ $rel$ than the average.",
131   "placeholders": {
132     "action": {
133       "content": "$1",
134       "description": "the action that was performed (based on prof settings)"
135
136     "rel": {
137       "content": "$3",
138       "description": "more/less based on the value"
139
140     "val": {
141       "content": "$2",
142       "description": "the test taker's value relative to the average (%)"
143
144 "A695_9": {
145   "description": "keystrokes",
146   "message": "Test taker used the keyboard $val%$ $rel$ than the average.",
147   "placeholders": {
148     "rel": {
149       "content": "$2",
150       "description": "more/less based on the value"
151
152     "val": {
153       "content": "$1",
154       "description": "the test taker's value relative to the average (%)"
155

```

```
156 |
157 |     "description": "lms results metrics summary text ip",
158 |     "message": "$count$ other test taker$plural$ took the exam on the same connection at the same time.",
159 |     "placeholders": {
160 |         "content": "$1"
161 |     },
162 |     "plural": {
163 |         "content": "$2"
164 |     }

```

Exhibit 4

1 "A7220":{"message":"The attempt ended when the test taker disconnected from Proctorio for 2 minutes. \$learn_more\$.", "description":"lms results performance close code0", "placeholders":{"learn_more":{"content":"\$1"}}},

2

3 "A7221":{"message":"The attempt ended when the test taker submitted the exam. \$learn_more\$.", "description":"lms results performance close code1", "placeholders":{"learn_more":{"content":"\$1"}}},

4

5 "A72210":{"message":"The attempt ended when a proctor removed the test taker from their exam", "description":"lms results performance close code10"}, "A72211":{"message":"The attempt ended when the time limit was exceeded and the exam was auto-submitted. \$learn_more\$.", "description":"lms results performance close code11", "placeholders":{"learn_more":{"content":"\$1"}}},

6

7 "A72212":{"message":"The attempt ended when the test taker attempted to modify the quiz page. \$learn_more\$.", "description":"lms results performance close code12", "placeholders":{"learn_more":{"content":"\$1"}}},

8

9 "A72213":{"message":"The attempt ended when the test taker attempted to download a file during the quiz. \$learn_more\$.", "description":"lms results performance close code13", "placeholders":{"learn_more":{"content":"\$1"}}},

10

11 "A72214":{"message":"The attempt ended when the test taker's battery died. \$learn_more\$.", "description":"lms results performance close code14", "placeholders":{"learn_more":{"content":"\$1"}}},

12

13 "A72215":{"message":"The attempt ended when the test taker plugged in an additional monitor. \$learn_more\$.", "description":"lms results performance close code15", "placeholders":{"learn_more":{"content":"\$1"}}},

14

15 "A72216":{"message":"The attempt ended when the test taker unplugged a camera or microphone. \$learn_more\$.", "description":"lms results performance close code16", "placeholders":{"learn_more":{"content":"\$1"}}},

16

17 "A72217":{"message":"The attempt ended when the test taker plugged in an additional camera or microphone. <a

href='https://proctorio.zendesk.com/hc/articles/206456907' target='_blank'
aria-label='The attempt ended when the test taker plugged in an additional
camera or microphone.'>\$learn_more\$.", "description": "lms results
performance close code17", "placeholders": {"learn_more": {"content": "\$1"}},

18
19 "A72218": {"message": "The attempt ended when a hardware malfunction occurred
during the exam <a href='https://proctorio.zendesk.com/hc/articles/206456907'
target='_blank' aria-label='The attempt ended when the test taker plugged in
an additional camera or microphone.'>\$learn_more\$.", "description": "lms
results performance close
code18", "placeholders": {"learn_more": {"content": "\$1"}},

20
21 "A72219": {"message": "The attempt ended when the test takers mobile phone was
taken out of lockdown mode. <a
href='https://proctorio.zendesk.com/hc/articles/206456907' target='_blank'
aria-label='The attempt ended when a the test taker's mobile phone was taken
out of lockdown mode.'>\$learn_more\$.", "description": "lms results
performance close code19", "placeholders": {"learn_more": {"content": "\$1"}},

22
23 "A72220": {"message": "The attempt ended when an advanced program detection
malfunction occurred during the exam. <a
href='https://proctorio.zendesk.com/hc/articles/206456907' target='_blank'
aria-label='The attempt ended when an advanced program detection malfunction
occurred during the exam.'>\$learn_more\$.", "description": "lms results
performance close code20", "placeholders": {"learn_more": {"content": "\$1"}},

24
25 "A7222": {"message": "The attempt ended when the test taker navigated away from
the exam. <a href='https://proctorio.zendesk.com/hc/articles/204296218'
target='_blank' aria-label='The attempt ended when the test taker navigated
away from the exam.'>\$learn_more\$.", "description": "lms results
performance close code2", "placeholders": {"learn_more": {"content": "\$1"}},

26
27 "A7223": {"message": "The attempt ended when the test taker reached the exam
time limit. <a href='https://proctorio.zendesk.com/hc/articles/204993787'
target='_blank' aria-
label='https://proctorio.zendesk.com/hc/articles/204993787'>\$learn_more\$.
", "description": "lms results performance close
code3", "placeholders": {"learn_more": {"content": "\$1"}},

28
29 "A7224": {"message": "The attempt ended when the test taker left exam when in
full screen. <a href='https://proctorio.zendesk.com/hc/articles/204993547'
target='_blank' aria-label='The attempt ended when the test taker left exam
when in full screen.'>\$learn_more\$.", "description": "lms results
performance close code4", "placeholders": {"learn_more": {"content": "\$1"}},

30
31 "A7225": {"message": "The attempt ended when the test taker ended screen
recording. <a href='https://proctorio.zendesk.com/hc/articles/204295948'
target='_blank' aria-label='The attempt ended when the test taker ended
screen recording.'>\$learn_more\$.", "description": "lms results performance
close code5", "placeholders": {"learn_more": {"content": "\$1"}},

32
33 "A7226": {"message": "The attempt ended when the test taker uninstalled Chrome
Extension. <a href='https://proctorio.zendesk.com/hc/articles/204993677'
target='_blank' aria-label='The attempt ended when the test taker uninstalled
Chrome Extension.'>\$learn_more\$.", "description": "lms results performance
close code6", "placeholders": {"learn_more": {"content": "\$1"}},

34

```
35 "A7227":{"message":"The attempt ended when the test taker switched to a proxy
during the exam. <a
href='https://proctorio.zendesk.com/hc/articles/204296228' target='_blank'
aria-label='The attempt ended when the test taker switched to a proxy during
the exam.'>$learn_more$</a>.", "description":"lms results performance close
code7", "placeholders":{"learn_more":{"content":"$1"}}},
36
37 "A7228":{"message":"The attempt ended when the test taker changed networks
during the exam. <a
href='https://proctorio.zendesk.com/hc/articles/204296328' target='_blank'
aria-label='The attempt ended when the test taker changed networks during the
exam.'>$learn_more$</a>.", "description":"lms results performance close
code8", "placeholders":{"learn_more":{"content":"$1"}}},
38
39 "A7229":{"message":"The attempt ended when the test taker closed or reloaded
the exam tab. <a href='https://proctorio.zendesk.com/hc/articles/204296428'
target='_blank' aria-label='The attempt ended when the test taker closed or
reloaded the exam tab.'>$learn_more$</a>.", "description":"lms results
performance close code9", "placeholders":{"learn_more":{"content":"$1"}}},
```

Exhibit 5

1 Sc="virtual microphone;virtual audio;splitcam;manycam;logmein;parallels
access sound;parallels audio controller;avermedia;vmware;vdp source;vixs
puretv;airparrot;virtualbox;sound
siphon;bytescout;blackmagic;soundflower;what u hear;nomachine;screaming
bee;apowersoft_audiodevice;remote proctor;magic sound;morphvox audio;manycam
virtual microphone;logmeinsounddriver;airparrot;remote audio;line 1 (virtual
audio cable);morphvox audio;pro tools aggregate
i/o;autoaggdevice;procasteraudioredirector;twat 69;microphone (screaming bee
audio);cable output (vb-audio virtual cable);splashtop;ishowu".split(";"),
2 Vc="virtual camera;virtual webcam;virtual device;virtual driver;webcammax
capture;fake webcam;openni;sparkocam;ispy;vlc
capture;ucanvcam;manycam;magiccamera;splitcam;ip camera;mjpeg
camera;xsplitbroadcaster;scanner mouse;logmein;hava video device;hava remote
video device;hava video crossbar;hava remote video crossbar;vmware;pg camera
for windows store apps;pg splitter;cyberlink webcam splitter;hp webcam
splitter;cyberlink web camera filter;vdp source;vixs puretv;dxtory video;hp
web camera filter;airparrot;camera plus;asus virtual;virtualbox;corel
camera;corelscreencapture;live! cam
virtual;iglasses;bytescout;blackmagic;arcsoft;decklink video
capture;camtwist;professional financial camera;decklink video capture;webcam
sharing manager;srp5702;00) depth;00 depth;droidcam source 3;droidcam source
2;droidcam source 1;droidcam source mini (240p);thinkvantage virtual
camera;arcsoft webcam sharing manager;tridef
smartcam;splashtop;ishowu;Hauppauge WinTV".split(";"),
3 Tc=["vmware","virtualbox","parallels access sound","parallels audio
controller"],Uc="bytescout;blackmagic;professional financial camera;decklink
video capture;hauppauge;nomachine;soundflower"

Exhibit 6



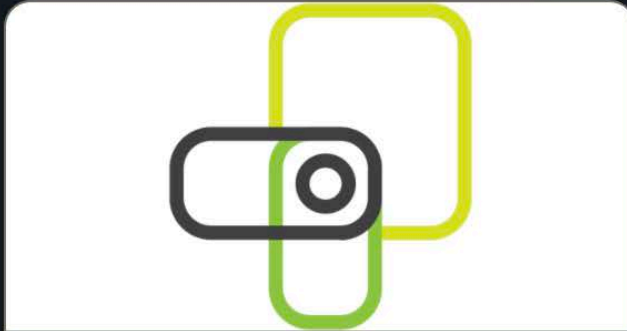
Mike Olsen

@artfulhacker



Happy to answer your questions here.

Information on Live ID can be found here



ID Verification - Proctorio

proctorio.com

As far as the live rooms scans, we have a few legacy schools still using this feature, I can guarantee MU is not one of them.

Sep 7, 2020, 11:12 PM

I don't mind if you discuss or criticize the product publically here on twitter, in fact, critique is a great way for us to improve the product. However, I need you to take down the pastebins. It's a clear violation of our TOS and it undermines the integrity of the test-taking process.

Sep 7, 2020, 11:14 PM

At the same time, anything you find in the language files, I am happy to discuss it with you. Just let me know. I did already flag that rather rude message about network connection to our team, so we will see what they say about it. I bet its legacy and no longer used.

Sep 7, 2020, 11:15 PM

You accepted the request

While I appreciate you reaching out and clarifying certain things to me in private, addressing concerns publicly would be a much preferred approach. As for the pastebins, they are simply snippets from the extension's localization language files accessible by anyone who installs the chrome extension. No TOS checkbox necessary to access. Same story with the videos and documents. Easily accessible on google. No authentication required, unlike Proctorio's Zendesk.

Sep 8, 2020, 4:11 PM ✓

Exhibit 7

Case# 0177145063: We've received a DMCA notice regarding your account

[ref:00DA0000000K0A8.5004A000020s26a:ref]

From: **Twitter Support** | support@twitter.com

Monday, Oct 19, 3:56 AM

To: **ejohnson9912@gmail.com** | ejohnson9912@gmail.com



Hello,

The following material has been removed from your account in response to the DMCA takedown notice copied at the bottom of this email:

- Tweet: <https://twitter.com/ejohnson99/status/1303142453608886274> - Your attempt can be terminated if...
 - 2+min disconnection
 - Attempt to modify page
 - Attempt to download a file
 - Plugged in a monitor
 - (Un)plugged camera/mic
 - "hardware malfunction"
 - Switched networks
 - Switched Proxies
 - Reloaded tab<https://t.co/5d327wS44t>
- Tweet: <https://twitter.com/ejohnson99/status/1303142450828054529> - Here's a list of metrics Proctorio looks for & flags:
 - Changes in audio levels
 - Abnormal clicking
 - Abnormal copy & pastes
 - Abnormal exam duration
 - End times
 - Eye movement

- # of faces
- Head movement
- Abnormal movement of mouse

& more <https://t.co/iB6zsjvfcB>

- Tweet: <https://twitter.com/ejohnson99/status/1303142452233203714> - They use these metrics to compare you to other students in the class, flagging students and their deviation away from the average number of

- copy/pastes
- resizes
- audio spikes
- head & eye movements
- mouse movements
- keystrokes

<https://t.co/U1TboqEi1s>

If you wish to contest this removal, you may seek retractions from the original reporter, or file a counter notification.

Retractions are not guaranteed, and must be submitted by the original reporter to copyright@twitter.com. You can request a retraction by using the reporter's contact information found in the copy of the original DMCA notice located at the bottom of this email.

If you believe the material has been removed as a result of mistake or misidentification, you may submit a counter-notification of your objection pursuant to 17 U.S.C. § 512(g)(3)

Please include the following in your counter-notification:

1. Your full legal name, complete mailing address (including country), telephone number, email address and Twitter username.
2. Identification of the material that has been removed or to which access has been disabled and the location at which the material appeared before it was removed or access to it was disabled. (Must include specific URLs)
3. The following statement: "I swear under penalty of perjury that I have a good faith belief that the material was removed or disabled as a result of mistake or misidentification of the material to be removed or disabled".
4. A proper jurisdictional consent statement in the form of:

(If your address is in the United States)

“I consent to the jurisdiction of the Federal District Court for the judicial district in which my address is located and I’ll accept service of process from the person who provided notice under 17 U.S.C. 512 (c)(1)(C) or an agent of such person.”

OR

(If your address is outside of the United States)

"I consent to jurisdiction in any judicial district in which Twitter may be found and I’ll accept service of process from the person who provided notice under 17 U.S.C. 512 (c)(1)(C) or an agent of such person."

Please send your counter-notification to us as a response to this message, or as a new email to copyright@twitter.com.

We will forward a copy of your counter-notification, including the information required in item 1 above, to the complainant and Lumen. BY SENDING US A COUNTER-NOTIFICATION, YOU CONSENT TO THIS DISCLOSURE OF YOUR PERSONAL INFORMATION.

Please note that repeat violations of this policy may result in suspension of your account. In order to avoid this, do not post additional material in violation of our Copyright Policy and immediately remove any material from your account for which you are not authorized to post.

DMCA Takedown Notice

- == Copyright owner: Mike Olsen
- == Name: John Devoy
- == Company: Proctorio
- == Job title: Director of Digital Marketing
- == Email address: john@proctorio.com

- == Address: 6840 E Indian School Rd

== City: Scottsdale
== State/Province: AZ
== Postal code: 85251
== Country: USA
== Phone (optional): n/a
== Fax (optional): n/a

== Description of original work: Screenshot from restricted internal documentation and links to our source code on pastebin

== Links to original work: n/a

== Reported Tweet URL:

<https://twitter.com/ejohnson99/status/1303142459040559104>

== Description of infringement: @ejohnson99 has posted proprietary screenshot of internal documentation under copyright.

== Reported Tweet URL:

<https://twitter.com/ejohnson99/status/1303142450828054529>

== Description of infringement: 1 of 3 Pastebin of our Google Chrome extension source code

== Reported Tweet URL:

<https://twitter.com/ejohnson99/status/1303142452233203714>

== Description of infringement: 2 of 3 Pastebin of our Google Chrome extension source code

== Reported Tweet URL:

<https://twitter.com/ejohnson99/status/1303142453608886274>

== Description of infringement: 2 of 3 Pastebin of our Google Chrome extension source code

== 512(f) Acknowledgment: I understand that under 17 U.S.C. § 512(f), I may be liable for any damages, including costs and attorneys' fees, if I knowingly materially misrepresent that reported material or activity is infringing.

== Good Faith Belief: I have good faith belief that use of the material in the manner complained of is not authorized by the copyright owner, its agent, or the law.

== Authority to Act: The information in this notification is accurate, and I state under penalty of perjury that I am authorized to act on behalf of the copyright owner.

== Signature: John Devoy

ref:00DA0000000K0A8.5004A000020s26a:ref

[Help](#) | [Privacy](#)

Twitter, Inc. 1355 Market Street, Suite 900 San Francisco, CA 94103

Exhibit 8



Erik Johnson
@ejohnson99



Since [@pastebin](#) isn't giving me any information regarding the takedown and disappearance of these pastes, I thought I would re-post the information in them on another platform. Here's this paste for this tweet:
github.com/ejohnson9912/p...



Erik Johnson @ejohnson99 · Sep 7, 2020

Here's a list of metrics Proctorio looks for & flags:

- Changes in audio levels
 - Abnormal clicking
 - Abnormal copy & pastes
 - Abnormal exam duration
 - End times
 - Eye movement
 - # of faces
 - Head movement
 - Abnormal movement of mouse
- & more pastebin.com/2Kbez442

[Show this thread](#)

11:06 AM · Nov 11, 2020 · Twitter Web App

1 Retweet 1 Quote Tweet 4 Likes



Erik Johnson @ejohnson99 · Nov 11, 2020



Replying to [@ejohnson99](#)

This one showing banned programs: twitter.com/ejohnson99/sta...
github.com/ejohnson9912/p...



Erik Johnson @ejohnson99 · Sep 11, 2020

You may be unable to use it if you have any of these installed. It does this by looking at audio/video inputs/outputs, and user agent strings. pastebin.com/BR5ivdmm Sources for all of these files can be found yourself by accessing the chrome directory for extensions. Paths are:

[Show this thread](#)





Erik Johnson @ejohnson99 · Nov 11, 2020



This one with how Proctorio compares you to other students: [twitter.com/ejohnson99/sta...](https://twitter.com/ejohnson99/status/1321111111)
[github.com/ejohnson9912/p...](https://github.com/ejohnson9912/proctoring-research)



Erik Johnson @ejohnson99 · Sep 7, 2020

They use these metrics to compare you to other students in the class, flagging students and their deviation away from the average number of

- copy/pastes
- resizes
- audio spikes
- head & eye movements
- mouse movements
- keystrokes

pastebin.com/PtPiv8sM

[Show this thread](#)



Erik Johnson @ejohnson99 · Nov 11, 2020



And finally, reasons as to why an exam attempt could be ended.



[ejohnson9912/proctoring-research](https://github.com/ejohnson9912/proctoring-research)

This repository is a place for references to my research on proctoring services & EdTech. - ...

github.com



Exhibit 9

Subject: [GitHub Support] – DMCA Counternotice re ejohnson9912/proctoring–research
From: GitHub Developer Support <developer@githubsupport.com>
Date: 12/9/20, 11:00 AM
To: Erik Johnson <ejohnson9912@gmail.com>
CC: cara <cara@eff.org>, andrew <andrew@eff.org>

Please do not write below this line

Your request has been updated.

You can add a comment by replying to this email.

GitHub Trust & Safety (GitHub Support)

Dec 9, 2020, 7:00 PM UTC

Hi Erik,

As we did not receive word from the submitter of the DMCA takedown notice that they have filed an action seeking a court order to prevent the content from being re-enabled, we have put the content back:

<https://github.com/ejohnson9912/proctoring-research>

Please let us know if you have any questions.

Thanks,
GitHub Trust & Safety

GitHub Trust & Safety (GitHub Support)

Nov 25, 2020, 9:20 PM UTC

Hello,

We've notified the copyright holder of your DMCA counter notice. If we do not receive notice that an action has been filed seeking a court order to restrain you within ten (10) business days, the repository will be re-enabled.

As requested by EFF, cc'd here, we're including an unredacted copy of the original takedown notice that GitHub received.

Please let us know if you have any questions.

Thanks,
GitHub Trust & Safety

Are you the copyright holder or authorized to act on the copyright owner's behalf?

Yes, I am authorized to act on the copyright owner's behalf.

Please describe the nature of your copyright ownership or authorization to act on the owner's behalf.

Weiss Brown PLLC represents Proctorio, Inc, who is the copyright holder and owner. Our Client is the author of the underlying source code for the Proctorio online proctoring software as a service product ("SAAS Product") which is further described at www.proctorio.com. We hereby provide notice of copyright infringement pursuant to the terms of the DMCA and GitHub's Terms of Service.

Please provide a detailed description of the original copyrighted work that has allegedly been infringed. If possible, include a URL to where it is posted online.

Our source code is not publicly available without restriction. Description of our SaaS Product can be found at www.proctorio.com. Please also see our registered copyrights for our website and our logo:

https://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?v1=2&ti=1,2&SEQ=20201106154628&SC=Author&SA=Proctor%2Eio%20Inc%2E&PID=xxrG4jw_rRCWnSeDtpH5AH_Q1Z8I&SID=2

<https://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?v1=1&ti=1,1&Search%5FArg=proctor%2Eio&Search%5FCode=NALL&CNT=25&PID=tbOCBkjY-iZ85TAQo4VW3TNr8Z&SEQ=20201106164434&SID=2>

What files should be taken down? Please provide URLs for each file, or if the entire repository, the repository's URL.

<https://github.com/ejohnson9912/proctoring-research>

Have you searched for any forks of the allegedly infringing files or repositories? Each fork is a distinct repository and must be identified separately if you believe it is infringing and wish to have it taken down.

Not aware of any forks.

Is the work licensed under an open source license? If so, which open source license? Are the allegedly infringing files being used under the open source license, or are they in violation of the license?

The GitHub account ejohnson9912 is posting proprietary Google Chrome extension source code and documentation without a license or consent from Proctorio, thus infringing on our copyright. Further, this infringement activity involved reverse engineering and unauthorized hacking through Google Chrome, violating Google

Chrome's terms of service https://ssl.gstatic.com/chrome/webstore/intl/en/gallery_tos.html.

What would be the best solution for the alleged infringement? Are there specific changes the other person can make other than removal? Can the repository be made private?

We request that the account be removed and/or access be disabled to the infringing materials.

Do you have the alleged infringer's contact information? If so, please provide it.

Twitter: @ejohnson99

I have a good faith belief that use of the copyrighted materials described above on the infringing web pages is not authorized by the copyright owner, or its agent, or the law.

I have taken fair use into consideration.

I swear, under penalty of perjury, that the information in this notification is accurate and that I am the copyright owner, or am authorized to act on behalf of the owner, of an exclusive right that is allegedly infringed.

I have read and understand GitHub's Guide to Submitting a DMCA Takedown Notice.

So that we can get back to you, please provide either your telephone number or physical address.

480-327-6650
trademark@proctorio.com

Please type your full legal name below to sign this request.

Rebecca Weisenberg

Erik Johnson

Nov 25, 2020, 12:40 AM UTC

This is a DMCA counternotice requesting the restoration of my repository [ejohnson9912/proctoring-research](https://github.com/ejohnson9912/proctoring-research), in response to the DMCA notice posted at github.com/github/dmca/blob/master/2020/11/2020-11-19-Proctorio.md. I

have read and understand GitHub's Guide to Filing a DMCA Counter Notice.

The disabled content was located at github.com/ejohnson9912/proctoring-research.

I swear, under penalty of perjury, that I have a good-faith belief that the material was removed or disabled as a result of a mistake. The disabled content consisted of code snippets used for purposes of research, education, commentary, and criticism regarding Proctorio's product and its representations to the public. Proctorio's complaint does not account for the fact that my use is protected by the fair use doctrine. Proctorio's additional allegations of "reverse engineering and unauthorized hacking" are both untrue and irrelevant to its claim of copyright infringement.

My name is Erik Johnson, and my address is 1033 Garfield Ave, Libertyville, IL 60048. I can be contacted through my attorneys at the Electronic Frontier Foundation, Cara Gagliano (cara@eff.org) and Andrew Crocker (andrew@eff.org). EFF's phone number is (415) 436-9333.

I consent to the jurisdiction of the Federal District Court for the judicial district in which my address is located, and I will accept service of process from the person who provided the DMCA notification or an agent of such person.

Signed: Erik Johnson

Erik Johnson

Miami University | UASP | Class of 2024

College of Engineering & Computing | Computer Engineering & Information Security

McFarland Hall

This email is a service from GitHub Support.

[6LYVQ4-OPMZ]