The Catalyst

Interpretation & TECHNOLOGY

Contributor's Guidelines

The Catalyst welcomes your original articles up to two pages in length. We prefer unpublished material, but we will occasionally reprint items published elsewhere. Be sure to include information about the publication, so we can get permission to use the material. If you have an article relating to one of the topics listed below, please submit it to the publisher or guest editor. Please include a photograph whenever possible.

We really appreciate items submitted on CD or by email in a PDF format. Please send photographs as separate files, not inserted into your document. You may also submit original photographs or other illustrations to *The Catalyst*. All photos and artwork submitted will be returned promptly. We reserve the right to edit all material. Items are selected for publication solely at the discretion of the editor and publisher. We appreciate your suggestions.

Guest Editors Wanted!

Are you looking for an opportunity to work with other writers on engaging interpretive topics? Would you like to develop and challenge your creative and technical skills? Then consider becoming a Guest Editor for an upcoming issue of *The Catalyst*. Among the topics we're planning for future issues are:

Interpreting to Diverse Audiences
Interpreting Climate Change

Please contact Heather Holm with your ideas, Heather.Holm@parks.ca.gov.

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From the Guest Editor

While there is ongoing debate whether technology can add or detract from an individual's connection to the outdoors or parks, the reality is social media and technology often permeates a visitor's visit. People want to share their experiences and photos with others through social media. Hikers use GPS technology to trace their routes. Often visitors plan their experiences online before actually reaching a park. How might California State Parks better serve and reach this digitally attuned audience?

The so-called *Gen Z* (born between 1995 and 2012) are truly the first digital pioneers; they cannot remember a time when they were not Wi-Fi connected. On the opposite end of the spectrum are the baby boomers who still constitute a majority of park visitors. Baby boomers utilize technology in a different manner than Generation Z. As park employees, we need to plan for changing demographics and their connection to technology.

As we consider different technologies and weigh how they might strengthen or aid our interpretive efforts we need to remember two of Freeman Tilden's foundational principles of interpretation. First, "the chief aim of Interpretation is not instruction, but provocation." Technology can connect people to the outdoors and parks in new ways. Apps like iNaturalist can be a means to encourage visitors to look more closely at their surroundings to discover new things, but also empower them to feel like they are playing a role in the protection and resource management of the park's resources. However, be wary of technology making a program sterile; this defeats our aim of provocation. Second, "Interpretation should aim to present the whole rather than a part, and must address itself to the whole man rather than any phase." Sometimes technology allows for the better telling of a whole story, especially if there is limited staffing to provide personal interpretation, but if it doesn't enhance your ability to tell the whole of your story, don't use it.

To remain relevant in the lives of young people and embrace how Americans receive and use knowledge in this current age, California State Parks must use appropriate technology as it comes available, and consider how to adapt technology to enhance place-based learning in park settings and at a distance. This issue of *The Catalyst* shares some of the technology successfully being utilized by field interpreters, and some technology with potentially relevant applications.

In This Issue:

What's Up? Resources for Interpreters

Favorite Apps and Blogs

Here are some of the apps and blogs favored by your fellow interpreters.

Save the Park by Games of Change
https://itunes.apple.com/us/app/save-the-park/id1072401536?mt=8
 Cost: Free, no in-app purchases
 Device: iOS
Play a game to save our national parks and make a real impact on the environment. Save the Park is a fast-paced, endless runner game developed as part of the National Park Service's centennial celebration year.

iNaturalist
http://www.inaturalist.org
 Cost: Free
 Device: Android, iOS
iNaturalist.org is an online social network of people sharing biodiversity information to help each other learn about nature. You can use it to record your own observations of species and get help with identification, or use it as part of a BioBlitz event at your park where visitors become the naturalists.

Next Generation Science Standards by Mastery Connect
http://ngss.nsta.org/ngss-app.aspx
 Cost: Free
 Device: Android, iOS
The Next Generation Science Standards app gives you multiple ways to view the standards, including Disciplinary Core Ideas and Topic arrangements, and the app includes convenient search functionality. It has other useful information such as the grade progression of the Disciplinary Core Ideas.

Starwalk 2
http://vitotechnology.com/star-walk-2-guide-sky-night-day.html
 Cost: $2.99
 Device: iOS, Android
A guide to constellations in real time. You can point it at the sky and identify all kinds of night sky stars, planets, and galaxies. Contains information about 200,000+ celestial bodies.

Earthviewer
http://www.hhmi.org/biointeractive/earthviewer
 Cost: Free
 Device: Android, iOS, browser
This app allows you to go back in geologic time and see the position of the continents, all of the atmospheric changes, and major biological life form events—like a time machine for exploring Earth's history.

Science 360
https://science360.gov/ipad/
 Cost: Free
 Device: iOS
The National Science Foundation's app with videos, images, and breaking news of science and engineering topics around the world. Cool format and lots of kids featured in articles.

iBird Pro
http://ibird.com/
 Cost: $14.99
 Device: Android, iOS, browser
Resource app for bird identification and bird songs. Great photos and many different vocalizations for each type of bird.

Moon Calendar by Rivolu LLC
https://itunes.apple.com/US/app/id459707387?mt=8
 Cost: $1.99
 Device: iOS
Great to use for programs at night to know when the moon will be out, how full it will be, and when it will set.

Blogger (Google)
http://www.blogger.com/
 Cost: Free
 Device: Android, browser
Tool to upload blog posts to a website, such as a docent resources website. It's great to be able to post from the field (photos, updates on animals, park happenings) so that docents who have not been to the park recently can learn what is going on.

Union
http://unionapp.co/
 Cost: $1.99
 Device: iOS
A photo app that allows a graphic, such as a logo, to be overlaid onto a photo and then posted to social media.

Merlin Bird ID
http://merlin.allaboutbirds.org/
 Cost: Free
 Device: Android, iOS
Answer five simple questions about a bird you are trying to identify and Merlin will come up with a list of possible matches. Quick identification of North America's most common birds.

California Tide Pools
http://msi.ucsb.edu/california-tidepools-app
   Cost: Free
   Device: iOS
Make exploring the beach a fun and educational experience. Search a database containing: photos, common and scientific names, taxonomy, description, habitat, eats and eaten by, fun facts, and more.

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Favorite Blogs/Podcasts

Visitors of Color
http://visitorsofcolor.tumblr.com/
A space for museum folks to be able to learn from the perspectives and experiences of marginalized people. This Tumblr works to ask marginalized people what, if anything, gets in the way of feeling welcome in museums, and to bring light to those answers.

Museum 2.0
http://museumtwo.blogspot.com/
Museum 2.0 explores the ways that the philosophies of Web 2.0 can be applied in museums to make them more engaging, community-based vital elements of society.

The Art of Charm
http://theartofcharm.com/podcast/
Originally about dating, this podcast has evolved into a lifestyle message. The messages convey how certain behaviors can help or hinder both your regular and professional life. They even talk about ways to communicate better with people and to read their body language.

Park Leaders
http://parkleaders.com/
Jody Mayberry, a former National Parks Ranger, hosts this podcast. He interviews people both inside and outside the field of parks with messages of conservation, tourism, professionalism, and development. Many of the podcasts foster the sense of developing our crafts.

Code Switch
http://www.npr.org/sections/codeswitch
The focus of Code Switch is on race and identity in the US. The June 7, 2016 episode, entitled "Made for you and Me" is about (in their own words) "being outdoorsy when you are black or brown."

MuseumMobile Wiki
http://museummobile.info/
MuseumMobile Wiki is a free, public space for museum professionals to share resources, determine best practices, and discuss mobile interpretation and technology in museums.

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Favorite Social Media

SnapChat, https://www.snapchat.com/

Pinterest, https://www.pinterest.com/

Facebook, https://www.facebook.com/

Instagram, https://www.instagram.com/

Twitter, https://www.twitter.com/

Periscope, https://www.pscp.tv/

Dear Master Interpreter

Dear Master Interpreter,
I am looking for an online tool to accept sign-ups for nature walks, offering limited slots to avoid unmanageable crowds. Any suggestions?
—Event Coordinator

Dear Event Coordinator,
You have several options. Here is a list of favorite event-scheduling tools suggested by other interpreters:

... Facebook event invites allow posting and RSVPs.
... Shutterfly's event-management tool—participants can upload event images afterward.
... EventBrite offers free ticket printing.
... Evite is free.
... SignUpGenius is a free application that's fairly easy to set up and even easier for those signing up.

All of these media sites tell the organizer how many people have signed up.   *—MI*

Dear Master Interpreter,
Do you know of a free audio tour app that is easy to use and allows us to retain copyright control?
—Cop E. Rider

Dear Cop E. Rider,
You might check out **izi.travel**. An audio tour app, it is free for museums and parks, as well as their visitors. You retain full control over your content and updates and are the sole owner of all copyright. For more information, visit the izi website at
https://izi.travel/en/to-museums.   *—MI*

Dear Master Interpreter,
How do I get buy-in from my supervisor that new apps and technologies would benefit our park?
—Lud Dite

Dear Lud Dite,
Let your supervisor know that these new technologies can be used for many tasks and projects beyond interpretation. Using 360 photo technology, curatorial staff can monitor structures and sites for preservation needs over time without taking multiple photos. Using technology allows future visitors and communities beyond your region, state, or country to view your park to see the amazing resources you have and that they can enjoy and help protect! See technological benefits and the IMPACTS of online engagement and inspiration at
https://vimeo.com/217072569.
—MI

Dear Master Interpreter,
Do I need a lot of special equipment to get started with live broadcasts like Periscope in my park?
—N. Person Interp

Dear N. Person,
No, a cell phone or tablet and connectivity like 4G cell service or Wi-Fi are all you really need to get started.

Eventually you can invest in things like external microphones and hand-held camera stabilizers. Once you've gotten started, review your work and talk with your park peers to see what specific equipment needs you may have, based on your specific park.   *—MI*

Dear Master Interpreter,
I have just started live broadcasts from my park but am not sure which platform is best? Facebook Live or Periscope?
—Torn

Dear Torn,
Both platforms have advantages and disadvantages; the best advice is to just get out there, try each one, and see which works best for you and your online audience. Periscope has been a great option as it allows for easy replays for viewers.   *—MI*

Dear Master Interpreter,
I have heard about a training workshop coordinated by State Parks called InterpTech. Can you tell me more about it?
—Tek NoFobe

Dear Tek NoFobe,
California State Parks partners with the National Association for Interpretation (NAI) for innovative training in interpretation, using technology. The third annual program will take place in 2018; for details and registration, see www.interpnet.com. Sessions include sharing tech-focused online campaigns, panel breakouts, and field excursions. High-quality presentations showcase best practices, cutting-edge technology, and enduring products to help further your interpretive programs.   *—MI*

What's Hot in Interpretive Technology:
10 things to get you thinking about technology in interpretation.

By Brad Krey
PORTS Program Manager

1. Spherical Photos and Videos—Taking 360 degree photos and videos is easily done with new off-the –shelf cameras.

bradkrey
Pond Farm, Armstrong Redwoods State Park
December 06, 2016 04:44
261 views ☆ 0
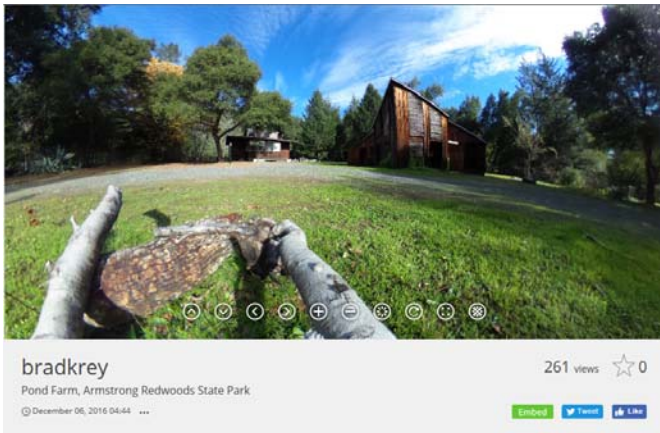
2. Virtual Reality (VR) - Turn those spherical photos and videos into Virtual Reality. Vimeo now provides 360 uploading videos directly from your device. Explore Google Expeditions to see how VR is being used in classrooms.

3. Colleen Dilenschneider—Colleen's Blog Know Your Own Bone is a great place to learn about up-to-date data and research behind digital strategies for visitor serving organizations. You can also subscribe to her YouTube Channel.

Which Generation Has The Most Likely Visitors to Cultural Organizations?

KNOW YOUR OWN BONE
fast facts for cultural executives

MORE VIDEOS
0:13 / 2:26

4. YouTube Closed Captioning Tool—You want to add videos online, but you need to add closed captioning. YouTube has your solution. Oh, and it's FREE.

You Tube | Help
Create subtitles and closed captions
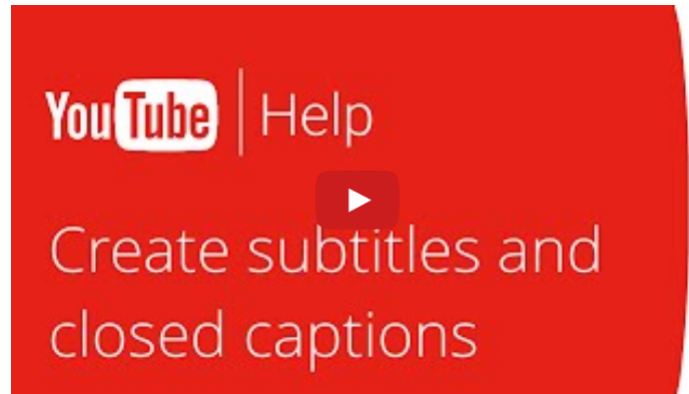
5. Horizon Report - Six key trends, six significant challenges, and six important developments in educational and interpretive technology are placed directly in the context of their likely impact on the core mission of museums. https://www.nmc.org/publication/nmc-horizon-report-2016-museum-edition/

NMC Horizon Report > 2016 Museum Edition

Nine Ways to Update Interpretation, continued

6. Flat Designs—Get FREE Piktochart account to create your own flat design media pieces that give the illusion of three dimensions, yet with a minimalist use of simple elements, typography, and flat colors.

7. Open Education Resources—Check out what the Smithsonian's Digital Learning Lab is doing to deliver digital assets to K-12 educators in a new way.

8. Glacier National Park on Social Media—Glacier National Park is still crushing it on social media. Check out what they're doing on Instagram and Facebook.
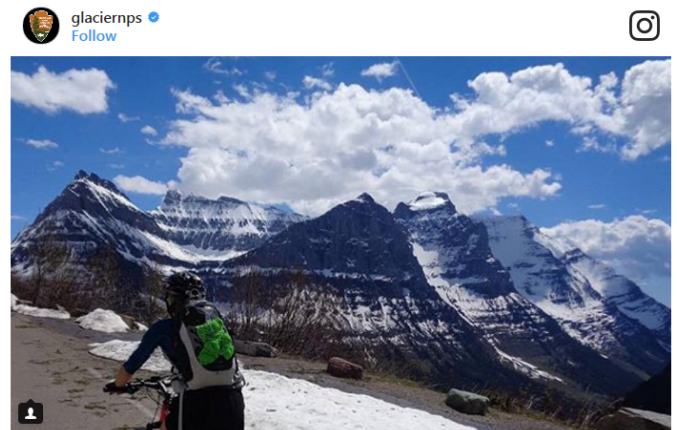
9. Livestreaming—Livestreaming is the fastest growing segment of social media. Get in on the game with Periscope or Facebook Live.
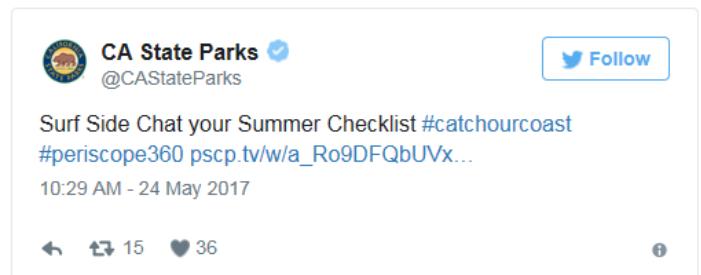
10. InterpTech—Sponsored by California State Parks and National Association for Interpretation, InterpTech is a collaborative workshop that focuses on interpretive technologies, best practices, and innovative ideas for interpretation. Save the date for InterpTech2018 the first week of May next year.

Former NAI Board president Jim Covel is demonstrating the use of technology at the Monterey Bay Aquarium during #InterpTech2017.

The Technology Awakens

By Peter Ostroskie
State Park Interpreter I
Prairie City State Vehicular Recreation Area / Clay Pit State Vehicular Recreation Area

When I was nine, I was introduced to my first *Star Wars* movie, *The Empire Strikes Back*. Sitting with my father watching as the Empire's storm troopers and mechanical vehicles made their way toward the snow-covered rebel base, I was stunned.

During the battle, you see a hologram of Darth Vader talking to an Imperial Officer aboard one of those vehicles. I thought, "Wouldn't that be fantastic if we had the technology to communicate via a hologram? Not just that, but see other 3D images that we could interact with!" Well, today we **do** have the technology.

Virtual reality and augmented reality are moving forward in the tech industry, becoming future tools that we will need to use—not just at home, but in our professional lives. These two types of technology have some amazing similarities and differences. But are these the right tools for what we do with parks? Will they help us achieve the goals that we set for ourselves for the future? Both are valuable questions.

Augmented reality is a technology that allows the user to stay in the real world while interacting with a digital item, like the hologram I mentioned earlier in *Star Wars*. Most augmented reality works by reading what is called a marker. That marker generates a 3D item that the user can then manipulate however they like, using a smartphone or tablet.

Virtual reality, on the other hand, takes a person into a digital world by using a video game console and transporting her or him into a virtual world where he or she interacts with only that universe.

Virtual reality with the Oculus Rift

Virtual and augmented realities both have pluses and minuses to them. Both require using some sort of technology and internet connectivity. Currently, augmented reality only needs a smartphone or tablet. One of the biggest differences is the cost. With virtual reality, you have to buy a game console and headset, while with augmented reality, you can usually download a free app and pay for the marker like a coloring book. Virtual reality headsets and consoles cost in the $1,000 range, but this will change with the ever-growing demand by gamers and possibly other industries. Augmented reality seems more utilitarian, whereas virtual reality still seems like it is used for entertainment. Of course that could slowly change. One major factor is that both these tools will help shape the future, but will it be for the better?

Many professionals in our field feel that visitors spend too much time staring at their screens rather than looking up at the natural world. Personally, I agree with that statement. However, if this is the way visitors are interacting with our parks, shouldn't we find a way to "judo roll" the visitor into getting the message we are trying to get across? We should not discard all the tools we have, such as taxidermy animals, furs, or our contacts. But this new technology is certainly one more tool we can add to the interpretive toolbox. We can use this technology to enhance the visitor experience at the park by being able to provide that 'magic' people are looking for. For example, showing them how a bobcat moves and stalks its prey, or by showing the life cycle of the salmon with 3D interactive imaging that they can experience. Augmented reality and virtual reality can be embraced to form a stronger bond with a technology-driven generation.

Remembering our mission with California State Parks, we are here to help enhance and give the visitor a more in-depth and meaningful experience. Having this new technology, along with the knowledge we already possess will help more people connect in a different way to our parks. It may even give them an experience that they could have never before seen or done. One current example is North Carolina Aquarium at Fort Fisher where they're using augmented reality so children can experience being a NOAA Researcher and watch the life of Calvin the whale. https://www.youtube.com/watch?v=ItAW4CLSqTU.

While technology is a great tool, it is still being developed and who knows what the future might hold.

The Technology Awakens, continued

Could you imagine doing a campfire at a redwood state park, and dimming the lights to pull up a 3D image of the redwood canopy and zooming in and showing all of the animals that call the tree home? George Lucas said, "The technology keeps moving forward, which makes it easier for the artists to tell their stories and paint the pictures they want." So, let us use this new technology to paint a different picture. One that is vibrant, exciting, and unforgettable.

If you would like to know more or try out augmented reality for yourself, you can visit: https://www.newgenapps.com/blog/augmented-reality-apps-ar-examples-success.

Are You Ready to be Inspired?
By Mike Bonk
Research Program Specialist, Southern Service Center

A new tool in the interpretive toolbox is about to be revealed. It's called a Story Map. A Story Map is a web map created entirely with GIS technology that lets viewers see an interpretive "story" via digital images and map locations. A well-done Story Map can connect with the audience and create emotion. There are many different kinds of Story Maps, and I will go through just a few to illustrate how a (Parks) story could be told.

Spyglass
One kind of Story Map is called the Spyglass. It allows users to see a small portion of a map layer underneath moving a circular "spyglass" around the screen. State Historic Parks lend themselves to this type. Place a historic map in the correct geographic space and overlay it onto a current aerial and the audience can relate to how the landscape used to be by seeing the current location today. Here is a link to a Spyglass map that shows a historic map of Washington D.C. Move the spyglass close to the water and note the changes!

http://arcg.is/1Hl6iTV
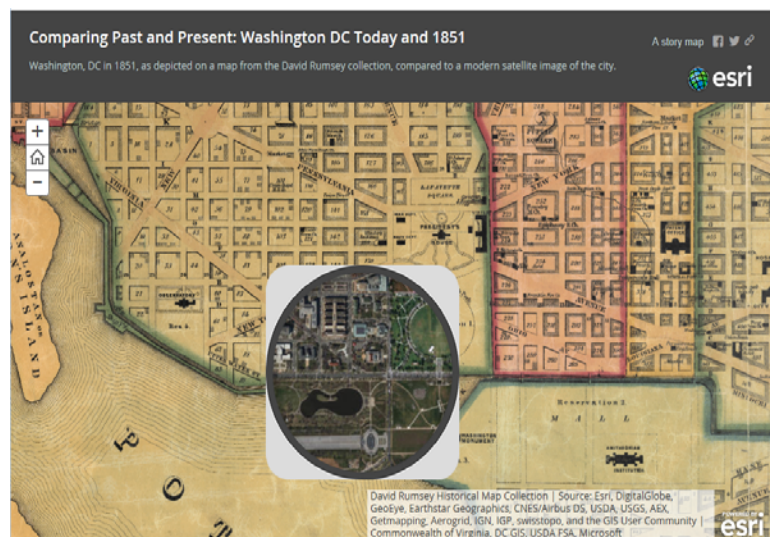
Are You Ready to be Inspired? continued

Map Tour

Another kind of Story Map is called the Map Tour. This is probably the most popular one. Photos that have correct geographic locations are located on a map and assigned numbers. Each photo gets a small description and unique number, and the user knows exactly where that photo was taken by clicking on the photo or on the number in the map! Very interactive, gets users involved in the story.

Map Journal

I've saved the best for last. This type is a bit more complicated and involves more work for the GIS specialist, but the end result is amazing! It's called a Map Journal, and it uses more text to describe the story, as well as more linking options, full screen photos, maps, and other media. I like to think of it as an interactive digital magazine article. Here's one about the Grand Canyon:
http://s3-us-west-2.amazonaws.com/trustmaps/GrandCanyon/keepthecanyongrand/index.html

California State Parks Story Maps

California State Parks' GIS team, led by Paul Veisze and Anne Millington, is developing Story Maps for our park visitors. Fourteen drafts to date use Interpretation & Education Division's free park brochure text and creative commons images from public domain. View the first round of drafts at http://parkmaps.parks.ca.gov/testfolder/ViewParks/welcome.html.

Practical Applications

Story Maps can also be used for public safety. See a story map that shows historic water levels and boating hazard buoy positioning on Folsom Lake at https://csparks.maps.arcgis.com/apps/MapJournal/index.html?appid=14ae895515df4052b225a657644a5a40. This accident-prevention tool combines statistics, map contours, animation, and three-dimensional visuals — warning boaters that open water can disguise hazards not visible at high speeds.
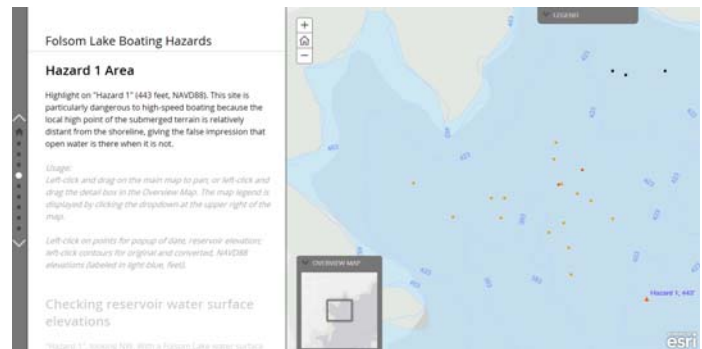
There are many Parks stories to tell, so the question now is, "What's your story going to be?"

Here are a few more examples of Map Tours:
Esri: An Introduction to Story Maps—
https://arcg.is/1miOK8

San Francisco 1906 Earthquake and Fire—
http://arcg.is/1n9O7UK

Locations explored by Huell Howser—
http://issigis.github.io/ThatsAmazing/

California Drought—
http://arcg.is/2litlGK

The Journey of a Semipalmated Sandpiper—
https://arcg.is/XG5CP

The Rockies' largest glaciers are melting with little fanfare—
https://arcg.is/0XWWDq

Cornwall Historic Walking Tour—
http://arcg.is/1OUoBD0

GPS and Interpretation: Where Can It Take You?
By Jeff Price, State Park Interpreter I, Ocotillo Wells SVRA

Almost everybody uses it; in fact, you have probably used it today and not even realized it. Almost every single modern-day smartphone/tablet has it; 64 percent of Americans will be using one this year. It was born of the space race and propelled into its current form by the Cold War. It's the Global Positioning System, more commonly known as GPS. This technology is used all over the world by billions of people. Some of the ways this technology is used are deadly serious (i.e. war, finding your way back to camp during a blizzard), and some of them can be quite entertaining (i.e., geocaching, geotagging photos, finding your way to the nearest In-N-Out on a warm summer day, etc.) No matter how you personally use GPS in your daily life—and we hope it's for one of the more entertaining uses—we need to realize the power that GPS has in our daily lives and the powerful tool that it is, and will be, for the foreseeable future.

Geocaching at Ocotillo Wells SVRA

Hand-held Global Positioning System (GPS)

GPS has gone through many iterations over the years. It all started with Sputnik, launched by the Soviet Union on October 4, 1957. Using the Doppler effect, scientists found that they could track Sputnik as it hurled through space. So why couldn't they reverse the system and track something on the earth? The system has evolved over the years until now there are 31 working satellites. A user has to have a GPS receiver and direct line of sight to four of them. The full history of the GPS and how civilians were finally able to use it effectively starting in the year 2000 is fascinating and well worth the read. For this article though, we'll stick to the future and how we might harness its power.

That leaves us, as Interpreters, to ask ourselves the question of how we can use this technology to inspire our visitors to care about their park resources and to use them in a way that future generations can do the same. I've already discussed the interpretive prospects of geocaching and if we open our eyes to the GPS technology currently available, we will see that there are many avenues open to us.

The first one was mentioned at the beginning of this article; the humble smartphone/tablet. Raise your hand if you have one within three feet of you! Great, now put your hand down; your docents are looking at you funny. Have any of your apps ever asked for access to your location? If so, that app is using GPS to track your location and in many instances make your app more informative, customizable, and enjoyable. Smartphones/ tablets and the apps that make them so popular and beneficial to their users are here, and they will be the go-to until humans go the cyborg route and have something equivalent jacked directly into their brains. So utilizing their features and the GPS that they have to further our efforts as interpreters is something that must happen soon in order for California State Parks Interpretation to gain relevancy with our audiences.

GPS is integrated into our daily lives more than we can imagine.

State Parks could have an app available for visitors to download that allows us to utilize their location via GPS. You could show them where
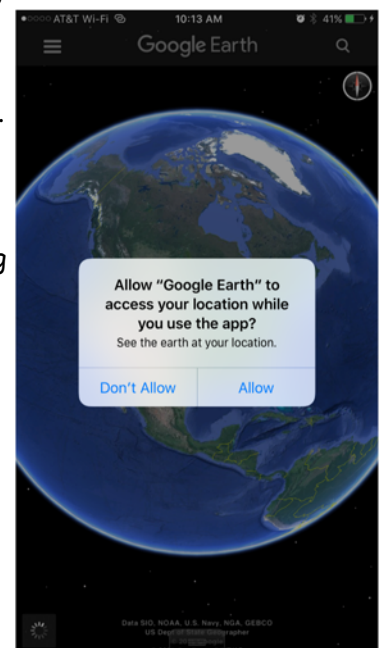
GPS and Interpretation, continued

on that loop walk the roving interpreter is in real time. Is the visitor leaving the trail behind? Maybe the app gives them a gentle reminder to stay on the trail and explains why. The visitor is also able to select geotagged 360-degree photos to explore an area prior to arriving, and is able to relive and share a particularly inspirational part of their trip from hundreds of miles away (this is completely doable right now, by the way.)

Remember the Pokemon Go craze? Imagine if this concept could be adapted to your park and its interpretive programs.

Utilizing GPS technology and augmented reality is actually a really exciting prospect. An interpreter could have visitors use their smartphones to view AR animals slinking through a native environment at a specific spot on the trail. You could watch the landscape change right before your eyes! Walking down a trail or a historic street at a certain location your smartphone/tablet dings; you bring it out and on the screen overlaying the environment in front of you is that exact area and how it looked 100 or even 1,000,000 years ago, along with the peoples and animals that called that environment home. Walking down that aforementioned loop trail, you could whip out that smartphone where your GPS stops you and you could have an AR interpreter give you a program about that particular area. Job security anxiety anyone? Want a 30-second program? Just select it. Want a three-minute program? Just push that button. The opportunities are there ready to be used.

Now this part of the technology comes with some ethical concerns that we won't get into right now, but Holy Analytics, Batman! Can you imagine the value of the data that could be collected? Where are people stopping? Are they interacting with your roving interpreter? How long are they interacting with your static displays? Are they using the AR? How long? If you find that visitors are leaving the trail in one particular spot, where are they going? Is it to something that needs to be made responsibly accessible and interpreted? Or do we need to do a better job of interpreting the need to protect sensitive resources? The answer to all of those questions and more lies in the GPS data that could be gathered from such an app. Every single app that you allow access to your location right now is doing the same thing—is it so bad if it makes your experience more enjoyable the next time you visit?

Considering that we are nearing the second decade of civilian use of the GPS and how much innovation we have seen in just the past five years, it's not hard to imagine interpreters using GPS as speculated above in the not-too-distant future. Remember, this technology was developed to keep track of and guide military assets during the Cold War. Now it can be used to watch the Grubhub driver near your house with your Double-Double. What other uses for GPS can you come up with? The future is here, and there are endless opportunities to use this and other technologies in our work. We just need to find the solutions that will accomplish our interpretive goals and get to work! Oh, and get some funding. Definitely going to need some funding—

GPS APPLICATIONS: CURRENT IN PARKS

TravelStorysGPS App: Take a drive along the scenic Teton Park Road with TravelStorysGPS to learn more about the history, geology, wildlife, and activities in Grand Teton National Park.
http://www.gtnpf.org/achievements/technology/

Pocket Ranger App: The official smartphone outdoor mobile guide for more than half of the state park systems and fish and wildlife agencies across the country, including California State Parks. Visitors can use advance GPS mapping, trail tracking and recording, photo waypoints, safety alerts, etc., to prepare for their outdoor outings.
http://www.pocketranger.com/Info/About/Faq

Beacons: Exploring Location-Based Technology in Museums: Beacon technology brings GPS-similar locative ability indoors using Bluetooth transmissions helping visitors navigate through exhibit rooms easily or providing them with supplementary audio and video content, and descriptions of objects.
http://www.metmuseum.org/blogs/digital-underground/2015/beacons

GPS: a Vision of Accessibility article: Craig L. Phillips, a retired teacher for the blind and visually-impaired, helped make the Tallgrass Prairie National Preserve in Strong City, Kansas accessible in 2016 for visitors who are blind or visually impaired using GPS technology.
https://www.delts.org/a-vision-of-accessibility

Taking Photos in 360°

By Steve Ptomey
State Park Interpreter III, Colonel Allensworth SHP

Have you ever taken a photograph and thought, "I wish I could capture the whole scene!" In the past, the best you could do was shoot a "panoramic" photo using a setting on your digital camera or phone. Within the last year or two technology has changed so much that now almost any smartphone can download an app to allow you to shoot a 360° Spherical photo. Also, the market is producing dedicated cameras like the Ricoh Theta S that can take stills and video.

While many phones are capable of taking 360° photos, there are some that can't. Some Samsung, LG, and older phones (older than two years) often don't have the processing ability or lack a "gyro" for their onboard camera. Several apps work well with 360° photography and park use. Google Street View for iPhone and Android users offers a quick and easy way to upload their pictures to Google Street View and social media. Sphere 360 photograph is an app available on the app store and Google Play is another popular application. Other applications may also work on your phone: Photosynth, AutoStitch Panorama, DMD Panorama, 360 Panorama, Pano, and Sfera. Phone applications are changing all the time, so by the time you read this, there will be more on the market, and some of these will be gone!

Let's stick with an application I know will be around for a while: Google Street View. If you download Street View on your iPhone or Android, you can take a 360° spherical photo in just a few moments. Open the application (you will need an account first), select the "+" sign and then select "Camera" (note: do not select 360° camera unless you can access a standalone camera). Once the camera is open, point the camera directly ahead and you will see an orange dot. When the dot is lined up in the camera sight, it will trigger the shutter. You will need to follow the orange dot to take multiple pictures of your surroundings, bending up, down, and all around. It's important for the photographer to stay in one place and move the camera close to the body as the camera assumes it is on a single plane/point.

Once you have taken photos from every angle, a green "checkmark" will appear at the bottom of the display. From this point the software will stitch the images together to form a single "sphere." From there, uploading the image to Street View or other social media will take a Wi-Fi connection as the information is too big over a cellular connection.

Now that you have your spherical photo what do you do with it? What is its application? And how do parks benefit? All good questions and the simple answer is you share it! Once uploaded to Street View you are allowing the world to see your pictures and it becomes in essence public domain. There is very little content available for spherical photos at the moment, but that is subject to change. Some of the photos of Colonel Allensworth SHP received over 1K hits in the first days of posting. These images can be linked to park webpages, social media, and other outlets to give visitors a better view of your park or facility.

If you have a historic building that has limited access or is only open during certain times of the year, you can use 360° photos to create a meaningful virtual
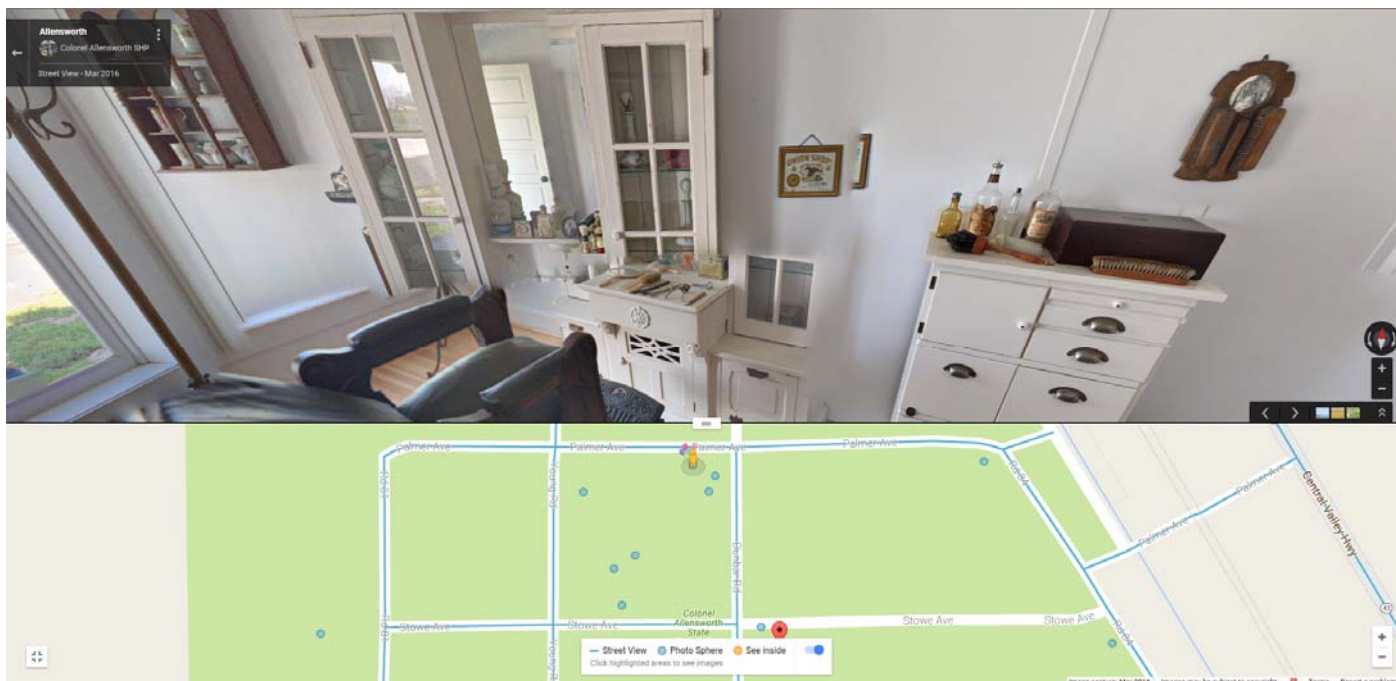
Taking Photos in 360°, continued

tour. Using an application such as Google Cardboard, that 360 photo now becomes a full VR image allowing the viewer to take the "viewer" and look around as if they were there!

Cardboard viewers are cheap and easy to use, so if visitors practice BYOT (bring your own tech), photos can be available to show what it is like inside a building, stagecoach, railcar, or important room that might have limited access or is inaccessible.

Other applications include classroom visits (pre-site visits for Environmental Living Programs), fairs, or other special events outside your park unit. The limit is your imagination and creativity. With 360° cameras available now for only a couple of hundred dollars, the technology is only going to become more accessible and user-friendly in the days to come.

360-Degree Camera: A Cool New Gadget For Your Interpretive Tool Belt

By Jennifer Langer
PORTS Program Coordinator

As State Parks Interpreters, we have many tools on our belts for delivering information to our audiences. In a traditional interpretive program delivered to a live audience, tangible tools may consist of things like books, posters, brochures, taxidermy, artifacts, and live specimens. On the technical end, these tools may consist of things like cameras, tablets, laptops, projectors, and other geeky gadgets.

All of these tools can be combined to create a multilayered program that is hopefully interesting, engaging, and relevant. In this creative pursuit, we must strive to connect to our audience in a meaningful and "modern" way—part of which requires a willingness to embrace new technologies as they arise.

After all, there's always room on your belt for another tool. One such tool that has surfaced is the 360-degree camera. There are several of these cameras on the market now, but for this article I will focus on my experience with using the Ricoh Theta S 360-degree camera.

Gone are the days of static images from our still-shot cameras being our only option for capturing memorable moments. We now have cameras like the Ricoh Theta S that can

capture 360-degree photos and videos. This doesn't mean that still shots have lost their value or will fade away with the advent of 360-degree technologies, but our lives aren't still; the ability to capture a moment in its entirety is pretty exciting!

Just imagine when you push the button on your camera to take a picture or video and you not only capture what's in front of you but everything else around you, including the ground and the sky. Now you have an image with an entire context to complement

360-degree of Bodie's cemetery

360-Degree Camera: A Cool New Gadget, Continued

A spherical view of town

whatever the focal point of your interest is, which is entirely up to the viewer. Images like this open up the possibility of additional discussion and discovery.

Three-hundred-and-sixty-degree cameras, like the Ricoh Theta S, have great potential as interpretive tools in the park setting. And since Interpreters have the creative license to imagine how to use tools like this, the world is literally our 360-degree oyster. It's just a matter of thinking outside the box (or still frame) and imagining how to use technologies like this to complement, enhance, and modernize our interpretive programs and exhibits.

For example, you could create a program or tour (either interpreter-led or self-guided) that consists of park visitors using their mobile devices to access 360-degree content at various points of interest. This adds another layer to the park visitors' experience and has the potential to deepen their

perspective and appreciation of the landmark, habitat, or historical building being observed.

Many protected areas of our parks have limited-to-no access for the public. For instance, imagine some park visitors standing in front of a building at Bodie State Historic Park who want to see the interior, but there's a sign saying, "No entry." Instead of missing out on the opportunity to engage this audience, let's provide them with a virtual alternative. Get out your Ricoh Theta S camera, snap a shot of the interior, and post a sign outside saying, "Virtual entry only." The 360º image provided at this point of interest now gives the visitor an insider's view. And voilà—the park visitors' appreciation level just went up a few notches because they've been granted access to something that was previously unavailable to them!

With my experience using the Ricoh Theta S camera, I would definitely recommend adding this cool, geeky gadget to your interpretive tool belt, because to put it quite simply, it's fun to use! This camera is small, lightweight, user friendly, and relatively inexpensive. Other attractive features include the ability to mount it to a tripod, connect to its internal Wi-Fi, and remotely control it with a mobile app provided by Ricoh. Using this app, the images and videos can be viewed, shared, or posted to social media.

The myriad of ways this camera can be used as an interpretive tool is entirely up to your imagination.

"Virtual entry only"—A spherical tour of the school house by State Park Interpreter I Catherine Jones

A Periscope View of Your State Park

By Berndt Stolfi   Daniel Williford
PORTS Program Coordinator   State Park Interpreter I
                                                        Point Lobos State Natural Reserve

It's in the news, it's on the floor of the House of Representatives, the National Park Service does it almost daily, and we are even doing it from a kayak: **Periscope**! Now you can too. But just **what** the heck is Periscope anyway? **Why** does it matter to you, to your park, and to California State Parks as a whole? And **how** can you and your park do it? Let us explain, with you, the California State Parks Interpreter, in mind:
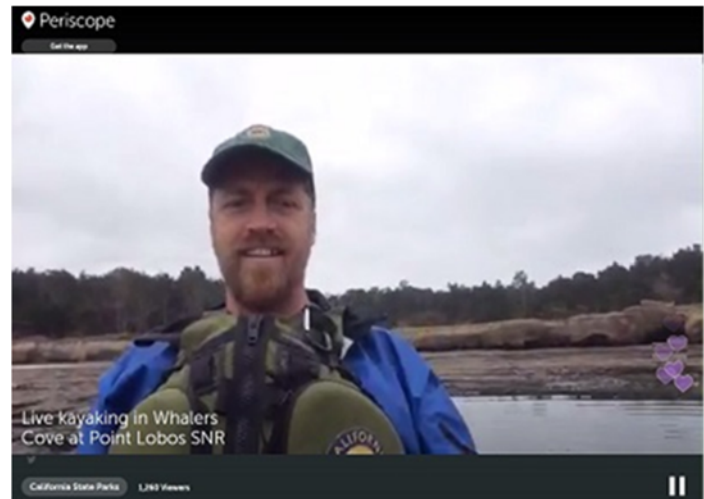
What? Periscope is an app that lets you share live video streams via your smartphone or tablet from our state parks to the world. Periscope's live broadcasts allow for real-time interaction between the Periscope community and the park through a comment/chat function. Comments posted appear on screen, so the Interpreter can respond verbally to the comments. Basically, Periscope is live Q&A from your state park to the world. And because Periscope is linked to Twitter, your Periscope broadcast can link to all 23,500 State Parks Twitter followers as well!

Daniel Williford "feeling the love" with hearts

Interpreter II Cara O'Brien with Guide 1 (on special assignment) Erin Gates live in Morro Bay

Why? Relevancy is a cornerstone of the California State Parks transformation process, defined as strategic goal number four: "Create Meaningful Connections and Relevancy to People." Simply put: Periscope makes connections and increases our relevancy. It allows us to reach an audience awaiting contact yet disconnected from our State Park System.

How? The PORTS Program Manager, Brad Krey, would be the first to say (honestly, he just did today), "If you can do it, Berndt, anyone can." And he's absolutely right. Our first attempts at "scoping" were in April and May of 2016 at Point Lobos SNR; while it was relatively easy, we learned a lot. Here are

some lessons from scoping:

Ask yourself or your interpretive team some key questions: what unique story about our park do we want to share with the world? What are our talking points? What unique location(s) will best make our point? Why should anyone care? What inspirational message can be shared? What meaningful connection can we make with our audience?

Periscope broadcasts are typically short (five - thirty minutes) and interactive. That's the whole point. You'll see multiple questions coming at you on the screen (so will the audience), and it's up to you to choose which questions to answer (you won't get them all.)

We estimate the average length of an individual view to be about two minutes. This means you'll be introducing yourself and your park's location, website, main themes, and messages repeatedly as viewers join and leave. Between these basics, you're also fielding questions that reinforce your guiding interpretive message(s).

Periscope is a little like the first three minutes of an excited school group's arrival at your park—peppering you with questions again and again.

Remember—share your love for the park and your enthusiasm, and people will love it. Daniel's broadcast from a kayak at Whaler's Cove epitomized this spirit:

"I had no idea what Periscope was even a few months ago, and now we can take the world on a walk around a mission garden, to the top of a lighthouse, inside a castle—maybe even on a canopy tour of the old-

A Periscope View of Your State Park, continued

growth redwoods—with modern, easy-to-use technology! Doing a program from a kayak was just the beginning!"

The PORTS Team is available to assist you with any questions you might have. We can walk you through the basic steps of downloading Twitter and Periscope, as needed. We have equipment and can assist you and your park in the setup and delivery of your programs.

To get started on Periscope, please fill out the form: https://goo.gl/tKDDXD

Questions? Contact Berndt Stolfi at: berndt.stolfi@parks.ca.gov

Photo at Left – First periscope from Pt. Lobos SNR taught us a few important lessons.

Free Apps to Create Interpretive Materials — Fast, Easy, and Fun
By Janice Kelley, outdoorjan@att.net

Using any one of three free new apps from Adobe, creating interpretive materials for your site, and engaging students to create their own products is easy, fun, and free. These new members to the Adobe family are Adobe Spark Post, Adobe Spark Video, and Adobe Spark Page. With Internet access, you and your visitors can quickly create short videos, online postcards, or tell expanded stories via a one-page-style website that visitors will scroll through to read.

Each app creates a high-quality product that is surprisingly easy to use and incredibly versatile. I used my iPad mini to create all the products included in this article. Visit https://spark.adobe.com/gallery/ to view a collection of projects that other users have posted online. You will need to create a free Adobe account if you don't already have one.

Adobe Spark Video. As a docent for Sutter's Fort in Sacramento, I took a series of photos to capture the people, activities, stations, and various products for sale during the annual Sutter's Fort Trader's Fair. A few weeks later, I created a three-minute video using Adobe Spark Video to present an overview of the history and activities at Sutter's Fort to build awareness for the BIG Day of Giving in May. I crafted the narrative from existing text in brochures and handout materials. In about three hours, the entire video was complete – including photo selection, crafting and recording the narrative, choosing a background theme, and adding music from the Adobe Spark Video library in the Creative Cloud.

Sutter's Fort State Historic Park informational video https://youtu.be/4IaBeZz16jI

I showed a video I created with Adobe Spark Video to a group of fourth-graders as a guest teacher. With very little direction, three students dived in and created a video in less than an hour about endangered pandas to complement their reading in a *Time for Kids* magazine. They created the story, recorded their narrative, found icons and photos, saved the video, and uploaded it to YouTube, so the entire class could view their work. Here is the link to *Save the Pandas!* https://www.youtube.com/watch?v=wxFwH0dPm4A

After they were done, they asked when they could create the next one. They wanted to do a video to

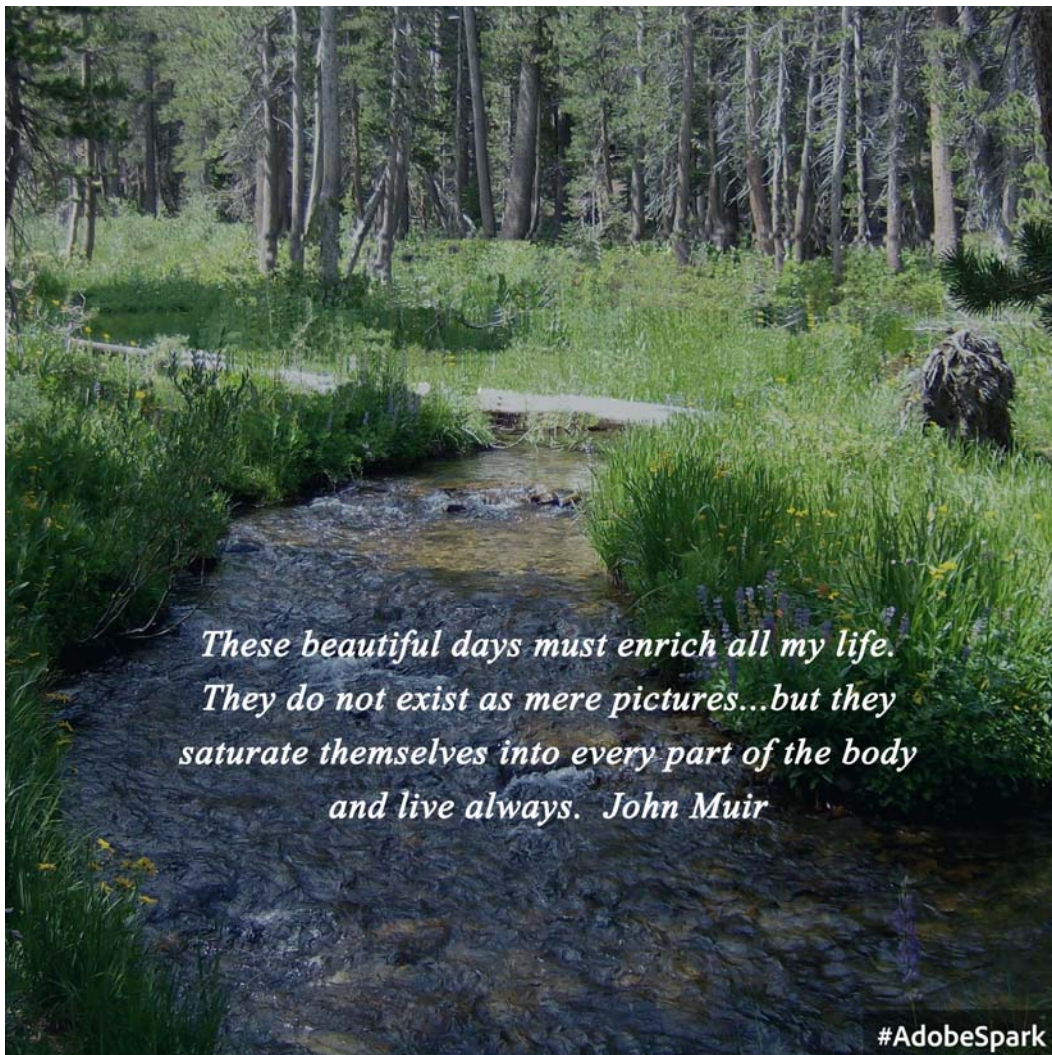# Free Apps to Create Interpretive Materials, continued

save the rainforests.

Adobe Spark Post. This powerful app creates a postcard with text overlay in minutes. Users can choose from a series of template themes for the text and modify type or formatting as desired. Upload a photo from your computer, Dropbox, Creative Cloud, or other online sources. Modify the photo using predetermined filters or leave as is. The formal purpose of Adobe Spark Post is a "social graphic," because as soon as the user completes the card, the next page provides the link to share via Facebook, Twitter, or email. Save the post to your Adobe project folder, share with social media sites, and download the jpg to your computer desktop. When you want to start a new post, return to the main menu and click on the + sign to begin a new project.

What messages do you want to share if you can complete a postcard and share it online in less than 10 minutes?

Adobe Spark Page. This app presents templates for a "one-page website," so the user can create and share the richer, visual details of a longer story. The user selects a photo template, pastes in photos, and types directly into the page as it looks on screen. Here is a sample of a day at the beach with my family. https://spark.adobe.com/page/6q3Ci/. Using the scroll feature on mobile devices creates the full effect of fading from one screen to another.

These three powerful Adobe apps are new releases within the last year. They were originally available only as free apps for iPads and iPhones from Apple's App Store. With a recent upgrade and regrouping the three of them into the "Spark" family, Adobe has made it possible to access all of them from the Internet. Users can begin their videos, posts, and websites from their laptops and finish them from mobile devices. Look for the Adobe Spark apps at https://spark.adobe.com/.

These beautiful days must enrich all my life. They do not exist as mere pictures...but they saturate themselves into every part of the body and live always. John Muir
#AdobeSpark

Google Blogger:
Building a Docent Resource Website
By Mike Merritt
State Park Interpreter I, Año Nuevo State Park

What it does for you – Provides a one-stop website for communicating with your docent community. Blogger is a place to blog (basically an online newsletter) to your docents while also supplying a website to archive information (files, photos, links, etc).

Cost – Free

Tech Knowledge – Little. Blogger is owned by Google, which does an excellent job of making the software user friendly.

Drawbacks – Few, when using it specifically as a docent resources website.

Web Addresses – To learn more about Blogger - www.blogger.com

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Reasons for this Technology

As every volunteer coordinator knows, the heart of their job is communicating with their volunteers. We spend countless hours keeping them informed of what is going on in the park, answering their questions, scheduling their shifts, and, of course, reminding them of how much we love them. Once, emails, phone calls, and in-person conversations were the only way to get this done. But now there is another way.

Online websites are now at the center of visitor communication. A business or group is not official until they have a dedicated webpage. This norm has been prevalent for years. I myself often will check out the official webpage of whatever it is I am about to visit. From parks to movie theaters, restaurants, and even the local swimming pool, everyone now has a website dedicated to relaying information about their organization.

Each California state park has our official park webpage, designed to inform the public and prepare them for their visit. They have evolved over the years, thanks to our hard-working webmasters. They look and work great! However, there may be information that we want to share with our volunteers, but not with the public. This is where a website dedicated only to volunteers comes in.

Creating a website solely for communicating with volunteers is one of the best things a volunteer coordinator can do to boost information flow and foster their volunteer community. At Año Nuevo State Park, this website has become an integral part of our docent program. It provides an easily accessible online base camp for everyone to go to, including volunteers, staff, and other park partners. In years past, building and maintaining a website was difficult, expensive, and time-consuming. But thanks to all the recent start-up tech companies who have been investing in making
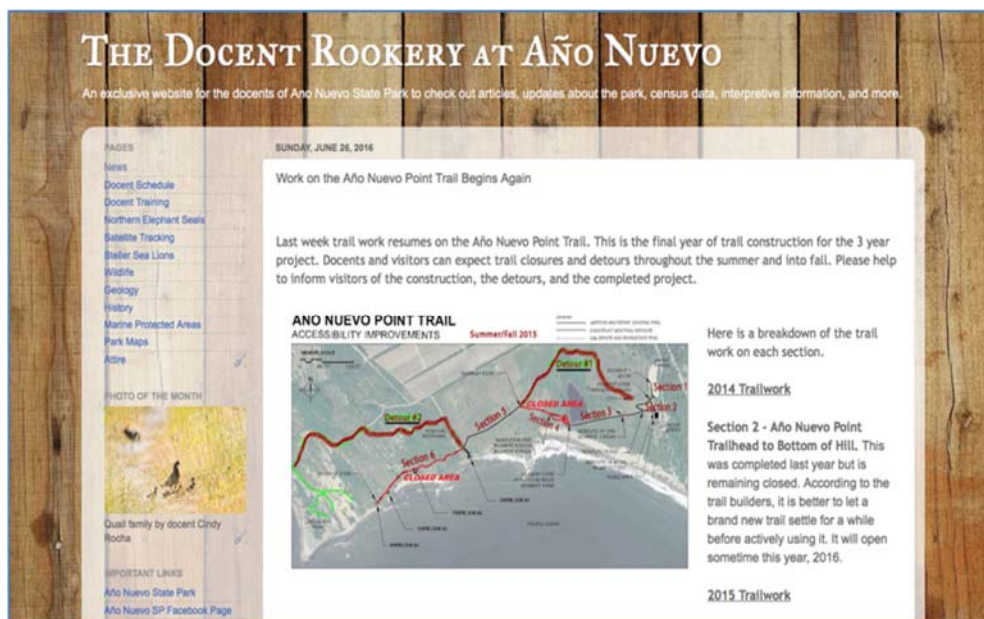

"The Docent Rookery," Año Nuevo Docent Resources main page blog newsletter

Google Blogger, continued

webpages more user friendly, this is no longer a problem. Today there are many companies that provide already built templates for interpreters to build from. Basically all the techie stuff is done; users can start immediately adding content to the websites.

The online program we use at Año Nuevo State Park is Blogger. To give it a more professional feel, we choose to have an official name for the site, "The Docent Rookery." It was originally brought to us as an idea by one of our docent coordinators, Rosanna Petralia, who had worked in the online industry for a time. She knew online blogs were powerful tools for other business industries, so why not in docent coordinating? There are other website templates to choose from, such as Squarespace, Wix, Weebly, and others. However, this review will be focused on Blogger for use as a docent resources webpage as I haven't used the other templates yet. It also targets working with docent volunteers as they require more training resources than other volunteer groups.

There are some really great things that a Blogger website can do for a volunteer program. For starters, Blogger incorporates blogging as a main component of the site—a great information tool. Second, it acts as a library, giving docent coordinators the ability to store files online. Since the website is available 24/7, this information is easy to access whenever and wherever the volunteer is. And one of the best things about Blogger is that it's easy to use for those who are comfortable using a computer. If you are comfortable using Microsoft Word or Publisher or use Facebook, Blogger is much the same.
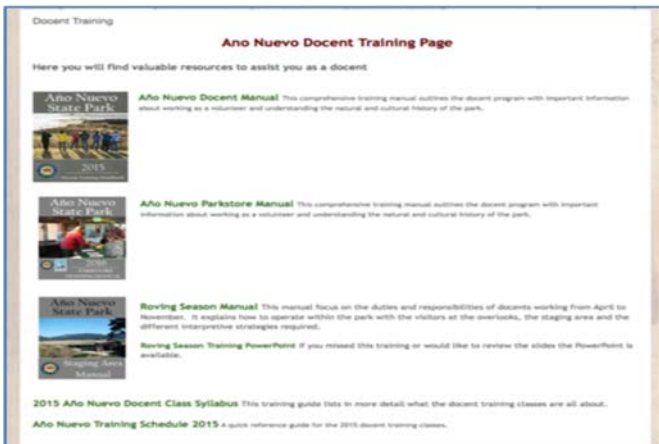
Docent Training Page—all resources in one place

Blogging
As many already know, blogging is a big deal within the internet world. It acts as an online newsletter of sorts. Blog posts (just like a news article) can be long or short and contain photos and web links. Because of

the time commitment, we discontinued our printed newsletter at Año Nuevo years ago, so this was a welcome benefit for communicating with our docents. What makes a blog better than an online newsletter is that users don't have to wait to post the news item at the set interval. With blog posting, you can post information online immediately for all of the volunteers to see. Sometimes it can take as little as two minutes. As a result, we probably post more news items to our docent community than we would with a standard newsletter format. Take a look at our blog to see examples of content we have posted.


Blog posts on park-specific natural history topics

Another feature of Blogger is that it lets you attach a keyword to each post. This allows you to search for a specific subject from all of your blog posts. For example, if I wanted to see all the news items about elephant seals, I could enter that key word; every post that I labeled about elephant seals would show up—no matter how long ago it was.

An Online Archive
Having a place to post all the information that comes and goes through my office is fantastic. Blogger allows you to create subpages where you can post content, photos, links, etc. I have created subpages for various topics including scheduling, training, maps, and some of my main cultural and natural history
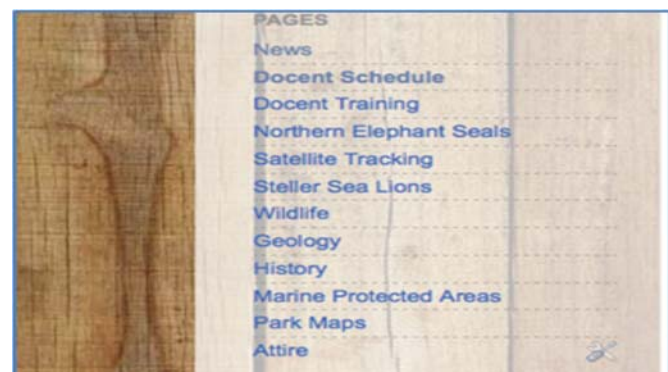
Links and resources on The Docent Rookery

Google Blogger, continued

subjects. The best part is that over time this information grows and grows since it's easy to add content.

There is also a place to post links to other websites (like your official website) along the sidebar.

Schedule Page
Since Blogger is owned by Google, users are able to easily integrate other Google applications into the website. Google Calendar is a productive tool to keep track of scheduled docents. With Blogger you can insert your Google Calendar directly into the website, where it automatically shows up. It takes some work to insert the names, but this feature has become highly popular with our docents. We keep it current at all times, allowing docents to see the most up-to-date schedule.

Tracking
Like most sites these days, Blogger provides a stats page where you can see how many people have clicked on the website each day and other insightful tips.

Custom Domain Name
You will be able to pick the domain name (the address of your website) for your page. However, to avoid paying for it, it will include the word "blogspot.com." To avoid having "blogspot" in the title, you can purchase a custom domain name online. At Año Nuevo we chose to have a custom name (www.docentrookery.org) so that it looked more official and user friendly. However, at the time of this review, we are using the web address "www.thedocentrookery.blogspot.com" as we are having issues with the company we use to host our domain name. So make sure you pick a web-hosting company you feel comfortable with. We plan to get back to our original address soon.
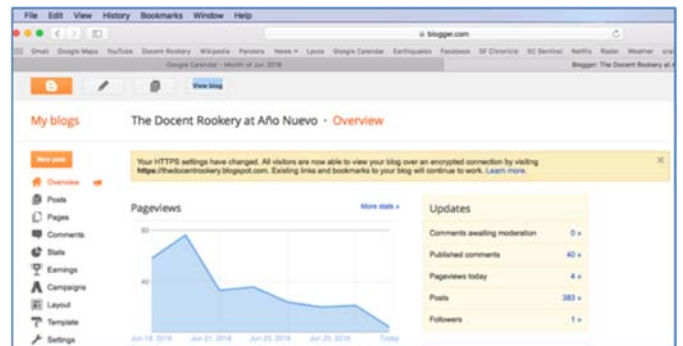
Sub Pages
You can create multiple subpages to store information. They are easy to edit. We use another Google product, "Google Docs" to upload and store files. Then you can get a hyperlink (a web address that connects directly to the file you want to share) and copy it into the webpage on Blogger.

The tiled examples at right show how easily volunteers can gain park information and check their schedules. To get started, create or use your Google account and visit https://www.blogger.com/.
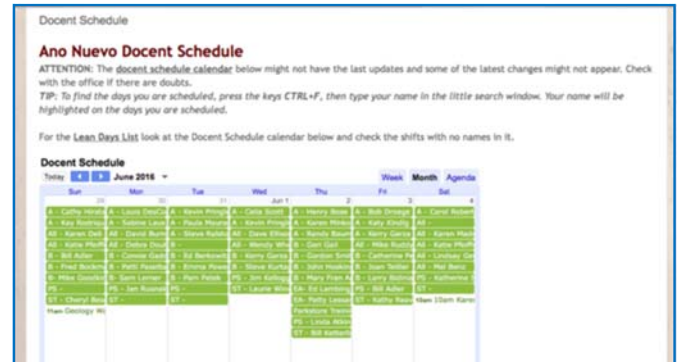
A scheduling tool at your fingertips.

Built-in analytics help track website usage

Dig deeper into information using subpages and hyperlinks

The Past and the Future: United by Clay
By Peggy Ronning
Museum Curator I, Antelope Valley Indian Museum SHP

When people hear the word "technology," they often associate it with computers and the future. However, at Antelope Valley Indian Museum State Historic Park, we discovered that teaching kids about ancient technology is important to prepare them for futuristic aerospace jobs.

Antelope Valley, California, is home to Edwards Air Force Base, Plant 42, Mojave Spaceport, Space Ship One, Virgin Galactic, and their associated aerospace contractors. Schools and officials emphasize aerospace as a career because aerospace is an important employer in the cities of Lancaster, Palmdale, and Mojave. Antelope Valley College is one

Courtesy of NASA, Flickr Commons

Built at Plant 42 in Palmdale, CA, the space shuttle orbiter Endeavour used ceramic-lined heat shields

example. In addition to offering Associate's degrees in Computer Information Science, Electronic Technology, Aeronautical & Aviation Technology, Engineering, and Aircraft Fabrication and Assembly, AVC offers a BS in Airframe Manufacturing Technology. AVC also hosts SOAR High School, which emphasizes mathematics, science, and engineering.

Unfortunately, in their belief that teaching anything other than reading, writing, and arithmetic is unnecessary for future engineers, and a waste of extremely limited resources, subjects such as art have been—well—thrown out of the airlock. I discovered this while giving school programs at Antelope Valley Indian Museum SHP.

Antelope Valley Indian Museum interprets the Native cultures of the Antelope Valley and the peoples they traded with on the California Coast and the Southwest (Arizona and New Mexico). The fifth graders who visit the museum are studying the Pueblo cultures of the Southwest, and half the

objects they see during their program are made of clay. This is because pottery making has been a significant technology in the Southwest for the last 2,000 years. On a regular basis, the students

Ceramic by potter Quanah Fragua, Jemez Pueblo, New Mexico

would ask what pottery is made of. I would reply, "Remember when you played with clay in kindergarten? That pot is made out of clay." Wrong answer! I received blank looks.

Finally, one of the teachers informed me that not even kindergarteners do art in our local schools. These children had *never touched wet clay*. I was able to satisfy the students by explaining, "That pot is made out of the same stuff as your plates and coffee mugs at home." However, they needed a better answer.

Our cooperating association, Friends of Antelope Valley Indian Museum (FAVIM), was very supportive of filling this void and agreed to provide clay for all of our fifth-grade programs. With help from Jemez Pueblo (NM) potter Quanah Fragua, who has been a past Visiting Artist at the museum, we developed an instruction manual for making a small coiled pot. For fifth-grade school group programs, each student is given a baggie with a small cube of clay and they can follow the instructions or use their imagination and make something else.

The important lesson is that pottery is made of clay and to experience some of clay's properties hands-on. So, kids playing with clay is all very uplifting, but how does it relate back to aerospace technology? Just

The Past and the Future, continued

Google "Ceramic in aerospace industry" to find out. The physical properties of different ceramics can be applied to a variety of aerospace uses from heat shields to windows. Ceramics are also lightweight and inexpensive—characteristics that are highly valued in aerospace.

In November 2015, several Antelope Valley College aircraft fabrication professors came to the museum for their professional development day. When I told them about our clay activity, they told me about another unintended by-product of removing art and other hands-on activities from the school curriculum: the students who enter their aircraft fabrication program struggle to manipulate objects with their hands and understand spatial relationships. While one 30-minute clay activity at Antelope Valley Indian Museum cannot make up for a complete lack of art in

school, it's better than nothing, and we hope some of the students are inspired to find extracurricular art activities in the community.

Future aerospace engineers will need to know what clay is in order to advance the California aerospace industry in a globally competitive arena. California State Parks says, "You're welcome."

Connectivity
By Victoria Yturralde
Staff Park and Recreation Specialist
Interpretation and Education Division

One of the ways California State Parks tries to foster its relevance is by using developing technologies and communication avenues to attract and educate park visitors. The underlying premise is that if we don't "keep up" with technology, we (Parks) will become an antiquated and irrelevant entity—and millions of people will not have the opportunity to experience and, ultimately, support our parks.

Yet, I am not aware of any surveys or studies indicating that people do not come to parks because there's no Wi-Fi available. Most people are capable of navigating a trail without GPS or a mobile app (and if they're not, they should be, for that inevitable time they drop their phone in the lake!). Although many apps have been developed to "enhance" the visitor experience, many have been market– vs. need-driven, qualifying more as toys than tools. In the absence of data, it seems rash to assume that specific age and demographic groups will be

spurred to stewardship by providing increased access to technological tools.

In fact, most people come to parks to rest, recreate, and recuperate from the busy world—to "unplug." Information overload is a fact of our modern world, and many of us are "addicted" to a state of being constantly "on." (How many times a day do you check your phone or email?) Being constantly connected means that there is less and less time and space for doing NOTHING. Daydreaming, creating, remembering, imagining, working through new ideas, meeting new friends—all are nearly impossible when we're "plugged in."

Richard Louv, in *Last Child in the Woods*, writes about the "disconnect" between children and nature. Rather than provide a child with an app, he advocates using the senses to make a lasting impact. Inhaling the scent of pine trees deep in the forest. Hearing the startling and unexpected sound of a mockingbird. Witnessing a

Connectivity, continued

sunrise at dawn. Feeling an ocean wave crash over one's head. Tasting the fresh, cold water of a mountain stream. These sensory experiences, for young and old, form lasting memories and connections to special times and ground us to our place in nature.

Unfortunately, some tools distance us from—rather than connect us to—nature. Apps allowing us to document what we see on a trail and send photos to social media sites remove us from "the moment." Children learning about tide pools on TV, rather than by visiting a secluded beach, experience a "disconnect" from reality. Putting our energy and resources into distancing, rather than connecting, our visitors does them—and Parks—a disservice.

Technology Enhances Interpretation at Donner Memorial State Park

By Sariah Groff   **Michael Romo**
Museum Curator III   **Project Manager**
Northern Service Center **Facilities Management Division**

Donner Memorial State Park celebrated the grand opening of its new visitor center on June 6, 2015. This was an exciting day for the park, district, and Northern Service Center staff. After nearly 20 years of planning, designing, and constructing, the much-needed new visitor center was finally complete. This 9,300-square-foot building includes: 700 square feet for a gift shop, restrooms, and office space; a 1,400 square foot multipurpose/theater room; and the main feature, the 4,200 square foot exhibit area.

The U-shaped rock theater is the center of the interpretive area

At the heart of the exhibit area is a 17-foot-tall, U-shaped rock theater with four distinct interpretive stories revolving around it. These stories focus on the emigrant experience with an emphasis on the Donner Party; the Washoe people and their history of living in the mountains; the Chinese railroad workers who tunneled through the Sierras; and the introduction of automobiles and the building of highways in the area. Under the 29-foot-high ceiling are large wall murals, hanging banners, graphic panels, large props and artifact displays, and multimedia interpretive elements.

From the start of the project, the staff's goal was to incorporate technology into the exhibit displays to

Using Media Technology at Donner, continued

enhance the visitor's experience and provide the flexibility to continually update the exhibits. While static exhibits and panels are the "bread and butter" of museum displays, technology allows us to expand the way information is developed and presented, providing for even richer interpretive opportunities.

For the Donner exhibits, staff opted to incorporate several multimedia elements such as touch screens, video clips, short video stories, projected images, and a feature film. Using a variety of media technology offered a means of connecting with visitors on multiple levels while still allowing for low-cost updates.

Touch screens utilizing still images and text are located in the Emigrant Trail and Gateway sections. These

Quotes from Donner Party members scroll on the covered wagon's canopy

touch screens offer visitors a more immersive experience and an opportunity to delve deeper into the history and stories presented. The first allows visitors to scroll through a complete list of all Donner Party members, grouped by families, to discover who lived and who died. The second screen introduces visitors to other state parks with a connection to the interpretive topics and themes developed at Donner. Short video clips can be viewed on the projection wall in the rock theater, and two video stories are shown on display monitors in the Chinese Crossing and Frontier of Leisure sections.

The interpretive goal was to create immersive, story-driven content that would appeal to visitors. In order to provide a cohesive and unifying experience, digital content was developed in a way that is similar to the design of interpretive panels – one message, one topic, one story. For example, in the video on Chinese railroad workers, the topic is the daily life of these men; from the work they did to how they spent their leisure time.

The take-away message is that they were ordinary men, doing dangerous work, who had a lasting impact on history.

Images of quotes taken from the letters, journals, and memoirs of Donner Party members are projected onto the canvas canopy of a covered wagon. The quotes are in chronological order; they scroll and fade

from one to the next. These projected images open a window into the past and invite visitors to connect emotionally with Donner Party members through first-hand accounts of their experiences.

The multipurpose room has a nine-screen video wall where the repurposed feature film from the previous visitor center is shown. While the film is not new, it still engages the audience while presenting the history of the Donner Party. The repurposed film fills an interpretive gap while funding for a new feature film is sought.

The desire to use new technology should be weighed against the ability to adapt and upgrade, as well as the cost of ongoing maintenance and support. Going too "cutting edge" can lead to outdated exhibits in just a few short years. An MP4 format was used for all digital content at Donner. This format is widely used and can store audio, video, subtitles, open and closed captioning, and still images. Commercial grade monitors were selected based on expected use. Even though commercial touch screens and monitors are more expensive than retail devices, they have a longer life expectancy and are built to withstand frequent and heavy use. Maintenance of digital devices and content is relatively easy – simply wipe off dust and fingerprints, and occasionally reload updated data and software.

The media technology used in the exhibits greatly

Using Media Technology at Donner, continued

enhances the visitor's experience while at the same time letting the park refine, add, and create new educational and interpretive components. All the multi-media elements used – the touch screen displays, videos, and projected images – can be updated, modified, or replaced. This means the park can adapt the digital content to future educational needs, gaining flexibility in both their museum exhibits and interpretive programs.

Visitors remark at how well new technology integrates with the film, displays and panels, adding more interest to the fascinating Donner area stories.

Projection wall of the rock theater.

Questions to Ponder
By Heather Holm
State Park Interpreter III
Interpretation and Education Division

Often walking into park visitor centers is like stepping into a time capsule with interpretive exhibits that are decades old and antiquated A/V equipment that is barely functioning. We chafe at the functionality limitations of our Department's website and content manager. Fewer visitors are using traditional means to find out about our parks. More teachers are requesting opportunities to skype with "the experts" to enhance their classroom curriculum. What do we need to consider in addressing these technology challenges?

In the midst of our eagerness to update existing, and employ new technologies to enhance interpretive efforts we need to pause and ponder some questions. As you contemplate implementing different technology consider these questions.

õ How will this technology enhance the visitor experience?

õ Does the technology enhance your ability to tell the "whole" of the interpretive story?

õ What audience are you targeting with this technology?

õ How will the technology be funded?

õ Is there an ongoing maintenance plan?

õ Who will be responsible for maintaining and updating the technology and content?

õ For A/V equipment in a visitor center or campfire center, does the technology fulfill the needs of the space? (e.g., is the projector strong enough and bright enough to project a long-distance or in different lighting situations?)

õ What are the technology limitations of my site (e.g., frequent power outages, limited connectivity, etc.)?

õ How might technology provide improved ADA accessibility?

õ Are there ADA issues or concerns regarding the technology that need to be addressed?

õ What additional equipment or components are needed to support the technology?

There are many more questions you might consider, or your manager might ask of you; these are just a few to begin the conversation.

California's Tapestry

A Diversity Feature Article   **Summer 2017**

PORTS Partnership Brings Parks to Classrooms and Classrooms to Parks

By Rhiannon Sims, State Park Interpreter I, Santa Cruz District

"Are there snakes there?"

"Do elephant seals bite?"

"What will the weather be like?"

The students who asked these questions of me, a state park interpreter, had never been to Año Nuevo State Park. In fact, most of them had never been to a beach at all, although they attend schools that can be less than twenty miles away from the ocean.

These schools, in the Redwood City and Watsonville areas, typically have a minority-majority population; most of the students are ESL learners. Ninety to 100 percent of the students qualify for the Free or Reduced Lunch Program (FRLP), well over the eligibility requirement for receiving Title I supplemental funding from the federal government.

The schools have extremely small budgets for field trips—sometimes just ten dollars per student—and cannot afford the ever-increasing transportation fees to visit a state park. But despite the challenging circumstances, these students *did* get to experience elephant seals and the other natural wonders of Año Nuevo with the support of Field Trip Foundation (FTF) and PORTS (Parks Online Resources for Teachers and Students).

Field Trip Foundation, a local 501(c)(3) non-profit organization, provides funding to Title I schools for transportation costs to Año Nuevo State Park, among other educational outdoor destinations. Tina Conway, founder of FTF, requires all participating schools to prepare for their field trips with a pre-visit curriculum to make sure the students have the best experience possible.
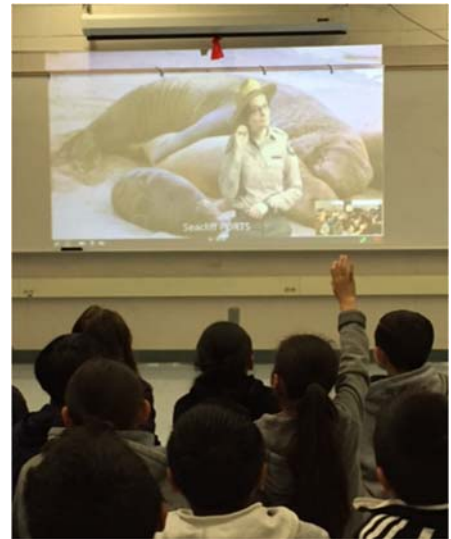
In previous school years, this included an in-class presentation on elephant seals from Año Nuevo's docents. For the 2015-2016 school year, PORTS, a free distance learning program offered by California State Parks was utilized exclusively for the class presentation and provided 24 live videoconference presentations to 678 students in partnership with FTF.

Tina Conway feels there are several benefits to using PORTS, including familiarizing students with a very different environment from what they are used to: "I believe that part of a [PORTS] program is to help the kids feel comfortable because they can be overwhelmed when they get to Año Nuevo. They haven't seen the ocean before, they haven't heard the sounds before, they certainly have never seen an enormous marine mammal before, and they can be a little fearful . . . I'd say it's not common, but it's also not unusual, to have a kid in a group of 20 grab your hand or make sure they're always holding a teacher's hand or chaperone's hand during their visit."

Preparing for a field trip by participating in a PORTS program

With a PORTS presentation, students have the opportunity to ask questions of a uniformed "ranger" who can allay their worries and help them feel prepared and excited for their upcoming field trip.

Besides removing the fear of the unknown, a PORTS presentation paves the way for a greater understanding of potentially challenging scientific concepts students are learning in the class that relate to what they will observe on site at Año Nuevo.

According to Conway, "giving context is a very important interpretive component because it helps to translate facts into concepts that students can apply across their curricula...and in their own backyard or schoolyard." When students are asked to stand up and stretch their arms out to simulate the length of an

PORTS and FTF, continued

elephant seal or to imagine a balloon as an elephant seal's lung to explore marine mammals' adaptations for deep ocean diving, not only are they learning, but they are learning in a way that is easy to understand and is fun to boot.

This fun may be PORTS' not-so-secret weapon for success. "The PORTS program is unique in that the students interact with the ranger, which has a certain 'cool' factor. Using technology is important to show kids all the various ways to access information," states Gail DeBellis of Hawes Elementary School, a long-time FTF participating teacher. Conway, who has watched several PORTS programs in classrooms, says, "I have actually observed their excitement, and part of it is: well, what fourth grader wouldn't want to watch a bit of TV during the school day? But the second part is the 'magic' of it. It's one thing to see you [the PORTS presenter] on the screen, that's not so remarkable . . . but when they talk to you and you answer them, there's a little hush and there's some gasping and—it's a really extraordinary thing to watch because they've not experienced that before. Maybe some other schools do some videoconferencing and it's not new for them. But for every school we work with, I don't think that any student has participated in it before."

A PORTS videoconference is an easy option to help prepare students for a future that will most likely involve technology, while also eliminating some of the difficulties that FTF previously faced with scheduling docent in-classroom presentations. Conway feels that PORTS offers "a consistent background that's going to help students interpret the landscape."

Instead of the headache of juggling several docents' schedules with the schools, one State Parks representative can provide all of the classrooms with a standardized presentation without having to travel to the audiences' far-flung locations. The docents at Año Nuevo who lead the school group walks have been briefed on what is covered during a PORTS presentation. Knowing what information the students should already be familiar with can lead to opportunities for the docents to have more in-depth discussions with students during their field trip.

As for the concern some may have that a PORTS presentation might steal the show from the actual resource: those who have participated in the FTF and PORTS collaboration have a very different view.

Conway shares, "You might argue that you're taking away the surprise factor, but I would completely disagree with that. It's just the opposite: they're more excited because they recognize what they see based on what they learned in the classroom. And I think that's what you [PORTS] do: you increase their interest and their ability to take curriculum materials and apply them more readily."

DeBellis agrees: "Especially at the fourth grade level, I feel it is very important to give them as many experiences as possible to increase their English vocabulary, facilitate their writing and overall appreciation of the natural world, so they will take care of it!"

I have seen this myself. In January, I had the opportunity to observe a docent-led school group walk at Año Nuevo with some of the very same students I had given a PORTS presentation to the day before. Their faces lit up as they recognized "the lady from the TV!" Many of them wanted to speak with me before they became absorbed in the docent's presentation. Their enthusiasm for the field trip did not seem dimmed one bit; it was wonderful to see the jubilant expressions on their faces as they got to experience a state park for what I hope will be the first of many times.

The field trip is "something the kids would never do with their families," says DeBellis. It is great to know that PORTS has a part in introducing this underserved group to state parks, something that belongs to all the people of California, not just those who can afford the bus fare.

As with any good technology, there is more than one way to utilize PORTS: it can offer an alternative for the many schools who cannot afford field trips to state parks today, but it can also be used by schools who will take field trips to prepare beforehand or reinforce lessons learned afterwards.

Hopefully, the successful use by FTF of PORTS for field trip preparation will be a model for other school districts or non-profit organizations who want to ensure that all young Californians discover their state parks.

The "real thing"— a field trip to Año Nuevo!

The Catalyst
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