



OCCS consolidated documentation-v1.3.docx

## **Opencast Content Capture System (OCCS)**



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# OPENCAST CONTENT CAPTURE SYSTEM

## WHAT IS OCCS:

Opencast Content Capture System (OCCS) is a content capture system for event recording in University Classroom Space, scheduled and serviced by Learning Space Management (LSM). The service is by subscription and captures classroom content through the full teaching stations built in Extron recorder. It is like a PVR for your events/lectures!

## HOW TO SIGN UP FOR OCCS:

- Step 1: Navigate to Quercus and click on “OCCS Instructor App” located on the left bar.
- Step 2: After clicking on OCCS you will be redirected to the subscription page that displays the course, room and populates the owner information. One must then click on the “subscribe” check box and then click “Accept” to complete subscription. Once subscribed, an auto generated email would then be delivered to the lecturer’s email inbox confirming subscription and providing a summary of the transaction.
- Step 3: Once subscribed, OCCS will start recording your next lecture automatically when your lecture has begun (ten minutes past the hour) and will end at the scheduled end time of your course booking. Please note that initial subscription must be completed least one business day prior to the next intended captured lecture.

## HOW TO MANAGE YOUR RECORDINGS:

After one has successfully subscribed to OCCS they can return to the same OCCS button in Quercus to access their recording dashboard. Here the lecturer will see all content captures that have been recorded in past lectures, can publish for viewing, edit and export to another platform.

\*YOU as the lecturer decide WHEN and/or IF the recording will be made public to course members.



# Overview

**1 What is it?:** Opencast Content Capture System (OCCS) is a content capture system for event recording in University classroom spaces, scheduled and serviced by [Learning Space Management](#) (LSM). This is an opt-in service and captures classroom content through the full teaching stations built in Extron recorder. Recordings can be subsequently posted to OCCS Student App via [Quercus](#) or exported to the platform of your choice facilitating easy access for review by your students/audience. It is like a PVR for your events/lectures! This service is not intended to replace live or collaborative events/lectures on platforms like MS Teams or Zoom.

**2 Teaching Station:** The majority of LSM Full Teaching Stations have an Extron recorders built in. Once in the classroom, any media that is selected to be displayed (including audio) by the projector will be captured. Please note that, if the projector is not selected, the media or audio will not be captured. This can include external devices such as laptops or any other equipment connected to the Full Teaching Station.

**3 Scheduling:** Once a request is made for a university classroom with full teaching station by the division/unit, Learning Space Management (LSM) will schedule a space in the Room Reservation System (RRS) fed from ROSI course bookings (based on availability). If a space is not available, a request can be made with LSM for an appropriate room, or discuss further options.

**4 Subscription and logistics:** Once the lecturer has logged into Quercus, selected 'OCCS Instructor App' from the left hand panel and opt-in to content capture, ROSI courses are imported into RRS and daily schedules are produced. The daily schedules are then sent to Opencast which will start recording at the booking start time (10 past the hour) until the booking end time. When the event is completed, the media is sent to the Opencast system for processing (processing times may vary depending on length). Once processed, the media is made available to the lecturer by going back to the OCCS Instructor App and clicking on the link to view created media. The Lecturer can then choose to keep the file, publish it to Quercus for later viewing, or edit the file either directly in the application or externally and made available on the lecturers platform of choice. The content can also be shared with '[MyMedia](#)' service through the [U of T Libraries](#) to allow for student access there as well. If shared directly in Quercus, the student would access the media by going to "OCCS Student App".

**5 Playback:** Generally, content capture is suitable for lectures that are intended to be later consumed by students for review or asynchronous teaching. It is a great way to share content for participants that can not make it in person, or for lectures designed with open learning in mind. This modality is inclusive and can promote effectiveness in getting content across to a variety of learning styles or differing ability.



# Ideas for Effective Use:

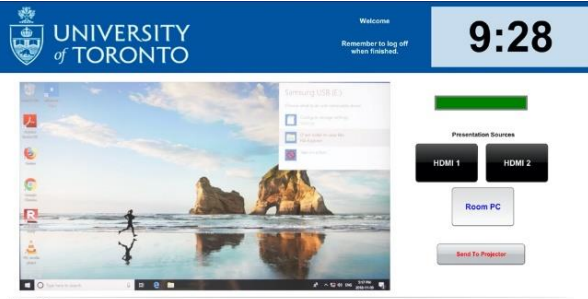
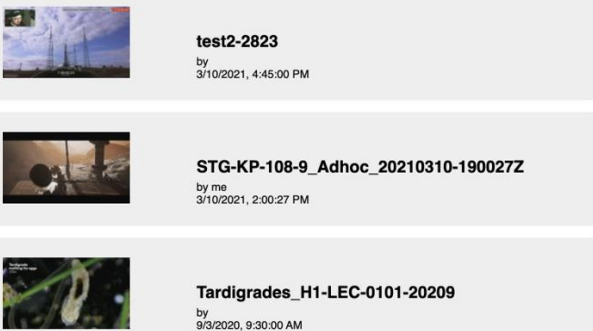
**EXAMPLE 1: Set up auto-capture, post to Quercus automatically/manually, with/with-out editing.** The lecturer opts-in to OCCS, has their lectures scheduled for the semester between 13:10 and 14:00. The lecturer arrives to the Full teaching station in a University classroom at the scheduled time, selects “send to projector” for the media they want to share with the class and completes delivering their lecture. Once finished, they go back into OCCS, then edit the file if desired or publish directly to Quercus where the student will view it on the OCCS Student App module. There is also another option to allow for auto publishing to the course requiring no lecturer intervention.

**Best Use:** This method is best utilized when the lecturer would like to set-it-and-forget-it as a feature or added functionality to their existing offering. Editing can add a finishing touch, but not necessary in a lot of scenarios.

**EXAMPLE 2: Make available on the platform of your choice.** In this scenario, the lecturer would complete their lecture as described in example 1. Once the lecture is complete, the lecturer would retrieve the file that was captured, either edits or leaves as is and then post for consumption in the platform of choice (MyMedia - U of T Libraries, or Microsoft Teams, for example).

**Best Use:** This method is better suited for situations where the Lecturer has curated their content on the platform of their choice and subsequently wants the content captured piece of media integrated all in the same place. The advantage of this method is coordination of content or creating a one-stop-shop.

## Examples of interface:

Teaching station (send to projector):	View in OCCS Student App once published:						
<div><p>Room PC</p><ol style="list-style-type: none"><li>1. Locate keyboard and mouse in the slide out tray of this station at waist level, press space bar to wake Room PC.</li><li>2. Using the keyboard and mouse, open and cue your presentation in the preview window. (Touch the preview window for full screen preview.)</li><li>3. Touch Send To Projector when ready to display.</li></ol></div>	<div><table><tbody><tr><td></td><td><b>test2-2823</b> by 3/10/2021, 4:45:00 PM</td></tr><tr><td></td><td><b>STG-KP-108-9_Adhoc_20210310-190027Z</b> by me 3/10/2021, 2:00:27 PM</td></tr><tr><td></td><td><b>Tardigrades_H1-LEC-0101-20209</b> by 9/3/2020, 9:30:00 AM</td></tr></tbody></table></div>		<b>test2-2823</b> by 3/10/2021, 4:45:00 PM		<b>STG-KP-108-9_Adhoc_20210310-190027Z</b> by me 3/10/2021, 2:00:27 PM		<b>Tardigrades_H1-LEC-0101-20209</b> by 9/3/2020, 9:30:00 AM
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	<b>STG-KP-108-9_Adhoc_20210310-190027Z</b> by me 3/10/2021, 2:00:27 PM						
	<b>Tardigrades_H1-LEC-0101-20209</b> by 9/3/2020, 9:30:00 AM						

# Step by Step Instructions:

**Step 1: Navigate to Quercus and click on “OCCS Instructor App” located on the left bar.**

**Step 2: Subscription.**

- a) **New subscription for this lecture section/semester:** Prior to initial subscription, the lecturer clicks on the OCCS Instructor App and is shown their course and owner information. The lecturer would then click on the “subscribe” check box and then click “Accept” to complete subscription. If the lecturer does not consent to the content capture, simply do not complete the process. Once subscribed, an auto generated email would then be delivered to the lecturer’s email inbox confirming subscription and providing a summary of the transaction.
- b) **Subscribing in a non LSM space or one without a Full Teaching Station:** If the lecturer has not been scheduled in an LSM University Classroom outfitted with a full teaching station (including Extron) the same process applies as above except the lecturer informed the opt-in process could not be completed a “click here” button instead of “Accept” would be displayed. This can happen in the case where a local/department room has been assigned or where the intended need has changed between the initial ask and the time the lecturer went to subscribe. An auto generated email will still be sent to the lecturer’s email inbox, informing them that LSM will be in touch to discuss rooming options with the responsible division/unit that requested a space for the class.
- c) **Once subscribed:** After the lecturer has successfully subscribed to OCCS they can return to the same OCCS Instructor App in Quercus to access their dashboard. Here the lecturer will see options to pause future content recording, auto publish subsequent content and access prior content captures, for viewing, editing, publishing or export to another platform, this requires logging into the Opencast system.

**STEP 3: No setup necessary!** Once subscribed, OCCS will start recording your next lecture automatically when your lecture has begun (ten minutes past the hour) and will end at the scheduled end time of your course booking. Please note that initial opt-in must be completed least one business day prior to the next intended captured lecture.

**Step 4: Perform your lecture:** Once in the classroom the computer the Extron recorder will commence recording at 10 past the hour. The lecturer ensures the correct media source is chosen and selects “send to projector” to capture both the video and audio components of the lecture.

**Step 5: Publish/Download:** Go back to the OCCS tab in Quercus and click on the “Manage prior OCCS Recordings” to see your completed recordings, choose to keep the file, publish it to Quercus for later viewing, or edit the file either directly in the application or externally and made available on the lecturer’s platform of choice. The content can also be shared with ‘[MyMedia](#)’ service through the [U of T Libraries](#) to allow for subsequent student access.

**Step 6: Repeat your selection/choices until end of lecture series:** If the lecturer changes their mind for one or a series of lectures, there is always the option of turning OCCS off. This may be useful in the case of a guest lecturer who has not consented to the use of OCCS or in a case where there may be sensitive subjects. Remember that the content will not be captured until the option is reset, there is also the option not to publish content, at all times the lecturer is the driver of what is published.

# Enhancements

In communication with faculty, we have found the following to be particularly important:

## **Pause subsequent recordings:**

This will consist of a checkbox on the Instructor Quercus App which allows the instructor to pause all future recordings of a course, if they wish to resume recording, they uncheck the box in the app.

## **Auto Publish recordings:**

This will consist of a checkbox on the OCCS Instructor App allowing the instructor the opportunity to decide on whether or not their content is accessible to

## **Allowing course owners to edit their media in SITU:**

Opencast can perform non-destructive editing (hides any content that has been cropped rather than delete so that editing can be undone if needed) on media. The instructor (or designate with appropriate permissions) can login and edit their media, then republish to be viewed by the members of their course via the OCCS Student App.

# Upcoming Enhancements

## **In room pause button:**

This has been tested and can be implemented. The question we are ironing out is if the pause/resume button should be physically on the teaching station, or as a part of the application to pause during an event.

## **Captioning:**

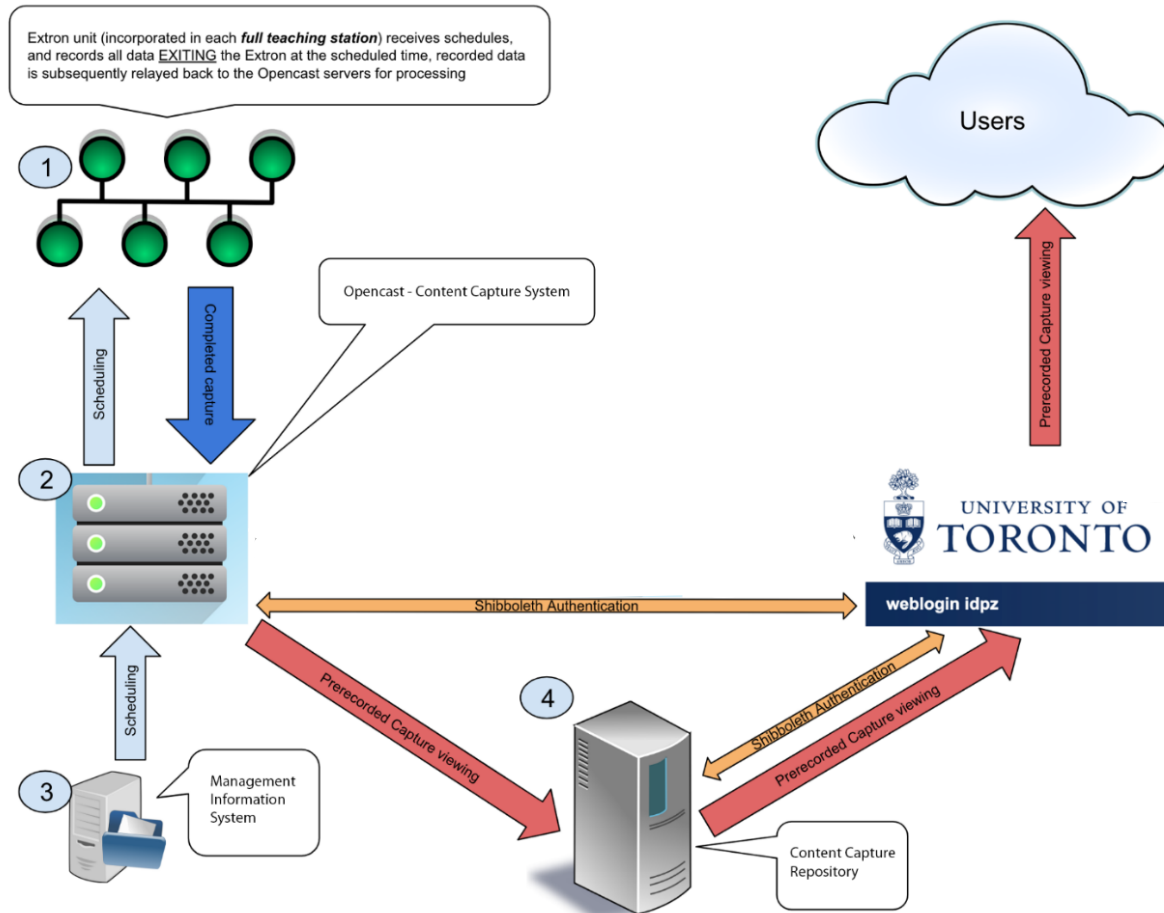
This larger conversation is in the works. There are many suppliers some of which can easily be integrated into Opencast (Google, Amberscript IBM) there is a free in-house version called Mozilla DeepSpeech, however, it is not as feature rich as the paid offerings, but this could be potentially developed as a campus wide solution.

## **Allowing course owner to port their media for storage:**

Current space constraints dictate that Opencast is a short-term storage solution, we are looking at a further integration that allows instructors to port their media directly from Opencast to UTLs MyMedia service.

# Technical Specifications

## System Architecture



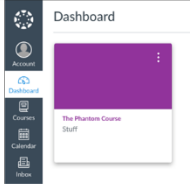
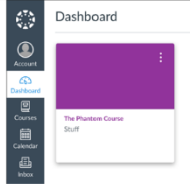
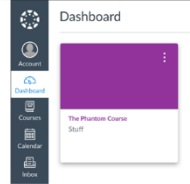
### Description of components

1. Full Size Teaching Station - LSM
  - **Extron SMP351** - Stream and Capture Device, all audio and video that is broadcast locally to the in-room AV system is captured to the Extron SMP351
2. Opencast Server System – LSM
  - **Scheduling**
  - **Encoding / Captioning**
  - **Presentation**
  - **Content Storage** - short term retention policy
  - **LMS / LTI integration** (Links to recorded published media using the OCCS Student App via Quercus)
3. Management Information System - LSM
  - **Current Lecture Schedules**
  - **Dynamic scheduling integration**
4. Capture Integration – Asynchronous Delivery
  - End User Access and Authentication: **Shibboleth** - User Authentication via Quercus



## Subscription and access:

- The OCCS Instructor/Student Apps are initially added to q.utoronto.ca as a disabled item, both need to be enabled by the course owner or delegate, from there on it can be used as below
- The app itself uses information from RRS (Rooms and course ID) and the SIS course ID from Quercus and works in the following way
- If Quercus course is known to us and exists in a room with an Extron but has not yet subscribed, then option 1 will be displayed, from there the course owner can opt-in to the system
- If Quercus course is known to us and exists in a room with an Extron but has already opted in, the lecturer will be presented with other options such as pause recordings, auto publish and view prior recordings
- If the course is unrecognized or occurs in a room without an Extron then the lecturer is invited to email the project administrators for alternative options

1. Course link between Quercus and Opencast doesn't exist	2. Course link between Quercus and Opencast already exists	3. Course name is unknown or exists in a room without an Extron
		
Home OCCS Instructor App	Home OCCS Instructor App	Home OCCS Instructor App
