VIRTUAL REALITY

STEM works THINKit

VR Photojournalism
Activity

Grades
K-12

Career Pathways
Photojournalist
Tour Guide
Marketing

Academics
Science: Geospatial Awareness
Social Studies: Geography, History
Language Arts: Storytelling
Technology: Creative Communicator, Digital Citizenship

Professional Career Skills
Empathy
Collaboration
Communication
Creativity
Research

Materials
360° Camera
DSLR Camera
Aria Creator Account
Computer & Internet
Desktop or VR Headset

Team Goal

Level 1
Use a 360° image to create one tour stop (scene) with embedded media that shares information about that location. Be able to verbally explain the message or purpose of that scene.

Level 2
Design a 360° virtual experience using a sequence of tour stops. Embedded content should communicate a message with clarity. Include accurate and meaningful geospatial information.

Level 3
Using original 360° and 2D content, design a virtual experience using a sequence of tour stops. Position and include embedded content that communicate a message with context, accuracy, and clarity. Include accurate and meaningful geospatial information.

STEM works Download Knowledge. Upload Service.

Think like a Virtual Reality Developer

Erfahren Experience

Everyone can learn from experiences, and sometimes you recall these experiences because you have learned useful information from them. VR can be a learning tool, where experiencers have experiences that they not only remember, but also learn from.

Field of View (FOV)

Immersive VR attempts to mimic the eye's natural field of view. The human eye can see about 200 degrees. The larger the angle, or field of view, the more realistic the immersive VR will feel!

Simulator Sickness

When your brain's visuals are out of sync with your body's movement, you may experience some disorientation that leads to motion sickness. For example, if you're immersed in a 360° motion video, while your body is sitting still, you may experience simulator sickness. This is a big challenge for VR developers!

Augmented Reality

Virtual images can be overlaid, or superimposed, onto our vision of the real world. Our brain combines a composite image of both reality and virtual reality into one. Augmented reality is slightly different than full virtual reality.

Haptics

VR developers are working on ways to experiencing touch! This means that when you view something and reach out to 'feel' the object, your hand might feel a vibration or pressure. VR developers are working on haptics, to make an immersive experience even more realistic!

Presence

When immersed in VR, you might forget that you aren't really 'there.' This is the goal of many VR immersive experiences! Having a familiar virtual anchor, called a 'cockpit' helps ground the viewer. Head tracking that orients (look left, right, up, down) with the position of a person's head helps to make the experience feel very realistic.

Cinematic VR

Virtual reality can be designed from actual video and photography from the real world. Cinematic VR is best captured using high quality cameras and camera rigs. Cinematic VR experiences may try to create 'emotional presence' which is accomplished if you feel joy, fear, empathy or other emotions.

Computer Generated VR

Computer graphics can be designed, built and programmed to interact with the viewer, creating an immersive VR experience. These graphics can be realistic or cartoon-like. Dollhouse views, or top-down views from above, are easy to create with computer generated graphics.

Gaze-Activated Content or Hotspot

A hotspot usually glows and has interactive content. If the VR experience is interactive, the experiencer might be able to decide on what they do next. Gaze-activated content only 'plays or moves' when the experiencer 'looks' at that object.

Stitching

Some cameras have automatic software that seamlessly overlaps images together to create a 360° experience. If not automatic, images need to be downloaded into special software. Some apps, like Google Street View will guide you through stitching photos together as they are being taken.

Signposting

To help the experiencer understand the environment better, cues can be added. These cues can be direct, like informational signs or images, or less direct, like icons or objects. A navator, or VR 'tour guide' might also help guide your experience or choices.

Avatar

A VR experience may be in first person view, you may see avatar hands, or see a full bodied avatar. Avatars can be especially helpful in Social VR, where you can interact with others in a virtual environment! Ghost stories have no avatar, you just observe the story as it goes.
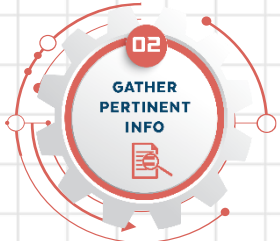
Engineering Design Process Directions:

Define the Problem

Choose a goal to tackle with your team!

Gather Pertinent Information

Read about Strategies for Effective VR Photojournalism.
Learn about design using: Aria Creator VR Photojournalism Design Tips.
Practice taking 2D and 360° images, be sure to have permission for any people who are identifiable! Practice ethical and safe digital citizenship! Check that information and visuals are safe to showcase!

Generate Multiple Solutions

Using the 'VR Photojournalism Storyboarding' sheet, create a plan for each tour stop. Take and save a variety of high quality 2D and 360° images. Take more than you need! Find a map image to work with your geolocation. Conduct research to include more information. Be sure to add citations!

Choose a Solution

Sort through your images from cameras and research. Choose the highest quality options that showcase your topic best. If needed, edit images. **TIP**: You may want to organize all content by saving them in folders by each "tour stop."

Design a Culturally Responsive Solution

Login at www.youvisit.com/login and upload information into Aria Creator the 'Using Aria Creator for Photojournalism' sheet. Think about your potential audience, have the team explain how each element of Strategies for Effective VR Photojournalism. Make the experience relevant for your audience.

Test and Optimize

Share your VR Experience with others! Ask for feedback on each tour stop. For example, you may ask people to rate each element by the 'Strategies for Effective VR Photojournalism' sheet. You might collect feedback in a survey. Use feedback to improve the experience.
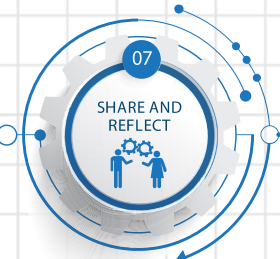
Share & Reflect

Share your VR Experience with a larger audience. You can even see viewer stats on your login page www.youvisit.com/login. Reflect on how you and your team practiced digital citizenship to produce a safe, ethical and empathetic product.

STEM works TIPS
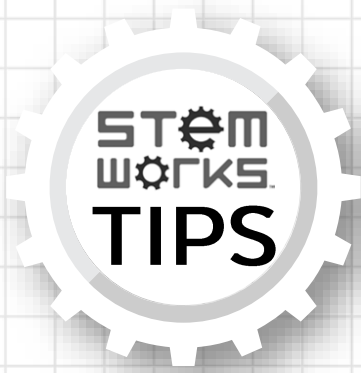
Strategies for Effective VR Photojournalism

www.youvisit.com/login

Connect!

Who is this story for?

Carefully choose....
- Informative Data
- Images
- Vocabulary

Be inviting to your audience!

Hook!

What's your hook?

How do you catch their eye?

Make it engaging!
- Beautiful Images
- Exciting Titles
- Clear Information

Hook your audience!

Clarity!

ACTION PLAN

What is your message?

Stay organized....
- Sequence Matters
- Relevant & Useful Content
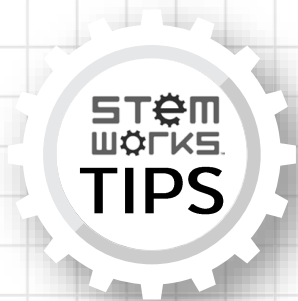
All info adds to one clear message about an issue!

Ethical Empathy!

Does your content empower?

Be ethical with content.
- Accurate & Complete
- Contextual Information
- Respectful of Subject

Stories that empower others!

Aria Creator
VR Photojournalism Design Tips

Explore issues, information and events by designing realistic virtual reality experiences.

📍 STOPS
Travel sequentially through several tour stops. Each scene showcases a 360° setting.

MEDIA
Positional Media adds visual content within each 360° scene.

ℹ INFO
Hotspots catch your attention to showcase information.

🗺 MAP
Each 360° scene or tour stop is geospatially located on a map for optional navigation.

Who? Who is your 'target audience?' These are the people who will experience your virtual reality story. Is it for the general public? The scientific community? Families? Classrooms?

What? What is the purpose of your experiences? What do you want your 'target audience' to learn? Create a well rounded experience that conveys a message.

Environmental — Experience the great outdoors in local or national parks! Go hiking, snorkeling, boating, or go for a scenic drive! Explore concepts such as: cause and effect, scale, patterns, systems, stability and change.

Academic — Visit a museum! See an aquarium, zoo or have the past come to life at a historical site. Visit a science center or college campus!

Cultural — Festivals, food, concerts, music and art are all great ways to experience local culture! Explore architecture! Meet people and hear their stories.

Historical — You might find yourself indoors or outside, but there are plenty of ways to experience history. Include historical sites and artifacts.

Adventure — Visit a theme park, sports game, or go on an outdoor adventure. There may even be upcoming local events to highlight!

Tourism — Visit a popular tourist destinations. Explore beaches, historic towns, shopping districts, sightseeing destinations and more!

Where? Where on the map is each tour stop? Consider the scale of the map as well as information on the map. Should you use a map with topographic information? Should it have roads? Be as accurate as possible when geotagging tour locations to your map!

Why? What is the intent or purpose of your VR Photojournalism experience? Is it to build empathy? Is it to showcase cause and effect over time? Is it to build awareness that may turn into action? Is it to highlight an upcoming or past event? All media and summaries should be relevant and add to your message!

When? Your audience will experience a realistic 360° photo journal that pinpoints scenes or highlight artifacts from a specific time and place. Be sure to include the relevant context that will transport the viewer to this time and place.

STEM WORKS TIPS
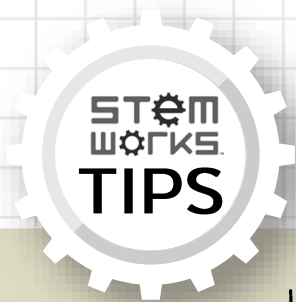
Using Aria Creator for Photojournalism

🔗 www.youvisit.com/login

Students need: 360° & 2D Images, 360° & 2D Videos, Map, Location Coordinates, Website Links, Summaries, Field Notes, etc.

Training Videos: https://vimeo.com/289950532 (Detailed); https://vimeo.com/289947280 (Highlights)

1. "**Sign-in**" to **CMS** (**Content Manager**): www.youvisit.com/login

Aria Optimize **CMS** ⬅

Edit scenes and update media files for your YouVisit experiences

Email

Password

2. Click "**New Experience**"

New Experience

3. Choose "**Experience Type**" & "**K-12**"

🎓 Education

🎓 College

🏫 High School

🏫 K - 12
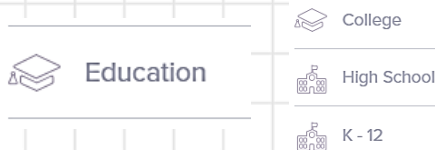
CREATE EXPERIENCE

4. For more directions, choose "**Let's Get started**" or choose "**Skip**."

LET'S GET STARTED!
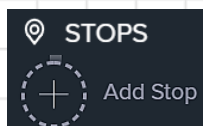
5. Title your Experience

Virtual Experi

6. To tell your story, you will guide your audience through tour stops. Title the first tour **STOP** and add a description.
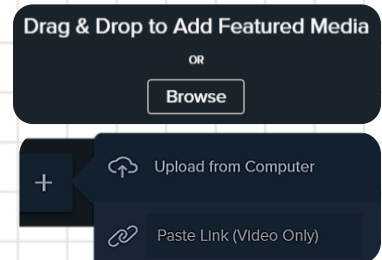
New Stop
Add a little Info to your stop

(After Step 10, add more tour stops)

📍 STOPS
➕ Add Stop

7. Turn your camera on and connect it via USB to your computer. Either save all image files to your PC or find your device.

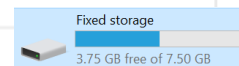Drag & Drop to Add Featured Media
OR
Browse

a. Choose "**Browse**" or click **+** to upload or link content.

+ ☁ Upload from Computer
🔗 Paste Link (Video Only)

b. Find & upload camera content from computer.

➡ 📷 RICOH THETA S
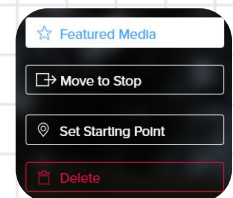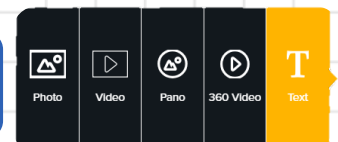
Fixed storage
3.75 GB free of 7.50 GB

DCIM

100RICOH

R0010193   R0010194

8. In Aria Creator, click on the image of the new media. Change the media title and adjust image to "**Set Starting Point**."
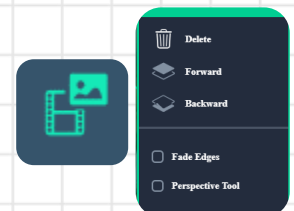
☆ Featured Media
➡ Move to Stop
📍 Set Starting Point
🗑 Delete

9. Click on "**Positional Media**" or "**Hotspot**".

ⓘ   Photo Video Pano 360 Video **T** Text

a. Upload media (Repeat step 7).

b. Use the Perspective tool to drag edges and reposition media size and location.

🗑 Delete
Forward
Backward
☐ Fade Edges
☐ Perspective Tool

10. Click on Map.

📖 MAP

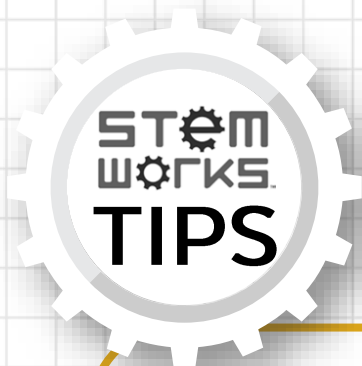a. Find, save and upload a map.

b. Drop and drag each tour stop to geospatial location on map.

Maui
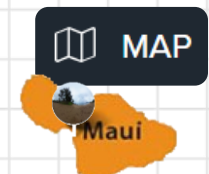
Image Citations:
1.   Y. (n.d.). Media Aria Creator 2.0. Retrieved August 23, 2018, from https://www.youvisit.com/builder/141201/tour1#/app/263147/panorama
2.   M. (2015, September 2). Map of the main islands of Hawaii. UTM Zone 4N. Data sources: Natural Earth, Hawaii State GIS Program, USGS map "Hawaii's Volcanoes Revealed". Retrieved August 23, 2018, from https://commons.wikimedia.org/wiki/File:Hawaii_State_Map.jpg

VR Photojournalism Storyboarding

Brainstorm to develop a plan that conveys a clear message.

🔗 **www.youvisit.com/login**

STEM WORKS TIPS

Virtual Experience Title: _____

Authors: _____

STOPS 👁

Tour Stop Title: _____ Tour Stop # _____

Setting of 360° image that is the main stage of scene:

Tour Stop Summary

POSITIONAL MEDIA
2D Images / 2D Videos

Image/video of:

Purpose:

Image/video of:

Purpose:

HOTSPOTS
2D Images / Text
ⓘ

Highlights this object / location:
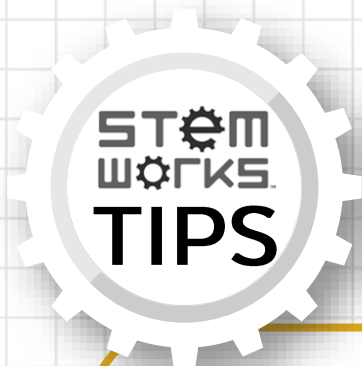
Summary:

Highlights this object / location:

Summary:

🗺 **MAP**

LOCATION: _____

STEM works TIPS

VR Photojournalism Storyboarding
Brainstorm to develop a plan that conveys a clear message.

www.youvisit.com/login

Virtual Experience Title: _____

Authors: _____

STOPS

Tour Stop Title: _____ Tour Stop # _____

Setting of 360° image that is the main stage of scene:

Tour Stop Summary

POSITIONAL MEDIA
2D Images / 2D Videos

Image/video of:

Purpose:

Image/video of:

Purpose:

HOTSPOTS
2D Images / Text

Highlights this object / location:

Summary:

Highlights this object / location:

Summary:

MAP

LOCATION: _____

STEM works