PIA 2020.03-055 — PROCTORIO e-Proctoring

PIA REVIEW – EXECUTIVE REPORT

PREFACE

This document forms part of UBC Safety and Risk Services (SRS) PrISM's internal documentation for support and administration of the Privacy Impact Assessment (PIA) Review Process. In particular, it documents the final report of the specified PIA review.

This segment serves to provide and record document control capabilities for this document.

Controlled Document

The template and final report documents are controlled documents. The master electronic versions of each reside on the SRS TeamShare S-drive. Any copies or versions not provided directly by the SRS PrISM team, or which have a broken chain of custody, are not to be considered as official copies.

Document Control

The following sub-sections provide a record of the base document template revision history and control.

CONTRIBUTORS

CONTRIBUTOR	DEPARTMENT	POSITION
Hancock, Paul	Office of the University Counsel	Legal Counsel, Information and Privacy
Tremonti, Robert	Safety and Risk Services	Sr. Privacy and Information Security Risk Advisor

Figure 1 - Major Document Revision Approval History

TEMPLATE REVISION HISTORY

REVISION #	DATE	REVISED BY	DESCRIPTION
0.10	2018.05.29	Hancock, Paul	Provided copy of template used by BC OIPC
0.50	2018.06.01	Tremonti, Robert	▪ Reformatted document to match PrISM styles ▪ Added additional information sections and segments ▪ Converted to MS WORD template ▪ Added PREFACE and tables of contents / figures

Figure 2 - Document Revision History and Revision Summary

TEMPLATE REBISION APPROVAL

REVISION #	DATE	REVISED BY	DESCRIPTION
1.00			Initial release of document

Figure 3 - Major Document Revision Approval History

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PART 1:   GENERAL INFORMATION & OVERVIEW

1.1   Unit and Program Area

CAMPUS	UBC Vancouver
FACULTY OR DEPARTMENT	CTLT – Centre for Teaching, Learning, and Technology
PROGRAM AREA	Learning Applications Integrations & Analytics
ADDITIONAL INFORMATION	no additional information

Figure 4 - UBC Unit and Program Area

1.2   Contact Information

This should be the name of the UBC employee who owns the project or is most qualified to respond to questions regarding the PIA.

NAME	Michaud, Stephen
TITLE / POSITION	Senior Manager, Learning Applications Integrations & Analytics
FACULTY OR DEPARTMENT	Centre for Teaching, Learning, and Technology
UBC TELEPHONE NUMBER	604- 827-4820
UBC E-MAIL ADDRESS	stephen.michaud@ubc.ca

Figure 5 - PIA Submission Contact Information

1.3   Description of the Program, System, Application, or Initiative Assessed

For this initiative UBC sought to identify and select vendors to supply software and related services for remote online exam proctor invigilation (a.k.a. e-proctoring) which included:

- LTI integration with the central LMS (CANVAS)
- options for live remote invigilation and capture
- live remote capture with post hoc invigilation/review

One of the applications shortlisted for review was PROCTORIO, provided by Scottsdale, Arizona based vendor Proctorio Inc.

PROCTORIO
PROCTORIO is an automated online tool which is integrated with UBC's CANVAS Learning Management System (LMS) to enable monitoring (e-proctoring) of online exams. Instructors are able to design and create quizzes, tests, or exams for a CANVAS course and enable PROCTORIO to proctor students during the exam session.

PROCTORIO will record the student's identity via webcam at the start of a proctored session. PROCTORIO does not employ external human proctors to monitor students while they take an exam, but rather relies on video and audio recording of the proctored session using the webcam and microphone on the student's computer. PROCTORIO will also capture screenshots and/or keyboard activity during the session as required. Instructors can establish how an exam is to be monitored through administrative settings under their control; this will determine what additional personal information will be collected for a given exam session.

Students sitting for a session proctored by PROCTORIO must have video and audio capture capabilities (webcam and microphone) on their PC / laptop, and must use the Google CHROME browser with the PROCTORIO add-on to take the exam.

UBC does not use PROCTORIO's human ID verification process, plagiarism detection service, or anomaly review service (human-based or automated analytics).

1.4   Scope of PIA

The following items are considered in-scope of this review:

- privacy and security of the PROCTORIO tool and service
- data shared between CANVAS and PROCTORIO
- student verification and recording of identification
- data collection and recording of proctored sessions, including instructor controlled settings
- disclosure, retention, and disposition of proctored session recordings

This PIA excludes review of

- privacy and security of the CANVAS LMS
- GOOGLE's CHROME web-browser which is required to participate in the PROCTORIO proctored quiz, test, or examination
- students' use of their personal GOOGLE or CHROME account to sign-in to CHROME when taking a proctored quiz, test, or examination
- physical security measures of a student's environment and computer
- logical security measure of a student's computer

This PIA also excludes review of the processes in regards to reviewing recordings of proctored sessions, as well as reviewing methods students may employ in attempts to defeat the proctoring services in order to cheat on a quiz, test, or examination.

1.5   Related PIAs

A related PIA (reference PIA 2016.02-016) for a competing e-proctoring service, EXAMITY, was initiated in late February 2016; the PIA review was completed in March 2016 with caveats for implementation. It is noted that EXAMITY was hosted in Canada but was not deemed fully compliant as exam proctors were located in the US and India resulting in disclosure of personal information outside of Canada.

A related PIA (reference PIA 2017.11-206) for an initial review of PROCTORIO was filed in November 2017.

1.6   Elements of Information or Data

The following information and data elements are collected and used for the PROCTORIO online proctoring session.

CANVAS Integration

CANVAS shares information necessary for proctoring of the quiz, test, or exam and for associating the proctored session recording with the appropriate student. Information shared includes the student's ID number, course reference, and quiz reference information.

In overview, the personal information shared with PROCTORIO from CANVAS, are:

- Course identification code(s)
- Exam identification code(s)
- Student name and ID number
- Instructor name and ID number

Student Identity Verification

As part of the registration and identification process, PROCTORIO will collect the following information via the web-cam on the student's computer:

- Image of the student's photo ID (e.g., UBC Student ID Card showing the student's name, photograph, and ID number)
  - UBC uses the automated ID verification service which records the student's UBC Student ID card
  - image is stored in the PROCTORIO "gradebook" associated with the student's proctored session
  - UBC does not use PROCTORIO's live human review service so no personal information is shared outside of Canada for this process
- image of student's electronic signature
  - information is recorded only if this verification option is selected by the instructor
  - student uses the mouse to enter their signature on the exam contract for the proctored session
  - image is stored in the PROCTORIO "gradebook" associated with the student's proctored session

CTLT documentation does not specify the type of photo ID students are to use, although the example provided is the UBC Student ID. Students who have lost, or elect not to use, their UBC Student ID could unintentionally or unknowingly provide personal information which is not required for identification purposes.

The student identification verification information is included in the monitoring recording of the proctored session. The recordings, and therefore the above personal information, are stored and accessed in Canada.

Proctored Session Recording
E-proctored sessions may be recorded for later review in the event of irregularities. Information captured for these purposes may include:

- real-time video and audio recordings of the student and their activities (including surrounding environment) during the exam session
- screenshots of the student's computer desktop during the exam session
- detection of the number of computer monitors connected to the student's computer
- records of web traffic on the student's computer
- records of attempts to execute other routines or processes, open additional browser tabs, etc. considered indicative of potential anomalies

This information will only be recorded if the instructor has enabled the appropriate settings within the exam. The recordings, and therefore the above personal information, are stored and accessed in Canada.

1.7   Storage or Access Outside of Canada (including back-ups and recovery)
At the time of this updated review, CTLT has advised that PROCTORIO is hosted on Canadian instances of Microsoft AZURE services. CTLT has provided an e-mail dated March 27 2020 from the Proctorio account manager / contact as confirmation of this advisement.

1.8   Data-Linking Initiative
This initiative in not considered a data linking initiative as contemplated in s.36.1 of FIPPA.

1.9   Is this a Common or Integrated Program or Activity?
This initiative is not considered a common or integrated program or activity as defined in Schedule 1 of FIPPA.

1.10   Risk Classification Level
The initial inherent risk classification level of this PIA submission was **VERY HIGH**.
The risk classification level of this PIA submission at closure was **VERY HIGH**.

PART 2: PROTECTION OF PERSONAL INFORMATION

2.1 Personal Information Flow Diagram / Table

Personal information data flow diagrams and tables were not available for this review.

2.2 Risk Mitigation Table

The following table indicates the associated risk levels as applicable and the potential or intended mitigation steps.

	Risk	Likelihood	Impact	Mitigation Strategy
1	PI stored / accessible outside of Canada	Low	Very High	▪ Current services & recordings hosted / stored in MS AZURE Canada ▪ Ensure human based services & analytics not used as these are hosted outside of Canada ▪ Provision of privacy notifications in advance of students registering for e-proctored exam to provide assurance of FIPPA compliance
2	Unauthorized retention of PI	Medium	Medium	▪ Establish & implement retention policies & practices for recordings ▪ Enforce minimum 1 year retention of recordings
3	Creation of new PI by data matching	Low	High	▪ Data matching performed is require to correctly & accurately associate recordings with the particular student and exam
4	Poor public perception	High	High	▪ Ensure appropriate notifications and consents are implemented ▪ provide FAQs for common concerns
5	Unauthorized collection of PI	Low	High	▪ PI exchanged with CANVAS is limited to that required to identify the student & associate the corresponding exam & proctored recording
6	Excessive collection of PI	Low	High	▪ Student may provide more PI than is necessary if they use a photo ID other than UBC Student ID card for ID verification process ▪ Provide guidance / FAQ to students on how to ensure no PI appears in surroundings ▪ Establish guidelines for instructors on exam monitoring settings
7	Unauthorized use of PI	Low	High	▪ Establish guidelines and controls for reviewing of recordings ▪ PROCTORIO uses zero-knowledge encryption, it does not have access to student PI captured during the proctored session
8	Unauthorized sharing / disclosure of PI	Medium	High	▪ PROCTORIO uses zero-knowledge encryption, it does not have access to student PI captured during the proctored session

Figure 6 - Risk Mitigation Table

2.3 Collection Notice

Instructor guidelines provide suggested approaches and wording to be included in cover letters to students informing them that a quiz, test, or exam will be proctored using PROCTORIO. The suggested wording provides a general overview of the information that is collected and does not mention the authority under which the information is collected.

As it remains with the instructor to create the final wording of their cover letters, there is may result in inconsistent or incomplete notifications not only between instructors but between the notifications an instructor provides for different courses they conduct.

Lack of a standard privacy notification that clarifies the personal data collected and the hosting location of this data may result in unnecessary confusion and concern should students rely on the privacy policy published on Proctorio's own website. A standard privacy notification should be developed and distributed, and be included in all cover letters to ensure consistency and completeness across all courses which employ PROCTORIO for recording proctored sessions.

Privacy and security Information provided in FAQs are generally similar, but also appear to be "cut and paste" from materials posted by Proctorio Inc. CTLT and departmental FAQs should be aligned for with the above-mentioned privacy notifications to ensure consistency and completeness.

2.4   Consent for Storage/Access Outside of Canada & Opt-Out Procedure (If Any)

Consent for storage and access outside of Canada is not required as the instance of PROCTORIO used by UBC is hosted within Canada, and UBC is not using any other PROCTORIO services which would disclose personal information outside of Canada.

2.5   Consent Withheld Procedure

As the PROCTORIO services used by UBC retain all personal information within Canada, a consent withheld procedure for disclosure of PI outside of Canada is not applicable.

PART 3:   SECURITY OF PERSONAL INFORMATION

3.1   Physical Security Measures

Physical security measures of the student's environment and computer are not within scope of this review.

UBC does not have direct visibility into the physical security of Microsoft AZURE data centres which host the PROCTORIO application. UBC has relied on publicly available documentation and vendor supplied documentation to establish a level of comfort over the physical security of Microsoft AZURE data centres. As a SOC 2 type II report was not provided for this initiative, we have relied on a SOC2 type II report provided by Microsoft under a separate NDA in August 2019.

3.2   Technical Security Measures

PROCTORIO asserts it employs zero-knowledge[1] encryption for transmission and storage of information captured during the proctoring process.

3.3   Security Policies, Procedures, and Standards

As both instructor and student access to CANVAS, and therefore access to PROCTORIO, requires use of a valid CWL account and ownership of or registration in the associated course, UBC policies and practices for CWL accounts and passwords are enforced.

Based on information from earlier SOC-2 reports (and reports obtained for other initiatives) and published information, Microsoft AZURE security policies, standards, and practices are considered robust, meeting and frequently exceeding UBC security requirements.

UBC has not had visibility into or access to PROCTORIO's own information security policies, practices, or standards. Published documentation asserts PROCTORIO employs robust standards and practices; however, these assertions could not be substantiated.

3.4   Tracking Access / Access Controls

Student access to a proctored quiz, test, or examination is via UBC's CANVAS LMS. Students require a valid Campus Wide Login (CWL) account to access CANVAS and must be currently enrolled in the corresponding course for which the proctor session is offered.

Instructors access the PROCTORIO administrative console via UBC's CANVAS LMS. Instructors require a valid CWL account to access CANVAS, and must be currently employed by UBC, and be the registered instructor for the corresponding course.

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[1] Zero-Knowledge encryption means the service provider has no knowledge of the actual data content UBC stores on their servers. This is generally accomplished by UBC encrypting data before it is transmitted or stored while not disclosing either the encryption algorithm or keys used to perform the encryption to the vendor. This is analogous to placing one's valuable documents into a small locked strong box and then placing it in a locked safety-deposit box at a bank. The bank is aware you have stored something in its vault but is not aware of the contents.

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PART 4:   ACCURACY, CORRECTION, AND RETENTION

4.1   Updating and Correcting Personal Information

The UBC student sitting for a quiz, test, or examination is responsible for ensuring the accuracy of their personal information.

4.2   Decisions That Directly Affect an Individual

Per CTLT instructor guidelines, PROCTORIO may flag anomalies or potential anomalies during a proctored session, and instructors and others involved in evolution of quizzes, test, or examinations may review such recordings to assess the flagged anomalies. Assessments may contribute to decisions or actions which impact the specific student's grades and standing.

4.3   Records Retention and Disposal

FIPPA section 31 states:

> 31. *If an individual's personal information*
>
>   a)   *is in the custody or under the control of a public body, and*
>   b)   *is used by or on behalf of the public body to make a decision that directly affects the individual,*
>
>   *the public body must ensure that the personal information is retained for at least one year after being used so that the affected individual has a* reasonable opportunity to obtain access to that personal information.

As recordings of proctored sessions may be used in assessments or decisions which potentially affect a student's grades or standing, the recordings of the proctored sessions must be retained for at least one year.

It is unclear if appropriate retention policies, procedures, and practices have been established and communicated by CTLT. However, CTLT has provided an e-mail indicating that recordings are retained on the PROCTORIO site for one year and a day.

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PART 5:   FURTHER INFORMATION

5.1   Systematic Disclosures of Personal Information

The initiative does not involve the systemic disclosure of personal information.

5.2   Access for Research or Statistical Purposes

This initiative does not involve disclosure of personal information for research purposes.

5.3   Other Applicable Legislation and Regulations

There are no other applicable legislation or regulations for this review or for this initiative.

5.4   Other

PROCTORIO issued documentation and materials indicate that the required PROCTORIO web browser add-on can only be used with GOOGLE's CHROME web browser. PROCTORIO documentation indicates students must install the add-on to GOOGLE CHROME to use PROCTORIO and there is no mention of installing an equivalent add-on in other popular web-browsers.

FAQs and user guides from a few other North American educational institutions which use PROCTORIO explicitly mention that students must use the GOOGLE CHROME web-browser and specify that the web-browsers EDGE, FIREFOX, INTERNET EXPLORER and SAFARI cannot be used.

CTLT has indicated in an e-mail that recent changes to CHROME Web Store may require students to sign-in with a personal CHROME or GOOGLE account in order to download the required PROCTORIO plug-in. Documentation provided by CHROME indicates that items in the Web Store can be downloaded without signing in if a direct link to the specific plug-in is used.

There are potential privacy concerns regarding use of GOOGLE CHROME, particularly if a student elects to sign-in to CHROME. Use of a GOOGLE or CHROME account may result in collection of other personal information by GOOGLE. However, such accounts are personal accounts created by the student and are not required by UBC, nor does UBC have access to any of the personal information collected through use of such personal accounts.

Students should be advised not to sign into their personal CHROME or GOOGLE accounts to download the PROCTORIO plug-in, but rather to use the direct link provided by PROCTORIO.

Students should be advised not to sign into their personal CHROME or GOOGLE accounts when taking a proctored quiz, test, or examination.

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PART 6: ACCESS AND PRIVACY MANAGER COMMENTS

6.1 Information or Materials Reviewed

Materials reviewed include:

- RFP 2017010035 Schedule A – PROCTORIO
- CTLT *Instructor Guide to Proctorio at UBC*
- CTLT-provided links to videos explaining and demonstrating instructor set options for ID verification
- UBC websites providing faculty and students information regarding PROCTORIO
    - CTLT / LTHUB
    - UBC Okanogan CTL
    - Sauder School of Business
- list of instructor-related data elements shared by CANVAS with PROCTORIO
- Microsoft AZURE SOC 2 type II report issued August 2019

Additional overview information was obtained from the PROCTORIO website.

FAQs from websites of several other North American educational institutions (for comparison purposes).

6.2 Information or Materials Not Available for Review

The following materials were not available for review:

- Personal information data flow diagrams and tables
- Service agreement excerpts in regards to FIPPA compliance for data residency, disclosure, etc.
- Processes for storing and securing proctored session recordings retrieved from the PROCTORIO site
- Data retention processes, practices, and schedules for recordings of proctored sessions
- list of student-related data elements, although CTLT expressed the belief that the list would be similar in nature to that for instructors

6.3 Analysis and Decision

The information provided for the review has established that PROCTORIO can be used in the proposed manner in compliance with FIPPA and the Information Security Standards. The following are the key factors in that determination:

- Personal information is collected, used, and disclosed in accordance with FIPPA
- Personal information is collected, stored, and accessed within Canada
- Access to CANVAS, PROCTORIO, and the related files which contain personal information requires use of a valid UBC CWL with appropriate access authorities
- Information shared between CANVAS and PROCTORIO is limited to that required to identify the student in order to accurately and appropriately associate the recording of the proctored session to the corresponding student-course-exam combination
- Information is kept secure during transmission and at rest

Accordingly, PROCTORIO can be used as proposed subject to the conditions set out in the next section.,

6.4 Conditions of Approval

The following conditions apply:

1. Publish FAQs and other guidance on CTLT and departmental websites on the proper use of PROCTORIO. This should include guidance on the retention period for recordings of proctored sessions.
2. Require instructors to provide students with written guidance on how to use PROCTORIO, including a privacy notification as set out below, a copy of the direct link to download the PROCTORIO plug-in from the CHROME

Web Store, and advice not to sign in to CHROME when sitting for a proctored session.

3. Establish and communicate a standard privacy notification to be provided to students, which includes the following information:

    a. a description of the personal information collected and purposes for collection
    b. a statement that UBC collects the information for the proctored session under the authority of section 26(c) of FIPPA
    c. contact details of a knowledgeable individual who can respond to questions and concerns regarding the privacy and security of the information collected