



# Equipment Manual

MARCH 2021



# ABOUT THIS GUIDE

This document provides instructions for the (1) Yi 360 VR camera and (2) Oculus GO head-mounted-display as well as filming tips that will help you produce a successful CVR project.

Virtual Reality (VR) can be understood as an advanced form of human-computer interface that allows the user to “interact” with and become “immersed” within a computer generated or simulated environment through the use of specialized software and hardware.

If this document does not contain all the information you require, remember: you have the world wide web out there! Check out Google and Youtube; many VR enthusiasts have some up with solutions to your problems.

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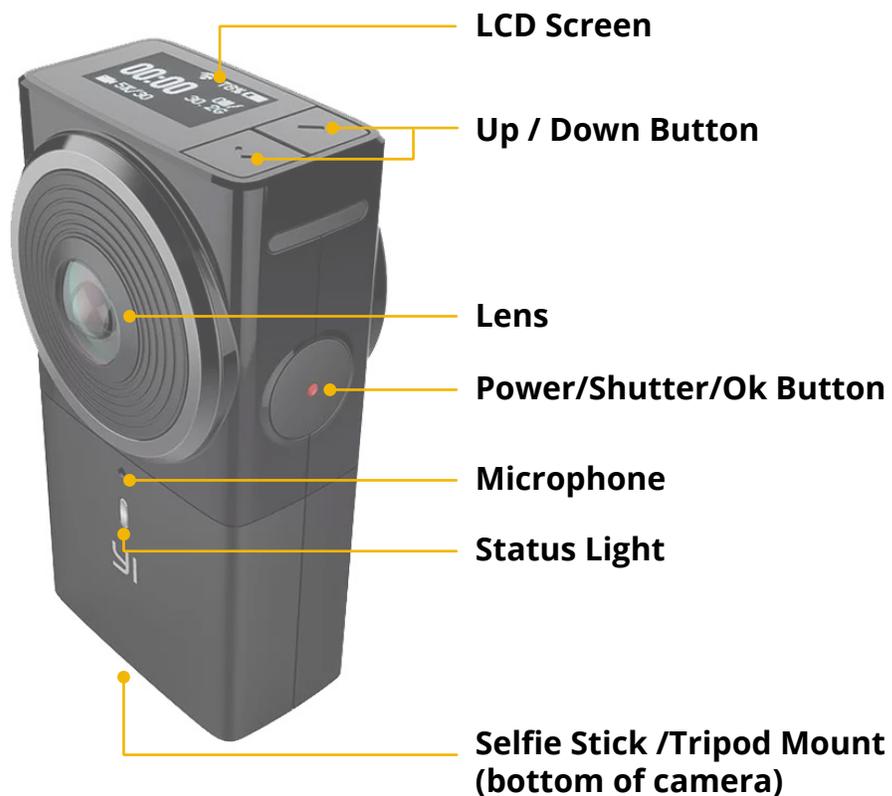
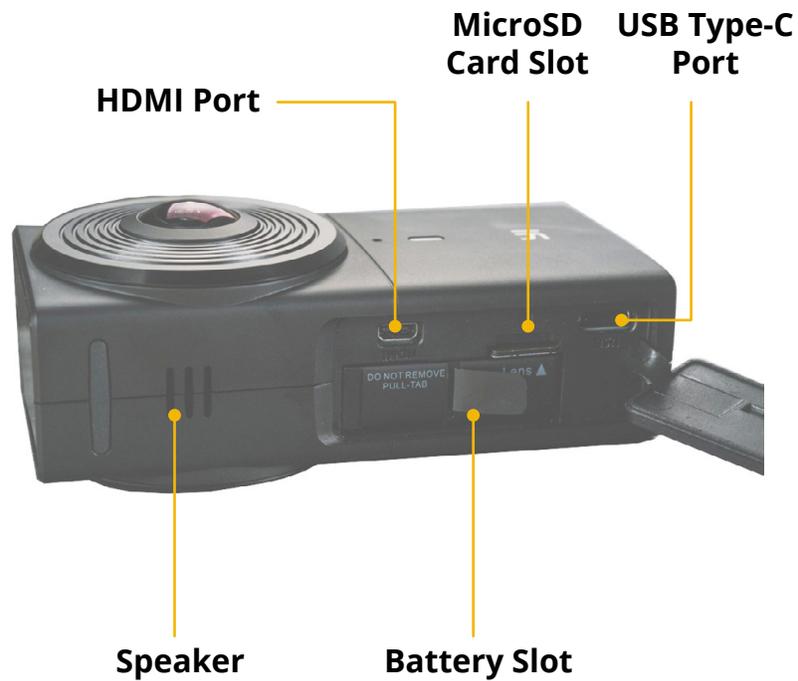
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# Guide to the YI 360 Camera

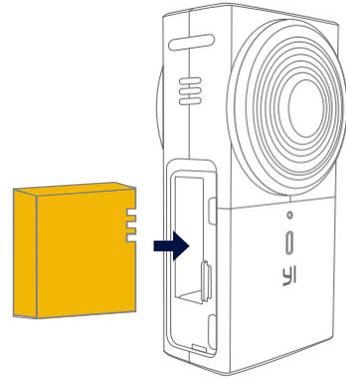


## Before Operation

Before you use the camera, make sure you check the following steps:

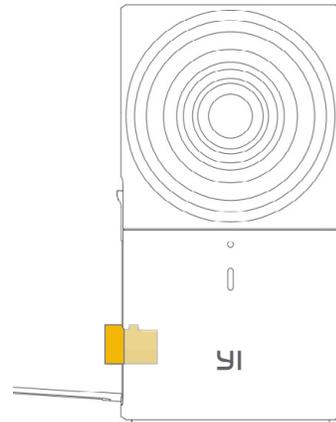
1

Ensure the battery is inserted and charged if necessary. A computer or a USB power supply can be used for charging. The battery must be charged when the camera is off. The camera can run directly from USB power in which case the battery has to be removed before operation.



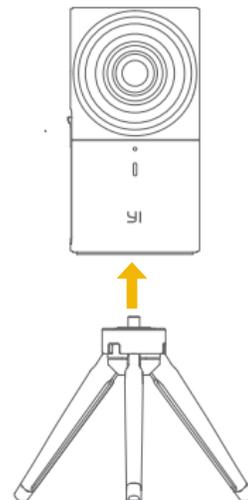
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Ensure the Memory Card is installed. YI 360 VR Camera requires Class U3 or higher microSD card.



3

If required, mount the camera on a tripod.

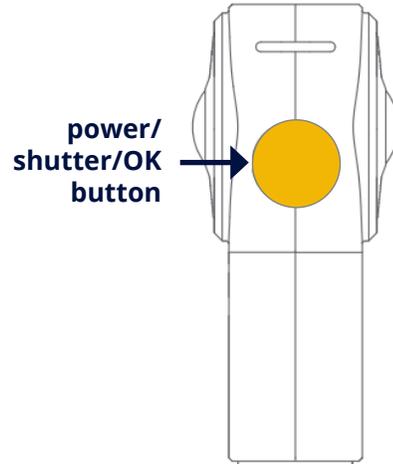


## How to Operate the Camera

### POWERING ON

Long press the power/shutter/OK button. The camera will turn on, followed by a sound indication. If this is your first time with the camera it is recommended to format the memory card. (In most cases the camera will automatically switch to the video mode shortly after the start, in which case the following step can be skipped.)

1



### SELECTING MENU ITEMS

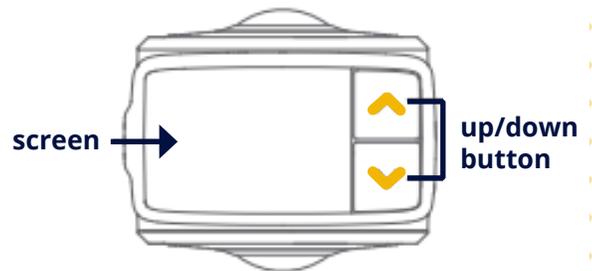
Press Up/down button to select the menu, select the "video" option from the menu. Use the power/shutter/OK button to confirm. Note: You can also select "Photo" or "Time Lapse Video" modes if needed.

2

### RECORDING

Press the power/shutter/OK button to start recording. You will see time indication of recording time elapsed. Press the button again to stop recording.

3



### POWERING OFF

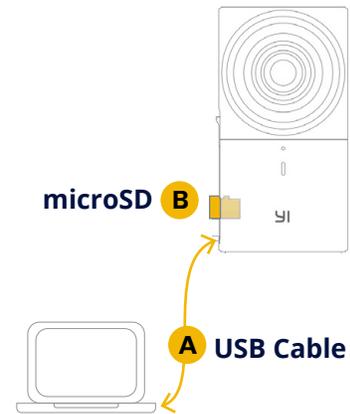
Long press the power/shutter/OK. The camera will turn off, followed by a sound indication. (In most cases, the camera will turn off automatically after several minutes without action.)

4

## How to Transfer Files

After the recording session, please ensure that the camera is off and use the USB cable to connect it to a computer. Alternatively, the microSD memory card can be removed and inserted into a computer's card reader using the microSD adapter supplied in the package. The camera will appear as an external drive, which can be browsed and copied from.

The standard location for the media is **../DCIM/100MEDIA**. For each video there are 3 files available - the file with the biggest size is the one containing the video.



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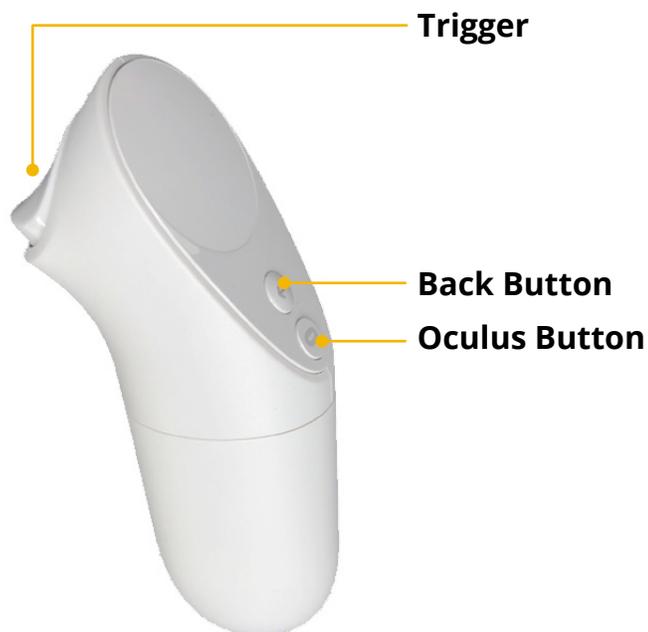
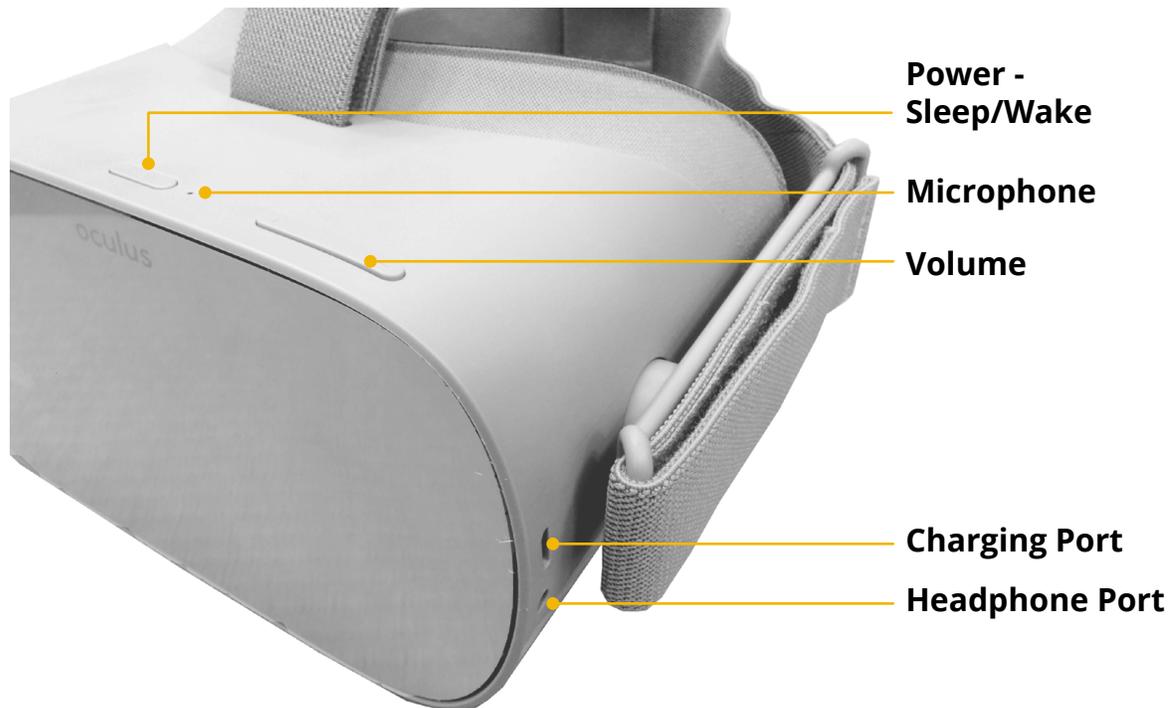
## How to Format the Memory Card

It is a good practice to format the memory card once the media is safely backed-up. This will also ensure you delete your files\* from the device so no one will be able to access them in the future. This must be done in-camera:

- 1 Power on the camera.
- 2 Navigate to the 'System Settings' using the Up/down button in the camera menu.
- 3 Open the 'System Settings' by pressing the power/shutter/OK button.
- 4 Using the Up/down button scroll down to the 'Format SD card' option.
- 5 Press the power/shutter/OK button twice.
- 6 Once complete, scroll down to the 'Exit' option of the same menu and press the power/shutter/OK button.

*\*Remember that deleting your files may be required if you have captured participants in your films and they require consent to share their image.*

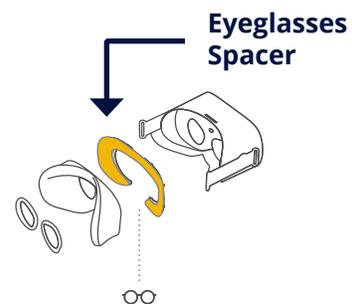
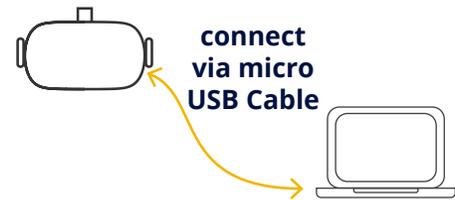
# Guide to the Oculus Go



## Before Operation

Before you use the headset, make sure you check the following steps:

- 1 Ensure the headset is charged. To charge the Oculus GO:
  - 1 Plug in the supplied micro USB cable and connect to a computer or USB charger.
  - 2 Check the battery status while the headset is plugged in. The status light indicates:
    - Solid Green  
Battery is Charing (Above 95%)
    - Solid Orange  
Battery is Charing (Below 95%)

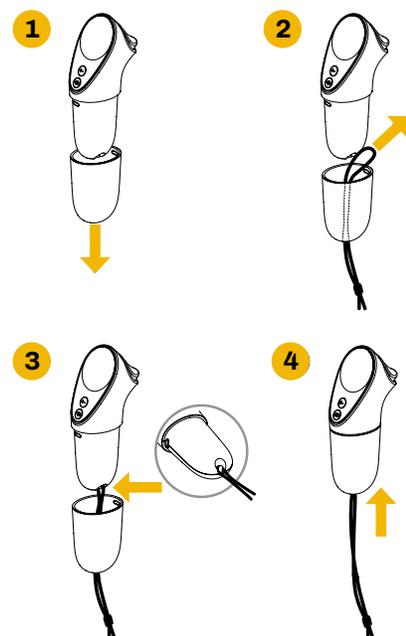


- 2 Install the eyeglasses spacer if needed. You can try the headset on without the spacer first if your vision is close to perfect. The following link provides a step-by-step guide on installing the eyeglasses spacer: <https://youtu.be/YA5U8MbkUrE>

- 3 Wipe the lenses with provided lens cloth.

- 4 Ensure the controller contains the AA battery and the lanyard is attached.

### Installing the Lanyard



## How to Operate the Headset

### FIT

- 1 Put the headset on adjusting the straps as necessary – it should fit comfortably and shouldn't apply too much pressure on your face and head.

### POWERING ON

- 2 Press the power button until the Oculus appear on the screen.

### RECENTERING SCREEN

- 3 If prompted, long-press the oculus/menu button on the controller to recenter the screen. (The system can give a warning of low controller battery charge in which case the AA battery should be replaced).

### ADJUSTING VIEW

- 4 Once at the home screen, adjust your view by slowly moving the headset up/down and left/right until the image is clear.

### WAKE FROM SLEEP

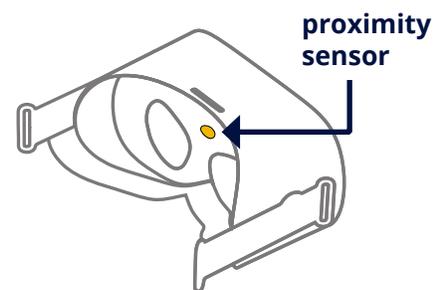
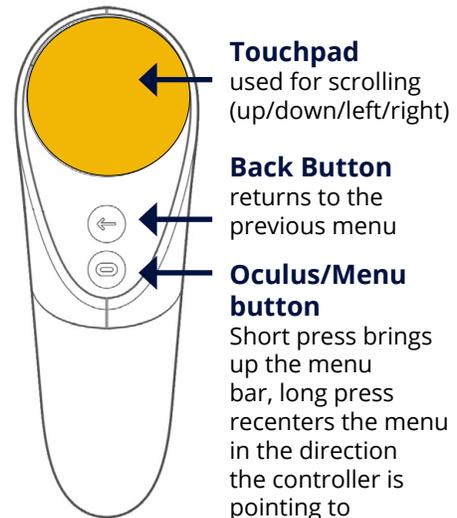
- 5 The headset display can go to sleep (if taken off for example) – short press the power button to turn the display back on. Alternatively a sensor inside the headset reactivates it every time it's put on.

### ADJUSTING VOLUME

- 6 The headset has built in speaker system - volume can be adjusted using the volume button located on the top of the headset.

### HEADPHONES

- 7 Headphones can be used if needed – the headphone jack inlet is located next to the micro USB port.



## Connecting to Wi-fi

Wi-Fi connection is required to operate the headset, navigate to **Settings** then **Wi-Fi** to choose a network:



The following parameters should be used when connecting to **AirYorkPLUS Wi-Fi**:

**EAP method:** PEAP

**Phase 2 authentication:** None

**CA certificate:** Use system certificate

**Domain:** yorku.ca

**Identity:** your yorku user name  
excluding @my.yorku.ca

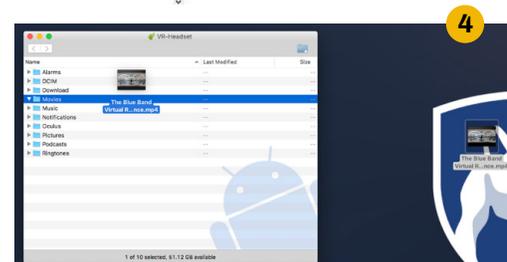
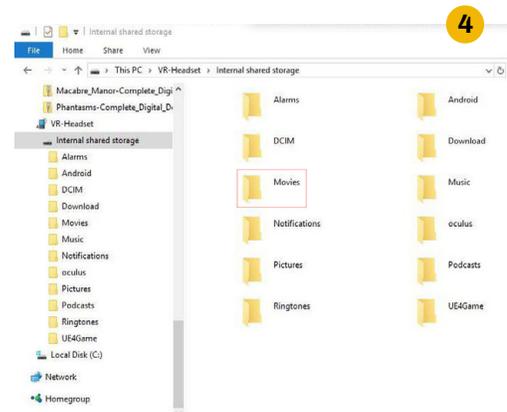
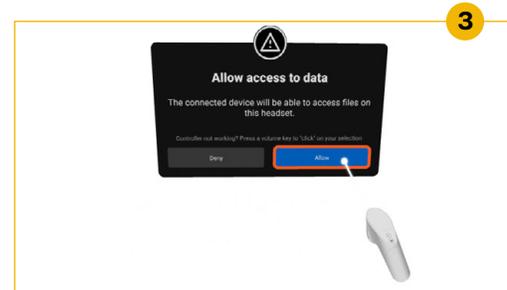
**Anonymous identity:** skip

**Password:** your yorku password

**Advanced:** skip

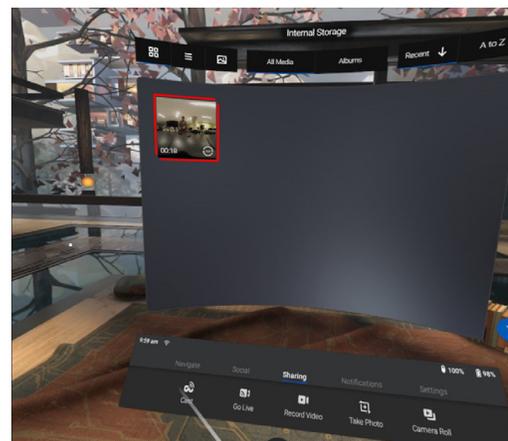
## 360 video file transfer

- 1 File transfer is only available on Windows machines. Mac users only: Install [Android File Transfer](https://www.android.com/filetransfer/) (<https://www.android.com/filetransfer/>)
- 2 When powered on plug the headset into your computer using the USB cable.
- 3 The headset will show a prompt requesting to allow access to data – press **Allow**. If no prompt shown disconnect the cable from the computer and plug it in again.
- 4 Windows users: Open 'VR-Headset' in computer's file explorer and go to **VR-Headset / Internal shared storage / Movies**  
  
Mac users: Open Android File Transfer app and go to the Movies folder. Navigate to **VR-Headset / Internal shared storage / Movies**.
- 5 Drag and drop your 360 videos to the Movies folder. You can create sub-folders by pressing 'New Folder' button
- 6 Once the copy process finishes the video files are available for viewing from the headset.



## Watching 360 Video

- 1** Select **Library** on the menu bar on the bottom (you can access the menu bar from any place in the system by pressing the oculus/menu button on the controller. Select submenu **Navigate** to access options such as Home, Library etc.).
- 2** Open **Oculus Gallery** application.
- 3** Select **Internal Storage** to open device's media file storage
- 4** Transferred videos are shown here. Click on a video to start playback.
- 5** The video will start. Sometimes the video can be presented in 2D flat screen format - press the **2D button** on the playback menu bar, then press **360 button**:



# Filming Tips

The following tips should help guide your filming choices (e.g. location, time of day) and will help ensure you make the most of the 360 degree -VR experience.



## Lighting

It is best if there is enough ambient light and not too much contrast. Do try to avoid one bright light source, like a sunny window in a dark room.



Bad Lighting



Good Lighting



## Camera/Tripod Height

Think about the perspective you want to film in and adjust the height of the camera/ tripod accordingly. For the viewing effect of first-person perspective think of the virtual observer's eye level.



Camera Too Low



Camera Just Right



### Room Size

Consider the size of the room and space you want to capture. Generally lower ceiling height is better for larger rooms.



Large Room



Small Room



### Closeness to Lens

You want the focal point to be around **one meter** from the lens (not too close, not too far, just "goldilocks"!)



Too Close



Just Right



### Camera Audio

Experiment with the sound quality and consider how you will be using the camera's audio. If you are filming an interview (not recommended as the best use of 360VR), we suggest you capture the audio by other means (e.g. separate recorder) to ensure it is of sufficient quality.

Consider whether you will be adding audio or music track when editing.





### Stitch Line

Don't put the visual focus between the two lenses or the "stitching" will look strange. It is best to place your background on the stitch line.



Bad Stitch

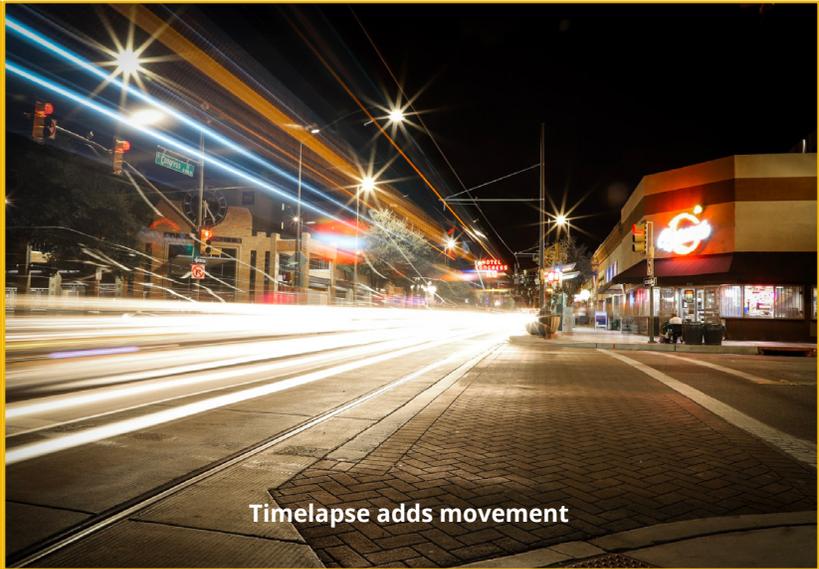


Good Stitch



### Play with Timelapse

Time-lapse mode allows different shooting intervals. Bigger interval makes very gradual changes in the scene more noticable.

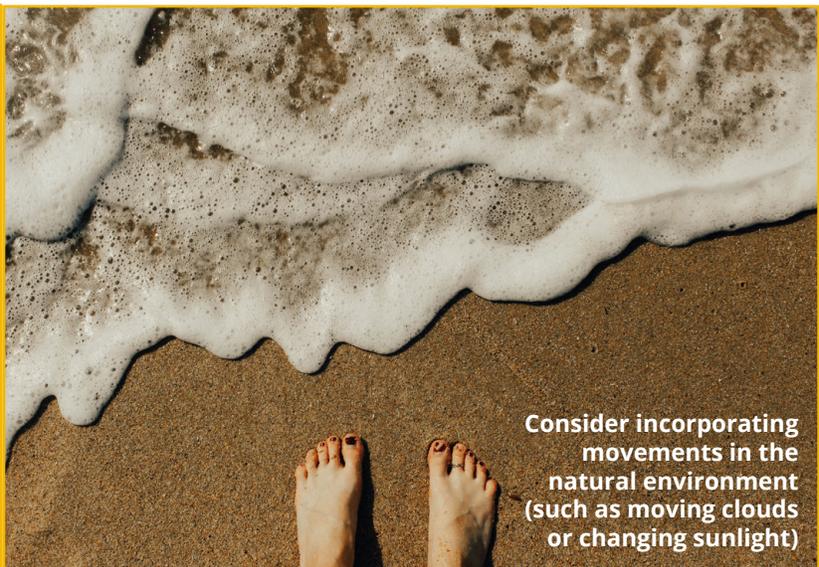


Timelapse adds movement



### Movement

360-VR works best when there is movement in the environment. If there is little active movement (subjects in the scene), consider using a time-lapse to capture more movement over longer periods of time.



Consider incorporating movements in the natural environment (such as moving clouds or changing sunlight)



### Points of Interest

Try to have two points of interest on both sides of each lens, this way, not matter which way the viewer is facing, there is something interesting to absorb.



Multiple Points of Interest



### Hiding Equipment

Think about hiding the tripod base (e.g. under leaves if outside).



Visible Tripod Base



Hidden Tripod Base



### Recording Time

Record less than 4 minutes to avoid downloading multiple files (and needing to edit them together). Research shows that keeping people's attention is difficult after 4-5 minutes.



### Consent Form

Don't forget the 360-degree camera captures everything and everyone! Remember to get consent from individuals who can be identified in the film!



# Equipment Loan - Guidelines and Agreement

The CVRriculum Program maintains production equipment that may be borrowed for course-related work. Only students enrolled in project groups may book the equipment; booking privileges are not transferable to any other party for any reason. Breach of this regulation may result in penalties ranging from suspension of privileges to criminal prosecution. Before equipment is released, the borrower must display proficiency in the use of the equipment and sign the Damage Collection Policy Waiver.

## **Care of Equipment:**

All equipment is checked to ensure that it is in proper working condition before being loaned out. Borrowers are responsible for taking proper care of the equipment while it is in their possession. Any problems, defects, or damage must be reported in writing to the lab technician or lab monitor upon return.

## **Equipment Insurance:**

All borrowers should be aware that the CVRriculum Program insurance policy does not cover the equipment that has been released to the students. Equipment must be closely watched at all times. Equipment should not be visible if left in a vehicle during the day, and equipment should never be left in a vehicle overnight. For their own protection, borrowers are encouraged to take out appropriate coverage under their personal insurance.

## **Damage Collection Policy Waiver:**

All students participating in CVRriculum Program and borrowing the production equipment must sign a waiver the first time they borrow equipment from the lab. This waiver outlines procedures and policies regarding insurance, damage, loss or theft to equipment. Any unpaid damages incurred may be charged directly to their student accounts. For further information, please contact the project technician.

## **Terms of Agreement:**

Equipment on loan must be returned in person to the CVRriculum Program upon completion of the course VR project or if requested by the CVRriculum Program team.

## Borrower Information

**Full Name**

**Student ID**

**Phone Number**

**Email Address**

**Course**

**Course Director**

**Pick-up Date & Time**

**Return Date & Time**

## Items Borrowed

Qty.	Item Name/Description	Serial Number

By signing this loan agreement, I fully understand and agree to the Computational Arts Lab Equipment Loan Guidelines & Agreement.

\_\_\_\_\_  
**Name**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**



# Damage Collection Policy

All students enrolled in Computational Arts course wishing to borrow Computational Arts production equipment shall sign a waiver the first time they borrow equipment from the lab. This waiver outlines procedures and policies regarding insurance, damage, loss or theft to equipment. Any unpaid damages incurred will be charged directly to their student accounts. For further information, please contact the project technician.

## DAMAGE COLLECTION POLICY WAIVER

All students shall sign this waiver upon borrowing CVRriculum Program production equipment.

### Damaged or Lost Equipment

In the case of damaged production equipment that is the property of CVRriculum Program, the project technician will determine if the damage is the result of normal wear and tear and if the item is repairable. If it is determined that the damage was the result of abuse, carelessness or negligence, the student will be responsible for the full cost of the repair, or the full cost of replacement if the item is not repairable.

### Damage Collection Procedure

Upon receiving any of these notifications (damage, loss, theft) CVRriculum Program will prepare an invoice for the full repair or replacement cost of the item(s). You will be responsible for full payment of this bill within 14 days (payment methods to be advised). Personal cheques will not be accepted. If payment is not received within 14 calendar days or by the last class day of the term, whichever is sooner, your equipment borrowing privileges will be suspended and the outstanding amounts owed will be billed directly to your student account. Until your student account is paid in full you will not be able to obtain official transcripts or graduate, etc. In certain special cases, the project technician may authorize the borrower to provide a substitute for the missing or stolen equipment with an item of equivalent function and value. Please note that refunds of payment for lost or missing items cannot be given once the payment is received even if the item is subsequently found.

By signing below waiver, I acknowledge that I have read and agree to the CVRriculum Program Damage Collection Policy Waiver.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



# Photographs and Video Consent (Short Form)

I hereby grant permission to York University and its representatives to take photographs or videos of me and to make recordings of my voice. I further grant to York University and its representatives the right to reproduce, use, exhibit, display, broadcast and distribute these images and recordings in any media now known or later developed for promoting, publicizing or explaining York University and its activities and for administrative, educational or research purposes.

Photographs, video images and voice recordings are the property of York University.

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**Print Name**

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**Signature**

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**Date**

I hereby grant permission to York University to use my name with these images and recordings.

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**Signature**

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**Date**

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