USDA Forest Service Northern Region

Operational Plan

Digital Kiosk Program

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Contents

INTRODUCTION

1. Project Background and Description

The national technology and Development Program competed its final phase of project implementation for the UDID project. In that final phase, the R1 Recreation Business management program is identified as the area which the digital kiosk program will transition over to in Regional and National expansion. This operational plan lays out the strategy and steps to follow to expand the digital kiosk program beyond what has been accomplished by NTDP and R1 in the pilot program development and implementation.

Definitions

- **Digital Kiosk:** A digital kiosk is a one-way, multimedia delivery system that includes a visitor's smart device and a router that is programmed to deliver "web" content to their screen. The router emits a signal, which kiosk users connect to as "WIFI". Users then type in the specific website address provided in the instructions into a web browser of their choice. This system does not require an internet connection, it is a completely self-contained system. Hardware consists of:
  - Router
  - Solar panel and associated hardware to function (battery, charge controller, cords, etc.); this is required for locations without other sources of power (grid)
  - Enclosure box
  - Sign instructing visitors how to connect their smart device
  - USB drive
  - HTML coding on the USB drive for the website
- **Content:** Content in the context of this project is multimedia which is uploaded to a digital kiosk for users to download to their smart device. Multimedia examples include video, podcast, pdf brochures, maps, etc.
- **Maintenance:** Maintenance in this context refers to the hardware and "website" maintenance of a digital kiosk. This can include repairing damaged and dysfunctional system hardware. It also applies to the uploading/updating of multimedia content on the digital kiosk website.
- **NTDP:** National Technology and Development Program
- **R1:** Northern Region/Region 1
- **NPCNF:** Nez Perce-Clearwater National Forests, the primary pilot program forest for the digital kiosk program
- **Electronic Tour Site:** The term coined for digital kiosks by the NPCNF for it's Historic Routes Project. Synonymy's with digital kiosk.

Pilot Project

The National Technology and Development Program (NTDP) collaborated with the Northern Region (R1) to implement a digital kiosk pilot project that had been developed to remotely deliver information to the public at outdoor recreational sites. NTDP and R1 identified Lolo Pass Visitor Center on the Idaho/Montana border, and Blue Mountain Trailhead in Missoula, Montana, as the first pilot locations to host digital kiosks. The LPVC was installed as an indoor location, Blue Mountain TH an outdoor, solar-powered location.

A grant was obtained by the Nez Perce-Clearwater National Forests (NPCNF) and R1 to take this pilot project developed by NTDP and implement it on a forest scale on the NPCNF.

Prototype Development

From the pilot program that NTDP and R1 built, the Nez Perce-Clearwater NF collaborated with NTDP and R1 to develop and expand the project that integrated the digital kiosks into its Historic Routes Project with the support of NTDP and R1.

NPCNF developed an interpretive plan, communication plan, and a myriad of other supporting documents for project planning and implementation, culminating in the development of a contract to install and maintain its Electronic Tour

Sites (digital kiosks). Through the contract the NPCNF has installed and maintains its 30 Electronic Tour Sites (digital kiosks) in a variety of locations across the forest, communities, and state lines. This prototype model is a valuable tool to harness for an across-region implementation and acts as a template to follow in this operational plan as R1 looks to expand digital kiosks availability to other units in the region and across the nation.

Expanded Deployment

This plan is meant to lay a roadmap for the Northern Region to expand the digital kiosk program to a Regional level in an efficient and effective manner. Here, the steps, requirements, and guidelines of best practices for forests to follow when looking to incorporate digital kiosks on their unit is outlined.

PROJECT SCOPE

2. Vision, Goals, Objectives, Outcomes

Vision

The Northern Region aspires to expand the digital kiosk program throughout the region by aiding units in obtaining digital kiosks, providing guidance through the process, and supporting installation and maintenance. Through this regional expansion, it is anticipated that National deployment will follow.

Goals

1. Close out the UDID project obligations of NTDP and complete the transition of the program to R1
2. Develop a deployment process which can be duplicated by other Regions and Units
3. Deploy digital kiosks on various units across the Northern Region
4. Assist forests in obtaining and maintaining digital kiosks
5. Emphasize deployment at SUP sites and recreation sites
6. Deploy digital kiosks on various units Nationally

Objectives

1. Compose a final UDID project brief to close out NTDP and transition the program to R1; identify NTDP's continued supporting role, and R1's commitment to project expansion (see Appendix __ for NTDP brief)
2. Create an Operational Plan (this document) to strategize project expansion and that lays out the steps and requirements for implementation
3. Create "How To" instructions to share with Forest Service Units that lay out the steps necessary to obtain digital kiosks (see Section 4 for the unit "How To").

Outcomes

1. Forests across the Northern Region will have the steps and requirements outlined to install and implement their own digital kiosk projects.
2. The outlined process can be followed and applied on a greater scale nationally.
3. Forests will install and maintain digital kiosks across the region and nation.

OPERATIONS

3. Implementation

The following section outlines best known methods and recommendations for implementing digital kiosk deployment across the National Forest System on an expanded scale.

Submit Request

Forest Service Units can submit requests for digital kiosks to the Regional POC for the digital kiosk program. Requests will be added to a list of first come first served units. Forest Service units will supply the content, provide the location for the kiosk, and coordinate with the R1 POC to install the kiosk.

Point of Contact Requirements

Since there is no specified position to manage the digital kiosk program, it is necessary to identify and designate a point of contact (POC) on the unit requesting a digital kiosk. This POC will coordinate with the R1 POC to obtain and maintain the unit's digital kiosk(s).

1. Contact Regional POC to request digital kiosk(s)
2. Identify the quantity and location(s) desired for digital kiosks
3. Identify funding sources
4. Gather, create, and organize content
5. Submit content to Public Affairs Officer on the unit for review and approval
6. Submit content to contractor for upload to digital kiosk
7. Installation coordination: the unit POC needs to be available for coordination with the Regional POC and the contractor for kiosk installation
8. Be point of contact to Regional POC to submit new materials for contractor to upload

Content

POCs for the unit must coordinate with the regional POC to provide:

- Images for the "website". These should be scenic images from across the unit, or images that are applicable to the site. For example, as historic visitor center or museum may want images of some of the artifacts that can be found at the location.
- List of and multimedia files. Formats for content files can include .pdf, .mp3, .mp4, .jpg, etc.; contact regional POC to discuss specific needs if formats vary from listed.
- Identify what tabs are desired for the "website". It is recommended to have four to five pages
    a. Brochures
    b. Maps
    c. Video/Podcasts
    d. Recreation
    e. About
- Identify which "page/tab" the content will be on
- Provide image(s) for the header of the website
- Provide images for each content file
- While unit's typically start out with content that is readily available (such as digital brochures, maps, etc.), it is recommended that the unit work to create other relevant interpretive and informative materials for the public's use.

Content Examples

Content should be site or forest specific. Some examples include:

- Visitor Center: If the site you are looking to install a digital kiosk at is a Visitor Center, content for this type of site should reflect the themes of the Visitor Center.
- Recreational Sites: If the site is a recreational site out on a unit, such as a trailhead or river put-in, content should be relevant to this type of site, such as safety for boaters, leave no trace ethics messaging, amenities available, and surrounding area history.
- Historic Sites: If a site is a historic ranger station, content should include perhaps a video or audio of a guided "ranger tour" that interprets the site.

- Ranger Station: A Front Desk office at a ranger station should provide information most frequently sought out by the public.
- Adventure Routes/Scenic Byways: A historic or adventure road/route should interpret the history and evolution of the route, what to expect, and places/sties to stop.

Further information detailing these steps and requirements can be discussed with the Regional POC.

Hardware

Hardware can be purchased by the unit or can be included in a project contract. It will be up to the unit to determine the best option for their specific needs. Purchasing of hardware components can be dependent on several factors, including funding. For example, if the unit applies for and receives a grant to purchase hardware for a site(s).

Cost analysis is broken down in Section 7 and lists the specifications for hardware.

Phased Approach

The Northern Region has procured a limited number of the indoor model digital kiosk routers to expand the program throughout the region and assist Forest Service units in obtaining kiosks. As Forest Service units desire to have solar powered kiosks installed in backcountry locations, further negotiation will have to take place for funding and expense sharing between the forest and R1. See Section 7 for additional information.

Extensive Projects

If a unit desires to create a large project such as the Nez Perce-Clearwater NF's Historic Routes Electronic Tour Site project (30 digital kiosks across the forest), the unit will be responsible for the majority of the funding and implementation of the project. R1 will be available to offer support, best practices, and examples from the NPCNFs ETS project for other forests to follow if they choose to create a larger tour project than just a few digital kiosks.

4. "How To" Guide for FS Units

The following section outlines the process, guidelines, expectations, and other helpful information required to obtain a digital kiosk on a Forest Service unit.

Basic Steps to Follow

1. Contact Regional POC to request digital kiosk(s)
2. Identify the quantity and location(s) desired for digital kiosks
3. Identify funding sources
4. Determine if the best route for the unit is through contracting or if the unit has the capacity and skills to complete content gathering, coding and installation on its own
5. Gather, create, and organize content
6. Submit content to Public Affairs Officer on the unit for review and approval
7. Submit content to contractor or trained unit POC for upload to digital kiosk
8. Program website coding, configure router, upload to USB, set up hardware (indoor vs. outdoor)
9. Coordinate installation between POCs and contractor (if applicable)
10. Promote digital kiosk through social media, website(s), feature stories, and other sources/outlets
11. Be point of contact to regional POC to submit new materials for contractor to upload (outyear)
12. Develop additional materials to address ongoing or new recreation related information (e.g., COVID19 recommendations, fire information, forest, or site history, etc.)
13. Consider what will be needed for long term maintenance

Submit Request

Requests for digital kiosks must be made to the Regional POC for the digital kiosk program. Identify the location or site where the digital kiosk will be located. It is recommended that kiosk locations be at high visitor use areas such as trailheads, visitor centers, offices, river access sites, day use sites, campgrounds, and other recreation sites.

Point of Contact Requirements

Since there is no specified position to manage the digital kiosk program, it is necessary to identify and designate a point of contact (POC) on the unit requesting a digital kiosk. This unit POC will work with the R1 POC through the process of obtaining and maintaining the digital kiosk(s) for the unit.

Content

Content must be gathered up for submission to the contractor or trained POC and upload to the digital kiosk site. Content should be relevant to the site and forest on which the kiosk is located. Content formats can include, images, video, brochures, maps, audio, and other multimedia. It is recommended that additional content be created each year to be uploaded to the kiosk to provide new content for visitors.

A good place to start with content includes videos, podcasts, infographics, and brochures that are already readily available for public use on the unit's website or other means. Additional content should be created also to provide a unique and tailored product for public use at each kiosk location.

Content should:

1. Pertain to the Forest and Region in which it is located
2. It is recommended that the unit Public Affairs Officer review and approve the content
3. Be relevant: content should be relevant to the site/Forest at which it is located
4. If sourcing from a partner or other organization outside the Forest Service, ensure the right permissions are adhered to. For example, a podcast from an organization discussing Wilderness, contact should be made with the producer to discuss and permissions or copyright issues.
5. Other recommended materials by the unit Public Affairs Officer

Content to avoid:

1. Brochures promoting private businesses or other for-profit entities
2. Irrelevant information
3. Materials that are from outside the agency that have not been vetted by Public Affairs, or where content producers have not been contacted regarding permissions/copyright
4. Other materials that are not recommended or approved by the unit Public Affairs Officer

Website Requirements and Options

- 3-4 images must be selected to be coded into the header of the digital kiosk website. Images for the "website" should be scenic images from across the unit, or images that are applicable to the site. For example, as historic visitor center or museum may want images of some of the artifacts that can be found at the location. See **Appendix D**, Figures 4 & 5 for examples of what the website page can look like.
- Create a list of multimedia content files. Formats for content files can include .pdf, .mp3, .mp4, .jpg, etc.; contact regional POC to discuss specific needs if formats vary from listed.
- Identify what tabs are desired for the "website". It is recommended to have four to five pages:
    - Home
    - Brochures
    - Maps
    - Video/Podcasts
    - Recreation
    - About
- Identify which "page/tab" each content file will be on
- Provide images for each content file. These files must be exactly square (for example, 350x350 px), which can be achieved by editing in Microsoft Paint

Content Maintenance and Governance

Content should be update frequently to provide new and relevant content to the public. The unit should keep a spreadsheet list of the content files that are on each digital kiosk on the unit. This will make editing in the future easier by having a running list to keep track.

Hardware

Identifying the desired location for the digital kiosk(s) is important and there are a few key things to keep in mind when selecting a location. It is also important to identify the best type of digital kiosk (indoor/grid vs. outdoor/solar). Depending on the site where the kiosk will be located, units will need to decide if and outdoor-solar system is a better fit, or if the kiosk will be located at an office (for example) the unit may be able to simply plug the router into the system at the location.

Indoor

If kiosk will be indoors with a power source→ indoor router that plugs into the wall.

- Locate a place where a sign with the instructions on how to connect a smart device to the digital kiosk is needed. This sign can be integrated with other signage or can be stand alone. Specific requirements can be discussed with the POC for the best option for each specific site.
- The instructions sign can be metal, fiberglass, or simply a temporary poster until something more permanent can be purchased. The basic instructions template can be found in Appendix C. These instructions can be redesigned and manufactured to follow the theme of the unit, location, specific site, etc. as needed.

Figure 1: Example of an indoor digital kiosk pedestal with instructions for the public on how to connect to the kiosk. These were built for the NPCNF by Trapper Creek Job Corps. The router is plugged in at a different part of the building out of reach/site. The pedestals are built hollow to allow the routers to be placed inside the base if desired/practical.

Solar

If kiosk will be outdoors without a power source→ outdoor system powered by solar.

- Solar locations will need existing infrastructure to attach to (such as an interpretive sign, building, post, etc.) to be mounted to or have infrastructure built to accommodate the digital kiosk.
- Solar location will also need a sign with the instructions on how to connect a smart device to the digital kiosk. This can be mounted to existing infrastructure

Figure 2: Rear-view example of an outdoor solar powered digital kiosk set up in a remote location. This was integrated with existing sign infrastructure.

Instructions

The public needs instructions on how to connect their device to the digital kiosk. An example can be found in Appendix C. As a temporary way of posting these instructions, posters can be printed and laminated, and placed at the kiosk site. It is recommended for forests to plan on purchasing fiberglass or other material with the instructions printed/embossed etc. on it for a more permanent means of providing the instructions to the public.

Figure 3: Front view of an outdoor solar powered digital kiosk. Temporary laminated posters were put up for instructions on how to connect to the kiosk, seen here on the sign posts. Permanent materials will be designed and mounted to the existing fiberglass panels in the future with the instructions.

Software

The software piece of a digital kiosk is composed of simple coding that is easily editable and user friendly. This coding is uploaded on a USB drive and placed into the router. Content is coded into the program for specific multimedia pertaining to the unit/location of the kiosk. This coding can be conducted by a contractor, a unit POC or others identified as having the ability to do so within the agency or partners. The NPCNF utilized both a contractor and partner employee to complete the content coding for its 30 digital kiosks.

The router configuration piece in the past has been completed by NTDP or a contractor. Units should determine the best fit for their capabilities as to whether they can learn and conduct router configuration on their own, or if additional help is needed.

Promote Digital Kiosk

Once installed and operational, digital kiosks should be promoted on various platforms to inform the public of its presence. Some examples include:

- Social media pages (facebook, twitter, etc.), pages of both partners and agency
- Press releases or feature stories
- Local news outlets
- Partner group meetings, etc.

Long Term Maintenance

Forests should consider the options of how frequently they will need and/or can maintain the kiosks once installed. This should include both hardware maintenance and content updating/maintenance. Depending on site location, kiosks may have different maintenance needs. For example, a solar powered site in the backcountry may need more frequent hardware repairs or replacements and have content updates once per year. In comparison, a kiosk that is in the front country and more accessible, and may be an indoor site, will not likely need very frequent hardware maintenance, but may need more frequent content updates.

Forests should also consider how they will not only fund maintenance, but also how maintenance will be accomplished. Will maintenance be contracted? Perhaps through the contractor that installed the kiosk (if they went that route). Or, will maintenance be conducted by employees? These and other questions should be asked when planning for the long-term maintenance of digital kiosks.

5. Selection Process

Digital kiosk requests will be processed by the regional POC on a first-come, first-served basis, and may also be evaluated based the following recommendations:

1. Public accessibility and services:
    a. Units that desire digital kiosks at locations with an emphasis on recreational sites (front or backcountry), visitor centers, front offices, and other locations that are frequented or are major hubs of the public will have stronger candidacy for obtaining digital kiosks.
2. Funding
    a. Can the unit provide funding toward its digital kiosk(s) in the present or future?
    b. R1 has a small number of routers which are part of the phased expansion of the project. However, due to the limited number and funds available to the program within the region, it is important for units to identify their ability to contribute over the long-term maintenance of the digital kiosk(s).
3. Content Development
    a. Units with a substantial amount of readily available content, and the ability to create new content should also be considered

Situational

With the COVID19 pandemic in its height at the writing of this plan, it was thought that having digital kiosks made available to Visitor Centers, Interpretive Centers, heavy use trailheads and recreation sites, and Conservation Ed locations should be priority. Over the course of the development of the digital kiosk project, there has been quite a bit of interest from units in obtaining digital kiosks. Due to the importance of getting information to the public in as many avenues ass possible with front desk offices being closed to public entry, digital kiosks are a good alternative means of delivering information to the public. Priority of obtaining digital kiosks in this time is as follows:

1. Visitor Centers
2. Interpretive Centers
3. Heavy use recreation sites
4. Front offices

6. Cost Analysis

Double click on the below spreadsheet for full use of the spreadsheet or to export into MS Excel. This is meant for units to have a rough estimate as to how much a digital kiosk can cost. This can vary greatly depending on the location of the kiosk(s), State, and the route the unit decides to take in installing its kiosk (contracting vs. force account, grants, etc.). There is two tabs in the spreadsheet, one for indoor kiosks, and the other for outdoor solar kiosks.

Digital Kiosk Cost Breakdown Worksheet 3/23/2021

Indoor Kiosks

Expense	Estimate	Actual	Difference	Difference (%	Comments
Router 1	$150.00		$ 150.00	100%	
Pedestal	$200.00		$ 200.00	100%	
Router Configuration	$100.00		$ 100.00	100%	
Content Programming	$1,000.00		$ 1,000.00	100%	~12 hours for new sites, @$75/hour
Installation	$150.00		$ 150.00	100%	Mileage and hourly costs can vary
Overhead			$ -		
Maintenance and repairs			$ -		Mileage and hourly costs may vary; can include replacement of damaged parts/hardware, programming corrections and updates, hardware upgrades
Other			$ -		
Total Expenses	$ 1,600.00	$ -	$ 1,600.00	100.00%	

Funding Examples

Some examples for funding opportunities for units to pursue are as follows:

- Grants: Pursue grants to purchase, install and maintain digital kiosks. This can include interpretive grants, recreational grants, etc.
- RAC: The NPCNF obtained funding to complete the installation and a few option years of maintenance in their contract through their RAC. This combined with initial grant funding, allowed the NPCNF to complete their Historic Routes Project.

- GAOA: Include installing digital kiosks as an interpretive upgrade or visitor services upgrade at campgrounds or other recreational sites.
- Contracting: obtain funding and place into a contract for installation, maintenance and troubleshooting digital kiosks. Since there is no program manager specifically assigned to the management of this program, it is recommended that the unit look into longer term management of it's digital kiosks through a contract like the NPCNF has done.

7. Suggestions and Recommendations

Regional Blanket Contract

As the digital kiosk program is expanded across R1, a potential way of supporting units in obtaining digital kiosks through the phased approach from Section ___ would be to have a Regional blanket contract to cover the planning, installation, and maintenance over a short period of time.

Phased Approach

The limited number of routers already procured by R1 should be distributed amongst units in a phased deployment.

Three-year time periods have been identified as the timeline by which the Northern Region could potentially assist units to become independent in the management and maintenance of digital kiosk(s). This recommended phased approach is outlined as follows:

- **Phase 1 (first year):**
  Northern Region can provide programmed routers for a limited number of indoor digital kiosks. Details for funding installation and maintenance of digital kiosks will have to be discussed with the regional POC.
- **Phase 2 (second year):**
  The unit and R1 will share in covering the expenses of new content updates and maintenance needs for the kiosk(s).
- **Phase 3 (third year):**
  Forest Service units will independently manage digital kiosk(s) and the expenses associated with their management. The unit is fully responsible for the management and maintenance of its digital kiosk(s), including funding.

8. Appendices

Appendix A: List of potential kiosk sites in R1 as of 02/2021

The following is the current list of requested or suggested locations in R1 to have digital kiosks installed.

Type	Site Location/Name	Unit Name	Ranger District	Content
	Historic Main Boulder Ranger Station and Visitor Center	Custer Gallatin	Yellowstone(?)	I/CE
Indoor	Earthquake Lake Visitor Center	Custer Gallatin	Hebgen Lake	I/CE
Indoor	Lewis & Clark Interpretative Center	Helena - Lewis & Clark	N/A	I/CE
Indoor	Nine Mile Historic Remount Visitor Center	Lolo	Ninemile	I/CE
Solar	Historic Darby Ranger Station Visitor Center	Bitterroot	Darby/Sula	I/CE
?	Summit Nature Center	Flathead	Tally Lake	I/CE
Solar/Indoor	IPNF – Emerald Creek Garnet, or DR/SO, IPNF	Idaho Panhandle	St. Joe/SO	VIS
Solar	Crystal Park	B-D	Dillon	VIS
?	Condon Work Center	Flathead	Swan Lake	VIS/CE
Indoor?	Hebgen Lake RD (West Yellowstone IA VC)	Custer Gallatin	Hebgen Lake	VIS
Indoor?	Seeley Lake RD, Lolo NF	Lolo	Seeley Lake	VIS
?	Rexford Ranger District, Eureka, MT	Kooetnai	Rexford/Fortine	VIS
?	White Sulphur Springs RD Office	Helena - Lewis & Clark	White Sulphur Springs	VIS
Solar	Buffalo Gap Campground/Maah Daah Hey TH	Dakota Prairie Grasslands	Medora	VIS & I/CE
Indoor	Kelly Forks/North Fork RD	Nez Perce - Clearwater	North Fork	VIS & I/CE
?	Lake Como Recreation Area	Bitterroot	Darby/Sula	VIS
?	Route of the Hiawatha	Idaho Panhandle	Wallace	I/CE & VIS
Indoor	Lincoln RD, HLCNF	Helena - Lewis & Clark	Lincoln	VIS & CE
Indoor	Beartooth Ranger District Office	Custer Gallatin	Beartooth	VIS
Indoor	Missoula RD/Lolo SO/Regional Office, Lolo NF/RO	Lolo/RO		VIS
Indoor/Solar?	Kootenai SO/Libby RD or other (Lake Kookanusa)	Kootenai	SO/Libby	VIS
?	Supervisors Office/Dillon Ranger District	B-D	Dillon/SO	VIS

Appendix B: Official Digital Kiosk Logo

The below logo was developed as the official logo for the R1 digital kiosk project. This Logo should be placed on instructions, flyers, and other materials created to promote or inform about digital kiosks.

Appendix C: Digital Kiosk How to Connect Instructions Examples

Appendix D: Digital Kiosk Website Examples

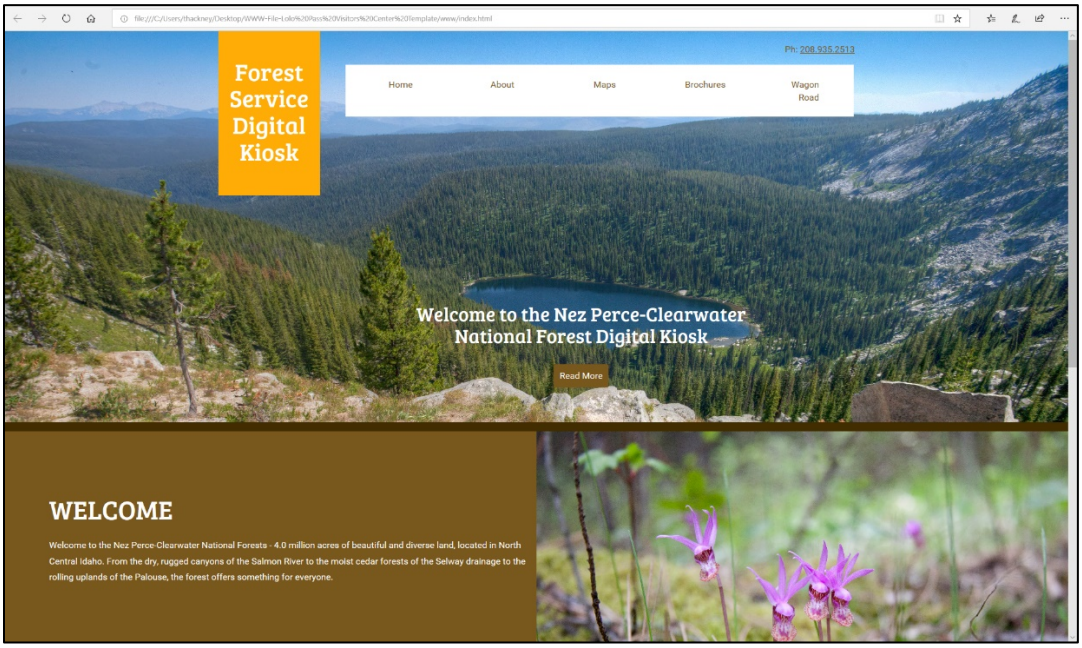

Figure 4: Example of what a digital kiosk website can look like.

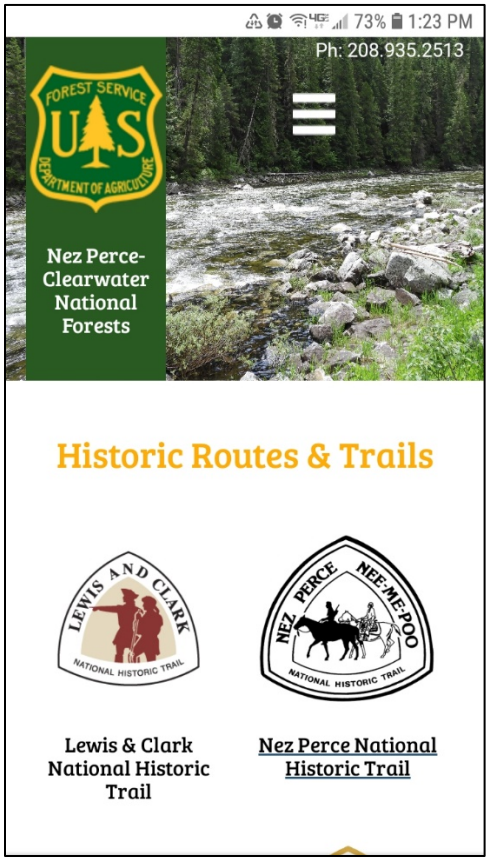

Figure 5: An example of what a digital kiosk website can look like on a mobile device.