REMOTE PROCTORING STUDENT GUIDE TO PROCTORTRACK

What’s covered:
Before starting
Onboarding
Taking an assessment using Proctortrack
Uninstalling Proctortrack
Issues during your assessment
Student FAQ
Violations

BEFORE STARTING

1. Ensure you have a valid ID
   Students should be using their Western ONECard as their identity for all remote proctoring identification scans. We understand some students do not currently have a Western ONECard. Government-issued ID can be displayed to the camera, showing only the picture and name (all other information can be covered by you).

   For inquiries related to replacement student cards and delivery timelines, please email photoid@uwo.ca.

2. Review Proctortrack’s list of technical requirements
   Proctortrack’s technical requirements can be found at https://www.proctortrack.com/tech-requirements/

3. Manage your browsers

   Download Firefox browser
   We recommend you use the latest version of Firefox to write your assessment. It is also good practice to have a second browser (we recommend Google Chrome) downloaded and ready to go as a back-up.
Check your browser settings:
To prevent any technical issues, make sure any ad-blocker functions are turned off, 3rd party cookies are enabled and JavaScript is enabled before starting the test. It is considered best practice to check these settings in both your primary (Firefox) and secondary back-up (Google Chrome) browsers.

⇒ **Disable ad-blocker**
If you have an ad-blocker installed on your browser, make sure to disable before starting your assessment.

⇒ **Enable cookies**
Instructions to enable cookies:

⇒ **Enable JavaScript**
Instructions to enable JavaScript:

4. **Find a place to write and prepare your space**
Because Proctortrack will be recording video during the exam to ensure academic integrity, we recommend the following:

   - Find a private, quiet space to write
   - Make sure you have a secure internet connection
   - Caution persons not to come into the room during examination, unless necessary, as they may be recorded on both audio and video, and your exam session may be flagged for irregularities

   Your instructor may also request that you show the entire room you are in, using your video camera, to prove that no other person is present.

5. **Create a baseline profile by Onboarding**
Each student must Onboard in Proctortrack if they are enrolled in a class that uses Proctortrack for remote proctoring. During this process, you can ensure Proctortrack is compatible with your computer during low-pressure circumstances while becoming familiar with the testing environment.
Once the onboarding quiz has been uploaded and processed, your profile is created. This profile is used to verify your identity for each assessment.

6. **Uninstall Proctortrack**  
   After your video has successfully uploaded, uninstall the Proctortrack application. When you access Proctortrack for a future assessment, you will be prompted to download the application again. This ensures that you are always using the most up to date version of Proctortrack, reducing technical issues and privacy concerns.

7. **Reach out to Western Exam Chat Support if you have any issues**  
   If you experience technical difficulties or have a question, you can connect with a Western support staff to help troubleshoot issues via the Western Exam Chat Support tool in OWL or at [https://www.remoteproctoring.uwo.ca/support](https://www.remoteproctoring.uwo.ca/support).

   **Hours of operation for live chat support:**  
   Monday to Saturday: 8:00 am – 8:00 pm EDT*  
   * Plus during scheduled assessments

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**ONBOARDING**

Each student must Onboard in Proctortrack if they are enrolled in a class that uses Proctortrack for remote proctoring. During this process, you can ensure Proctortrack is compatible with your computer during low-pressure circumstances while becoming familiar with the testing environment.

Once the onboarding quiz has been uploaded and processed, your profile is created. This profile is used to verify your identity for each assessment.

It is important that you onboard as soon as possible to ensure you have enough time to fix any problems with your computer or onboarding profile well before your first exam.

You can find the onboarding quiz in the Proctortrack tool in OWL for a course that is using Proctortrack.

Video walk through for onboarding: [https://www.youtube.com/watch?v=Lq6K4xQYmoM](https://www.youtube.com/watch?v=Lq6K4xQYmoM)

After your onboarding video has successfully uploaded, uninstall the Proctortrack application from your computer.

**Time to process your onboarding:** it will take 4-8 hours for your onboarding quiz to be processed.
If you have completed onboarding in another course: you can complete the onboarding quiz in multiple classes, but you do not need to unless you are registered with Accessible Education or your instructor requires you to do so. Please note that for each additional onboarding attempt, it will not show as attempted or uploaded in the Proctortrack tool. This is okay. As long as you have one successful onboarding attempt, your profile is good for the entire academic year.

If you get a new computer or hardware: you should complete another onboarding quiz to ensure Proctortrack is compatible with your new hardware. Remember, if you have already completed a successful onboarding quiz, when you upload your additional onboarding attempt to Proctortrack, it will not show as attempted or uploaded in the Proctortrack tool. This is okay as your profile was created with your first onboarding attempt, and in this case, you are attempting the onboarding quiz to ensure you pass the system check with your new computer.

If you fail the onboarding quiz profile: if you fail your onboarding quiz profile you will receive an email from no-reply@verificient.com notifying you that your onboarding quiz profile has been rejected. You are also able to check your onboarding status in the Proctortrack tool in OWL. Click on the onboarding data tab, and your onboarding status will be noted as onboarding failed. In both the email and on the Proctortrack onboarding data tab, Proctortrack will identify the reasons why your profile was rejected. Reasons include:

- Invalid photo ID
- Name was not legible in ID
- Name did not match with ID
- Photo ID scan not captured
- Invalid facial scan
- Facial scan not captured
- Improper room lighting

Please note that your ID should match with your preferred name as noted in OWL.

To pass the onboarding quiz profile, simply retake the onboarding quiz as many times as you need until your baseline status is noted as passed and your profile data shows a face scan and ID scan.

If you have any questions about your onboarding quiz profile, reach out to Western support staff through the Western Exam Chat Support tool in OWL.
**TAKING AN ASSESSMENT USING PROCTORTRACK**

All assessments that are remotely proctored using Proctortrack are accessed through the course OWL site.

To access your assessment:

- Close all open applications on your computer
- Make sure you have uninstalled any previously used Proctortrack applications downloaded on your computer
- Open your browser and make sure you only have one browser tab open
- Login to OWL
- Click on Sites at the top right-hand side
- Select your course

![ProctorTrack Site Selection](image)

Under the toolbar, select Proctortrack.

![ProctorTrack Toolbar](image)

Select **Go To Test** next to the assessment you are about to take.
Review How It Works:

- Let’s Get Started
- General Guidelines
- Instructor’s Guidelines for the Current Test

Check the box and click on Go To Next Step

Click on Download Proctortrack

Open the downloaded file to launch Proctortrack and your assessment

- **Windows operating system**: Proctortrack.exe
- **Mac operating system**: Proctortrack.zip

Once the app is launched, you will be prompted to agree to the Proctortrack Terms of Service and Privacy Policy – check the box and click on START SYSTEM CHECK

The app will prompt you to confirm your preferred camera and microphone – select the relevant equipment and click on CONFIRM

The app will perform a full system check to ensure your system is ready. If the check detects an issue with any system components, it will prompt you to address it

Once the system check is complete, the identity verification scans will begin:

- **Face scan** – follow the instructions on the screen to provide the three required face scans: front-facing, left-facing and right-facing
  
  If you need to retake your face scans, simply click on **RE-SCAN**, otherwise, click on **CONFIRM** to continue

- **ID card scan** – You will be asked to scan a photo ID card. Note that you are strongly encouraged to use your Western ONECard, otherwise, any government-issued ID can be displayed to the camera, showing only the picture and name (all other information can be covered by you). Follow the instructions on the screen, making sure to fit the card within the blue frame and to hold it as steady as possible to ensure a clear scan.
  
  If you need to retake your ID card scans, simply click on **RE-SCAN**, otherwise, click on **CONFIRM** to continue.

Once the scans are complete, review the assessment guidelines, indicating what is allowed and what is not allowed during the assessment, and click on **I AGREE, LET’S BEGIN** to begin the proctored portion of the assessment

If you are not taken to the assessment landing page, you may need to first select the assessment from the list of assessments in your class LMS.
Before you can start your assessment, you will need to enter the password which can be found in one of two places:

⇒ You may receive an Exam Password prompt, click COPY to automatically copy the password and then click PASTE to paste it into the password field

⇒ If you do not receive an Exam password prompt, you can find the password by clicking on the access code button along the Proctortrack ribbon at the top of your screen and then click COPY to automatically copy the password and then click PASTE to paste it into the password field

Once the password is entered, click on Start Quiz

You must have the latest version of Proctortrack installed on your computer in order to take a test: you may have downloaded Proctortrack for another assessment, however, because the Proctortrack application does not perform upgrades on your computer, you may need to uninstall the old version and install the latest version.

Uninstalling Proctortrack

After your video has successfully uploaded, uninstall the Proctortrack application. This ensures that the next time you take an assessment, you are using the latest version of Proctortrack.
For a video demonstration on how to uninstall: video demonstrations for uninstalling Proctortrack are available on Western’s Remote Proctoring website under student resources (https://remoteproctoring.uwo.ca/student_resources).

Uninstalling from a Windows operating system:
After your video has successfully uploaded, Proctortrack will provide you with an option to either QUIT APP or UNINSTALL. Select UNINSTALL to uninstall the application. If you accidentally select QUIT APP, instructions for uninstalling are provided below.

The Proctortrack application is stored on a Windows operating system in two locations - in the applications folder and the downloads folder. You will need to make sure you uninstall both applications.

Go to the Start Menu and open the Control Panel
Select Programs and Features
Type Proctortrack in the search field and click on the search icon
Proctortrack will show up in the search results
Right click on the Proctortrack application and select Uninstall
You will be asked if you are sure you want to uninstall the application, click yes
A confirmation pop will let you know Proctortrack was successfully removed from your computer, click OK
To confirm the application was uninstalled, search for Proctortrack and ensure no applications appear in the search results and then close the control panel
Open File Explorer and select the Downloads folder
Search for the Proctortrack application
Right click on the Proctortrack.exe application and select delete
The file will now be in the Recycle Bin so you need to find the Recycle Bin on your desktop, right click on the Recycle Bin and select Empty Recycle Bin
To confirm Proctortrack is uninstalled, open your computer’s search bar, type in apps:Proctortrack and ensure no results appear

Uninstalling from a Mac Operating system:
After your video has successfully uploaded, Proctortrack will ask you to QUIT APP. After you have QUIT APP, you will need to uninstall Proctortrack manually.

The Proctortrack application is stored on a Mac operating system in two locations – in the applications folders and the downloads folder. You will need to make sure you uninstall all versions of the application in all of the folders.

To identify how many applications need to be uninstalled and where they are located:
Open the spotlight search (comm + space bar) and search for “Proctortrack”
In the example below, the application will need to be uninstalled three times (twice from the applications folders and once from the downloads folder).
To uninstall the applications:

Go to the Finder tool and select the Applications folder

Find the Proctortrack.app application, right click and select Move to Bin or Move to Trash (if you encounter difficulties, you may need to drag and drop in the Bin or Trash)

From the Finder too, select your user folder and then select the Applications folder

Find the Proctortrack.app application, right click and select Move to Bin or Move to Trash (if you encounter difficulties, you may need to drag and drop in the Bin or Trash)

From the Finder tool, select the Downloads folder

Find the Proctortrack.app application and the Proctortrack.zip application, and select Move to Bin or Move to Trash (if you encounter difficulties, you may need to drag and drop in the Bin or Trash)

Now you will need to empty the Bin or Trash by right clicking on the icon and selecting Empty Bin or Empty trash

To confirm Proctortrack is uninstalled, open your computer’s Downloads folder, search for Proctortrack and ensure no results appear. You can also check your computer’s Security & Privacy settings under System Preferences to ensure Proctortrack is not listed.

**ISSUES DURING YOUR ASSESSMENT**

If you run into technical issues during your assessment, please reach out to Western support staff through the Western Exam Chat Support tool in OWL.

Below are common issues and troubleshooting steps to familiarize yourself with before your assessment.

**Proctortrack tool in OWL not loading**

Sometimes when you click on the Proctortrack tool in OWL it may take a while to load, especially if there are a lot of students trying to access OWL at the same time. If you find yourself waiting for over 60 seconds, try refreshing the page. If you are still unable to load the assessment, reach out to Western support staff through the Western Exam Chat Support tool in OWL.
**Connection unsuccessful due to DNS issue error message**
If you are getting the “Connection unsuccessful due to DNS issue” message in Proctortrack, it may be due to several reasons.

1. Ensure you are using the latest version of Proctortrack (you may need to uninstall your current version and install the latest version)
2. Try changing your DNS (instructions below)
3. Check your internet connection

**1. Ensure you are using the latest version of Proctortrack**
If you are not sure if you are using the latest version, uninstall Proctortrack. Once you have checked that all Proctortrack applications and files have successfully been uninstalled, log back into OWL and select Go To Test next to the assessment you are taking. After you click on Go To Next Step at the bottom of the page, you will be prompted to download Proctortrack. This will be the latest version. If you do not receive the prompt to download Proctortrack, we have provided you with links to downloaded the latest version below.

⇒ **Link to the latest version on a Windows operating system:**
   [https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.exe](https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.exe)

⇒ **Link to the latest version on a Mac operating system:**
   [https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.zip](https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.zip)

**2. Try changing your DNS**
You may need to adjust your DNS settings.

⇒ **Change DNS settings on a Windows operating system:**
   Open Settings
   Click on Network and Internet
   Click on Network and Sharing Center
   Click on the Change adaptor settings
   Right-click on the network you’re currently connected to and click on Properties
   Select Internet Protocol Version 4 (TCP/IPv4) and click on Properties
   Take and save a screenshot of your current DNS settings so you know what to revert your settings to after your assessment
   Select Use the following DNS server addresses: and enter the below DNS address:
   Preferred DNS server: 8.8.8.8
   Alternate DNS server: 8.8.4.4
   Click on OK and restart your computer
Change DNS settings on a Mac operating system:
Click on the Apple icon in the upper left corner of your desktop
Click on System Preferences
Click on Network
Select Wifi or the ethernet adapter in use on the left-hand side and then click on Advanced in the bottom right corner
Click on DNS (third tab from the left)
Take and save a screenshot of your current DNS settings so you know what to revert your settings to after your assessment
Click on the [+] sign, enter 8.8.8.8
Click on the [+] sign, enter 8.8.4.4
Click on OK
Click on Apply and restart your computer

Revert your network settings: after your assessment, you may want to revert your network settings to what they were before your assessment.

3. Check your internet connection
Ensure your internet connection meets Proctortrack’s minimum requirement of:

- 300 kbps download
- 250 kbps upload

Proctortrack stuck trying to connect
If the Proctortrack app is unable to connect, it may be due to several reasons.

1. Make sure you are on the Proctortrack download page
2. Make sure all applications are closed on your computer
3. Ensure you are using the latest version of Proctortrack (may need to uninstall current version and install new version)
4. For Mac operating system 10.14 (Mojave) ensure microphone and webcam are allowed
5. Change your proxy settings if you are using a VPN
6. Manage any antivirus software on your computer
7. Check your internet connection

1. Make sure you are on the Proctortrack download page
Proctortrack will only connect if you are on the download page (the page from where you download the Proctortrack application for the assessment you are taking). Opening the Proctortrack application directly from your downloads or application folder when you are not on the download page will not work.

Launch Proctortrack from the Proctortrack tool in OWL for the assessment you are about to take
Remain on the Proctortrack download page while Proctortrack connects

2. Make sure all applications are closed on your computer
   Check your computer task manager (Windows) or activity monitor (Mac) for applications that may be running. This includes any anti-virus protection applications that may be running.

   ⇒ Windows operating system: Ctrl + Alt + Delete and end task applications that are running that are not part of the assessment

   ⇒ Mac operating system: command + option + esc and force quit applications that are running that are not part of the assessment

Please note, you may also need to quit applications from Activity Monitor:

Click on Launchpad
Search for Activity Monitor
Open Activity Monitor
Click on View on the menu bar
Click on All Processes
Double click on an application
Select Quit
Select Quit to confirm
3. **Ensure you are using the latest version of Proctortrack**
If you are not sure if you are using the latest version, uninstall Proctortrack. Once you have checked that all Proctortrack applications and files have successfully been uninstalled, log back into OWL and select Go TO Test next to the assessment you are taking. After you click on Go To Next Step at the bottom of the page, you will be prompted to download Proctortrack. This will be the latest version. If you do not receive the prompt to download Proctortrack, we have provided you with links to downloaded the latest version below.

⇒ Link to the latest version on a Windows operating system:  
   https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.exe

⇒ Link to the latest version on a Mac operating system:  
   https://storage.googleapis.com/verificientstatic/ProctortrackApp/Production/Proctortrack.zip

4. **For Mac operating system 10.14 (Mojave) ensure microphone and webcam are allowed**
You may need to double check your microphone and webcam.

   Open *System Preferences*
   Click on *Security and Privacy*
   Click on the *Privacy* tab
   Click on *Camera* and check the **allow box next to Proctortrack**
   Click on *Microphone* and check the **allow box next to Proctortrack**
   Click on *Automation* and check the allow box next to:
   o Proctortrack (if an option)
   o the browser you are using
   o System Preference
   o System Events

5. **Change your proxy settings**
You may need to adjust your proxy settings.

⇒ **Windows operating system:**
   Open *Settings*
   Click on *Network and Internet*
   Click on *Proxy*
   Take and save a screenshot of your current proxy settings so you know what to revert your settings to after your assessment
   In the *Manual Proxy Setup* section, set the *Use a proxy server* switch to *On*
   Under *Use the proxy server except for addresses that start with the following entries* (make sure to use semicolons (;) to separate entries) add:
   app.verificient.com; 127.0.0.1
Select **Don't use the proxy server for local (intranet) addresses**

**Manual proxy setup**

Use a proxy server for Ethernet or Wi-Fi connections. These settings don’t apply to VPN connections.

Use a proxy server

- On

Address  Port

Use the proxy server except for addresses that start with the following entries. Use semicolons (:) to separate entries.

*local: app.verificient.com; 127.0.0.1*

- Don’t use the proxy server for local (intranet) addresses

Save

Click on **Save** and **restart your computer**

⇒ **Mac operating system:**

Click on the **Apple icon** in the upper left corner of your desktop

Click on **System Preferences**

Click on **Network**

Select Wifi or the ethernet adapter in use on the left-hand side and then click on **Advanced** in the bottom right corner

Click on **Proxies** (second tab from the right)

Take and save a screenshot of your current proxy settings so you know what to revert your settings to after your assessment

In the Select a protocol to configure field, select **Auto Proxy Discovery**

Add **app.verificient.com, 127.0.0.1** under Bypass proxy settings field

Click on **OK**
Click on **Apply** and restart your computer

**Please Note:** Once the Proctortrack Application gets connected you can try to connect back to the VPN.

**Revert your network settings:** after your assessment, you may want to revert your network settings to what they were before your assessment.

6. **Manage any antivirus software on your computer**
   Proctortrack is almost never blocked by antivirus programs.

   If it is, you can either:
   1. Allow Proctortrack to run by changing the antivirus settings
   2. Temporarily disable the antivirus software for the duration of your assessment

7. **Check your internet connection**
   Ensure your internet connection meets Proctortrack’s minimum requirement of:

   - 300 kbps download
   - 250 kbps upload

**Webcam not detected, freezes or app crashes after facial scan**
   If your webcam is not detected by the Proctortrack app, the problem is most likely related to webcam drivers. Below are links to troubleshoot webcam issues.

   ⇒ **Windows operating system:**
   [https://verificient.freshdesk.com/support/solutions/articles/1000279242](https://verificient.freshdesk.com/support/solutions/articles/1000279242)

   ⇒ **Mac operating system:**
   [https://verificient.freshdesk.com/support/solutions/articles/1000279258](https://verificient.freshdesk.com/support/solutions/articles/1000279258)

   If your webcam freezes or the application crashes after the face scan, the Manycam provides a workaround to prevent your webcam from freezing.

   ⇒ **Workaround Manycam link:**

   **If you are uncertain if your webcam works:** you can test your webcam at
   [https://www.onlinemictest.com/webcam-test/](https://www.onlinemictest.com/webcam-test/)
Unauthorized software error message
Make sure you do not have any other programs running in the background or unauthorized web pages open.

Make sure you only have one browser tab open  
Make sure all applications are closed on your computer

If you don’t see any applications running but Proctortrack continues to notify you of an unauthorized software, check your computer task manager (Windows) or activity monitor (Mac) for applications that may be running.

⇒ **Windows operating system:** Ctrl + Alt + Delete and end task applications that are running that are not part of the assessment

⇒ **Mac operating system:** command + option + esc and force quit applications that are running that are not part of the assessment

*Please note,* you may also need to quit applications from Activity Monitor:

Where to find the password
If your instructor has configured the assessment so that you have to enter the password, you can find the password using the access code button or the Proctortrack window at the bottom right-hand side of the screen.

Access Code:
Click on **Access Code** on the Proctortrack menu bar  
**Copy** and **paste** the password into the password field
Proctortrack window:

Go to the **Proctortrack window** where your video is shown (typically at the bottom right hand corner)
Click on the **three horizontal lines icon** (between the “Proctortrack chat” and “minimize” icons),
Click on **UserName/Password**
Hover your mouse over the word **Password** to reveal the password
**Copy and paste** the password into the password field

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**Access denied - incorrect password**
If your instructor has configured the assessment requiring you to enter a password, and you enter it incorrectly, you will need to start over again.

At the bottom of the warning, click on **Return**
Click on **Access Code** on the Proctortrack menu bar
**Copy and paste** the password into the password field
If the Return button does not work:
- Click on the back button of your browser until the **Begin Assessment** page loads
- Refresh the browser page
- Reach out to **Western Exam Chat Support** if the Begin Assessment page still does not load

*Sometimes OWL will auto fill your OWL password* into the assessment password field. Make sure you delete the auto filled password before entering the assessment password.

**Access denied - not registered**
If you receive a message from OWL that you are not registered for the assessment, you should first try to re-select the assessment to make sure you accessed the correct assessment version. If it is clear that you are not registered for the assessment you are scheduled to take or if you need help identifying the correct assessment, reach out to **Western Exam Chat Support** for assistance.

To re-select the assessment:
- At the bottom of the warning, click on **Return**
- This should take you to the **Tests & Quizzes** page where you can re-select the correct assessment
- **Copy** and **paste** the password into the password field
- If you receive the warning message again, reach out to **Western Exam Chat Support**

If the Return button does not work:
- Click on the back button of your browser until the **Begin Assessment** page loads
- Refresh the browser page
- Reach out to **Western Exam Chat Support** if the Begin Assessment page still does not load

**Assessment not loading**
If your assessment is not loading after the Proctortrack scans, it may be due to several reasons.

1. Make sure all applications are closed on your computer
2. Make sure you only have one browser tab open
3. Check your browser settings:
   - Disable ad-blocker
   - Enable all cookies (including 3rd party cookies)
   - Enable JavaScript

If the assessment still does not load, you will need to reload the browser page.
If you still experience issues, reach out to Western support staff through the *Western Exam Chat Support* tool in OWL.

**Data discrepancy error message**
If you receive a data discrepancy error it could be due to double clicking or repeated clicking on links and buttons or having the test open in more than one tab or device. To overcome the issue, you will need to return to the assessment.

- At the bottom of the warning, click on **Return to assessment**
- Click on **Access Code** on the Proctortrack menu bar
- **Copy** and **paste** the password into the password field

If you require assistance with accessing the assessment password, reach out to Western support staff through the *Western Exam Chat Support* tool in OWL.

**STUDENT FAQ**

**What happens if my internet connection goes down?**
Proctortrack will continue running, and will be able to upload your assessment video when your connection resumes.

OWL will need to be refreshed once your internet connection resumes. Save your work regularly to ensure you do not lose any of your answers. If your internet connection does not resume until after the assessment time expires, your assessment will automatically be submitted.

**What happens if my computer crashes?**
Proctortrack will relaunch and begin capturing the exam attempt again when your computer restarts. Save your work regularly to ensure you do not lose any of your answers.

**VIOLATIONS**
Proctortrack algorithms automatically monitor for a wide variety of potential violations of academic integrity, depending on the parameters configured for an assessment.

It is important that you review the proper testing environment instructions on the **Let’s Get Started** page. This is the first page after you select Go To Test next to the assessment you are scheduled to take. Included are you **Instructor’s Guidelines for the Current Test**.
Please note that a flag generated for a potential violation is not an accusation of an academic offense. In the majority of cases, flags are not escalated. They are just used for instructors to reference.

The following are descriptions of potential violations that can be flagged for review by your instructor.

**Online Aid**
Flag generated if a student left the learning management system (such as OWL) and accessed other applications or other content on the web. If an application is explicitly allowed, then a potential violation flag for accessing that application will not be generated.

**Left Session**
Flag generated if a student has either completely left or, more likely, most of their face is no longer visible to the webcam. This potential violation may also get flagged if a student is taking an exam in a room that is too dark.

**Facial Suspicion**
Flag generated if a student is looking away from the screen or has significantly turned their head to the side for a period longer than normal.

**Multiple People**
Flag generated if another face is picked up in the background.

**Background motion**
Flag generated if the algorithm picks up significant movement in the background. The background audio algorithm attempts to filter out irrelevant audio (such as keyboard tapping) and highlight abnormal sound from the environment.

**Hardware**
Flag generated if a student has any non-standard hardware (such as external monitor) plugged into their computer.

**Keystrokes**
Flag generated if a student performs keystrokes that are not explicitly allowed (such as copy CTRL+C or paste CTRL+V).

**Not-Allowed Applications**
Flag generated if a student accesses an application that is not explicitly allowed (such as Word, Excel, etc.).