

Bears Ears

exploring new ways to
plan adventure through
vision loss



Land Acknowledgment

As with all land now known as the United States, Bears Ears National Monument was originally and still is indigenous land. Bears Ears is specifically land that was and is both a cultural and historical home for a number of indigenous tribes including Dine, Hopi, Zuni, Ute, and Ute Mountain Ute. These five groups of indigenous peoples have come together to form the Bears Ears Coalition, which works to protect this sacred land for future generations.

BLM



● Mission

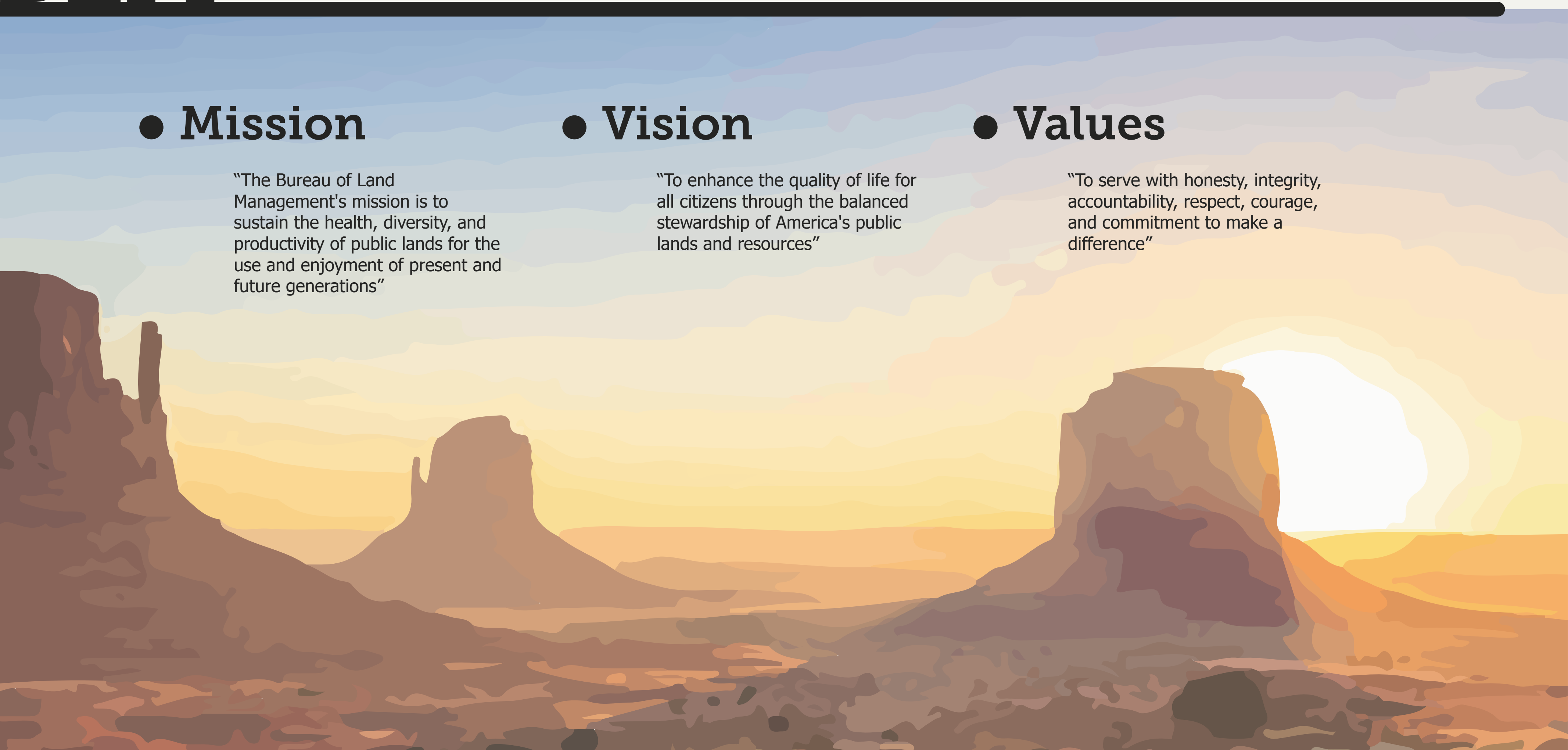
“The Bureau of Land Management's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations”

● Vision

“To enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources”

● Values

“To serve with honesty, integrity, accountability, respect, courage, and commitment to make a difference”



Public Land

● What is public land?

Public lands are areas of land and water that today are owned collectively by U.S. citizens and managed by government agencies

● Who has access?

Anyone can access public lands, however certain activities, such as mountain biking, can be limited to designated areas, times of year, etc.. The BLM has demonstrated they might benefit from making these spaces more accessible for people with diverse abilities. When we design public spaces for all different types and levels of abilities, we attract a larger audience and appreciation for these deeply important places. When more people are aware of and feel connected to these spaces, they are more likely to fight to protect them for future generations, which is a main goal of the BLM.



Case Studies

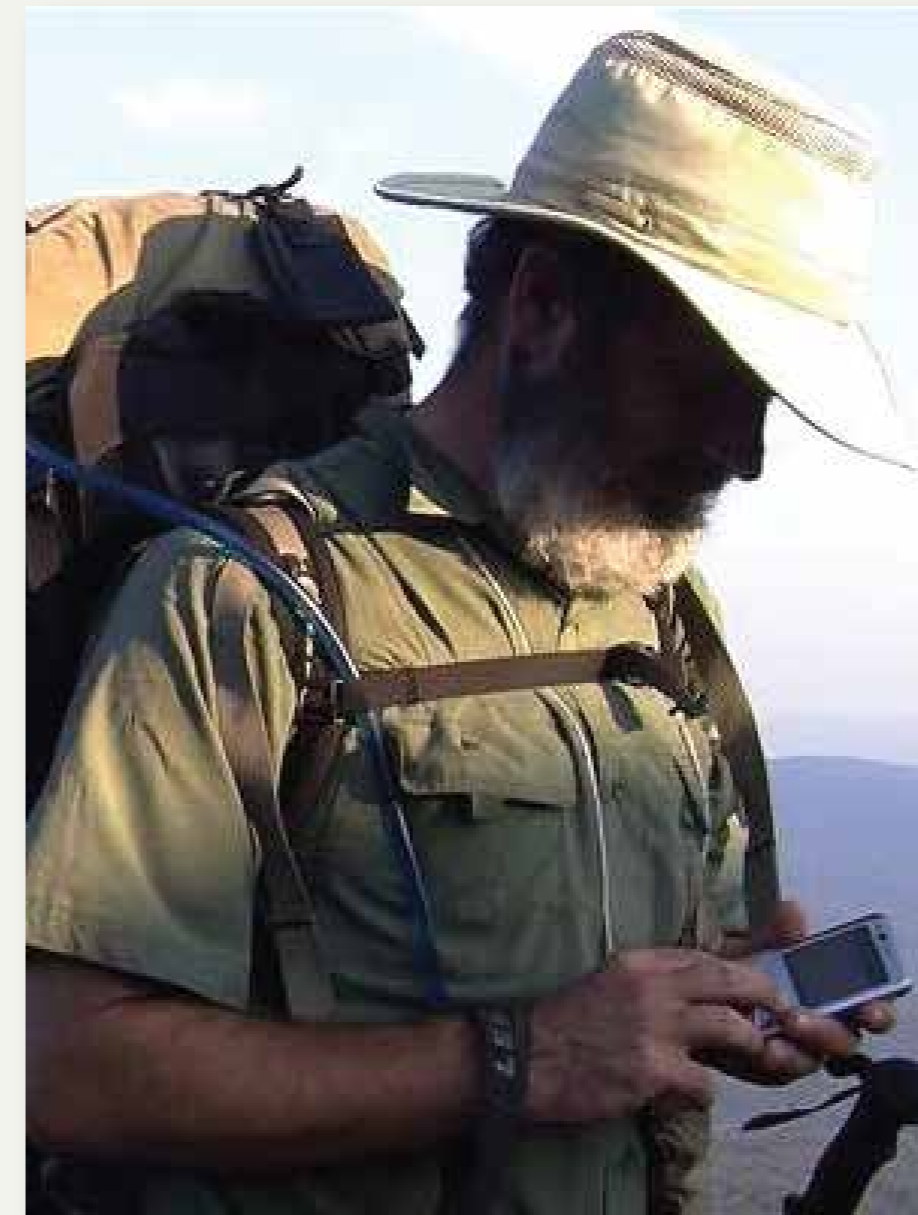
● Hiking Blind

Can blind or visually impaired people even hike? Yes. In fact, there are several cases of blind hikers like Bill Irwin, Mike Hanson, and Trevor Thomas who have each individually completed the Appalachian Trail. This isn't to say that all visually impaired hikers are quite as extreme as these three. The hiking experience is incredibly personal and the experiences one has on the trail are unique.

Bill Irwin



Mike Hanson



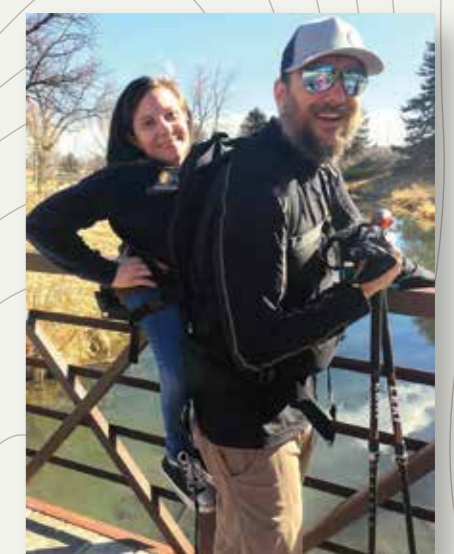
Trevor Thomas



Experience

● Hiking Blind

The experience of hiking with vision loss is similar in a lot of ways to the hiking experience of sighted individuals. One has the ability to go on a physically tiring adventure with friends or solo and receive all the usual psychological and physiological benefits related to hiking. Hikers with vision impairment, however, will place a higher importance or value on certain sensory experiences. For example, the sounds of birds flying overhead might be much more valuable. The smell of a certain flower in bloom could make a hike worth remembering or telling friends about.



“It is the one environment which does not discriminate. It treats me the same as everyone else. It will, also, not take pity on me because I am blind.”

-Trevor Thomas

Another aspect of hiking that is appreciated by visually impaired hikers is this idea that outdoor environments do not discriminate or take pity on hikers because of their disability. It treats everyone the same regardless. This can be incredibly freeing in a world that is constantly trying to tell you that there are certain things that you simply cannot do because of X, Y, or Z. This is not to say that there aren't areas that might be dangerous or simply unappealing to a blind person. Finding the right hike can be difficult.

	AllTrails	TrailLink	HikingProjecet	Park Ranger	Ask a Friend	Get Lost
Location	✓	✓	✓	✓	✓	2
Topo	✓	2	✓	2	2	X
Trail Name	✓	✓	✓	✓	✓	2
Difficulty	✓	X	✓	✓	✓	X
Reviews	✓	✓	✓	✓	✓	X
Photos	✓	✓	✓	2	2	X
Distance	✓	X	✓	✓	2	X
Weather	2	X	2	2	X	2
Facilities	✓	✓	X	✓	✓	2
UV Index	2	X	X	2	X	2
Daylight	2	X	X	✓	X	2
Personalized	2	2	2	2	✓	X
Trailhead	✓	✓	✓	✓	✓	✓
Map	✓	✓	✓	✓	X	X
Q+A	X	X	X	✓	✓	X
Surface	X	2	X	✓	✓	2
Trail Condition	X	X	2	✓	2	X
Online	✓	✓	✓	X	✓	X
In Person	X	X	X	✓	✓	✓

	AllTrails	TrailLink	HikingProject	Park Ranger	Ask a Friend	Get Lost
Location	✓	✓	✓	✓	✓	~
Topo	✓	~	✓	~	~	✗
Trail Name	✓	✓	✓	✓	✓	~
Difficulty	✓	✗	✓	✓	✓	✗
Reviews	✓	✓	✓	✓	✓	✗
Photos	✓	✓	✓	~	~	✗
Distance	✓	✗	✓	✓	~	✗
Weather	~	✗	~	~	✗	~
Facilities	✓	✓	✗	✓	✓	~
UV Index	~	✗	✗	~	✗	~
Daylight	~	✗	✗	✓	✗	~
Personalized	~	~	~	~	✓	✗
Trailhead	✓	✓	✓	✓	✓	✓
Map	✓	✓	✓	✓	✗	✗
Q+A	✗	✗	✗	✓	✓	✗
Surface	✗	~	✗	✓	✓	~
Trail Condition	✗	✗	~	✓	~	✗
Online	✓	✓	✓	✗	✓	✗
In Person	✗	✗	✗	✓	✓	✓

Most apps have topo, and a ranger or a friend can tell you about the grade of a trail, giving the hiker a look at some of the experience

Weather appears on two apps, but the information is general and does not specify weather changes along the trail

AllTrails offers UV index as well as daylight information, but this is general to the area and does not show specific changes along the trail

TrailLink has vague information on trail surface, but a friend or park ranger might be able to offer more information

HikingProject offers vague trail conditions, but a park ranger or friend might have more specific information

All apps require the internet, but park rangers are not as reachable in the digital space, creating an opportunity space

Park rangers, and asking friends are usually in person activities which is beneficial for some, but does not reach a wide audience

Most apps feature photos of the trail prominently, the view is very important. To focus on other senses, vision is not a priority

Most apps can be personalized to a certain extent, but might charge extra or lack the specific information needed anyway. The most personalized information is through the park ranger

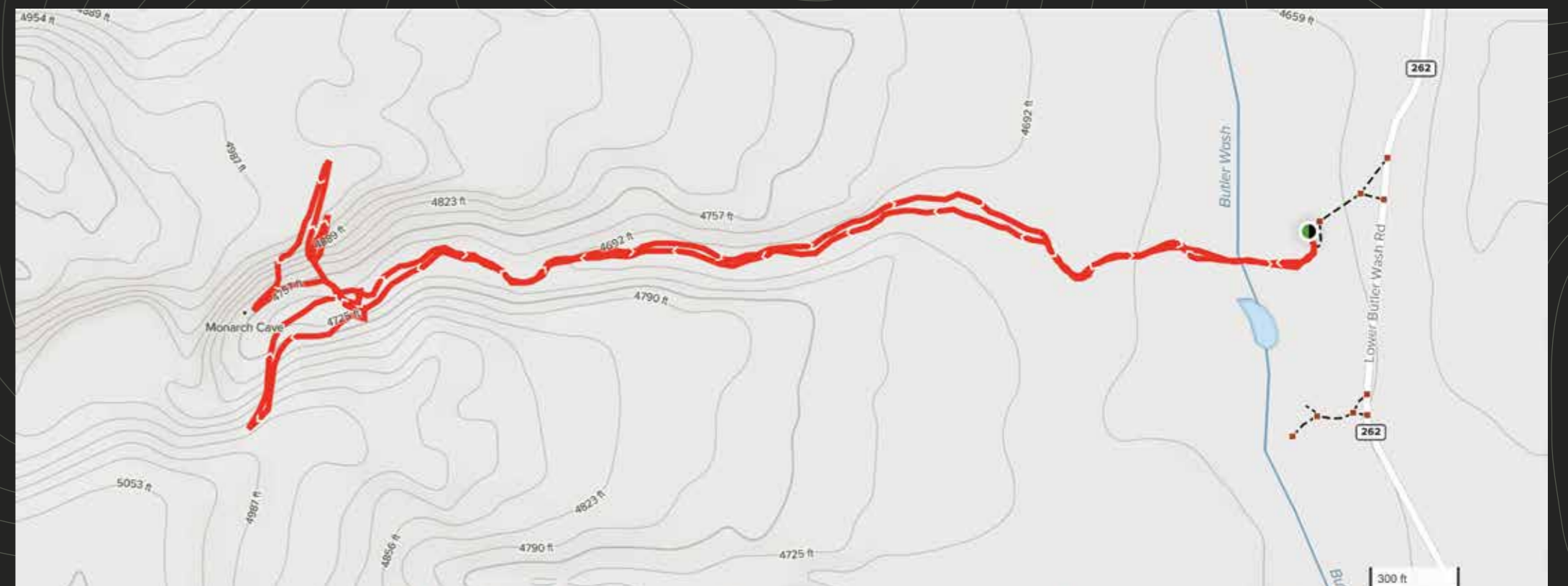
Only by reaching out to a friend or park ranger does one get to ask direct questions about a hike. Otherwise, you are stuck with reviews that might not answer your question

There are a few things that are common among most methods, like topography and pictures. What really stuck out to me, though, was how much information about nearly everything there is to know about Bears Ears National Monument. However, rangers are not online and they can be difficult to reach if you are not near a visitor center or are there outside of operating hours. This means that this form of information gathering is less popular than other methods despite the wealth of information they have.

AllTrails

● Commonly Used App

AllTrails has a 4.9 star rating with over half a million reviews. It was rated the number six app in the app store for all health and fitness apps. When looking at hiking trails, there are a few different options for viewing on the free version, including satellite imaging as well as topographic information. It offers features that any average trail map might have such as water, distance, roads, etc.. AllTrails is unique in that it also offers things like weather forecasts, UV index, and daylight. These are overall numbers for the general area and do not go into specific changes in experience in things like daylight over the course of a hike. AllTrails also fails to note things like wind speed and direction over the course of the trail. There is also no mention of certain smells or sounds one might experience in the area.



Park Rangers

- **Best In Person Option**

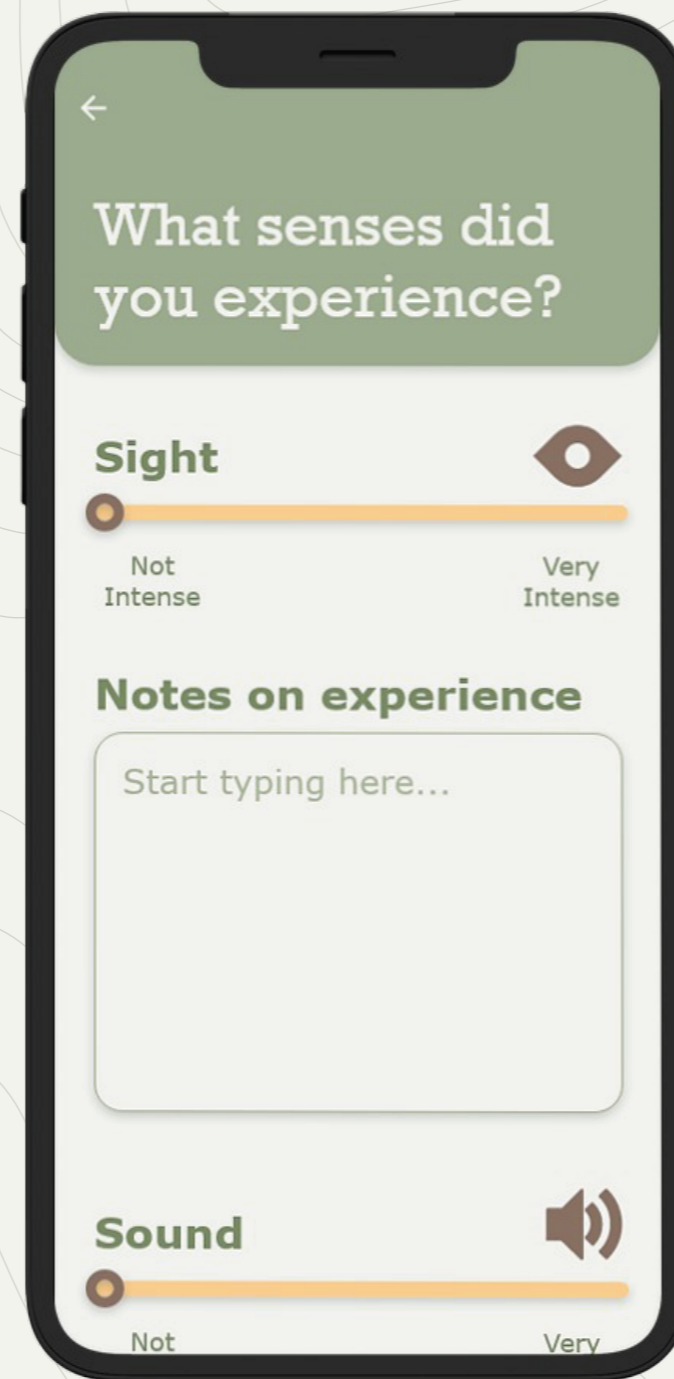
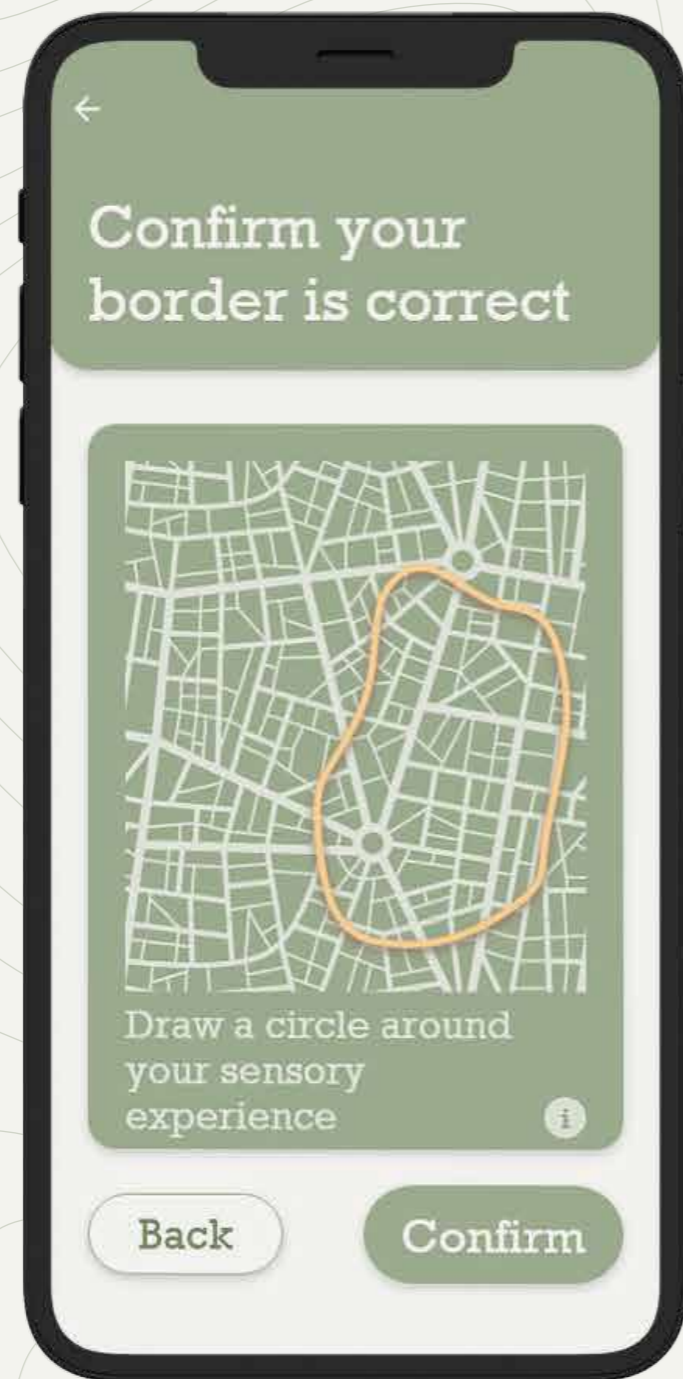
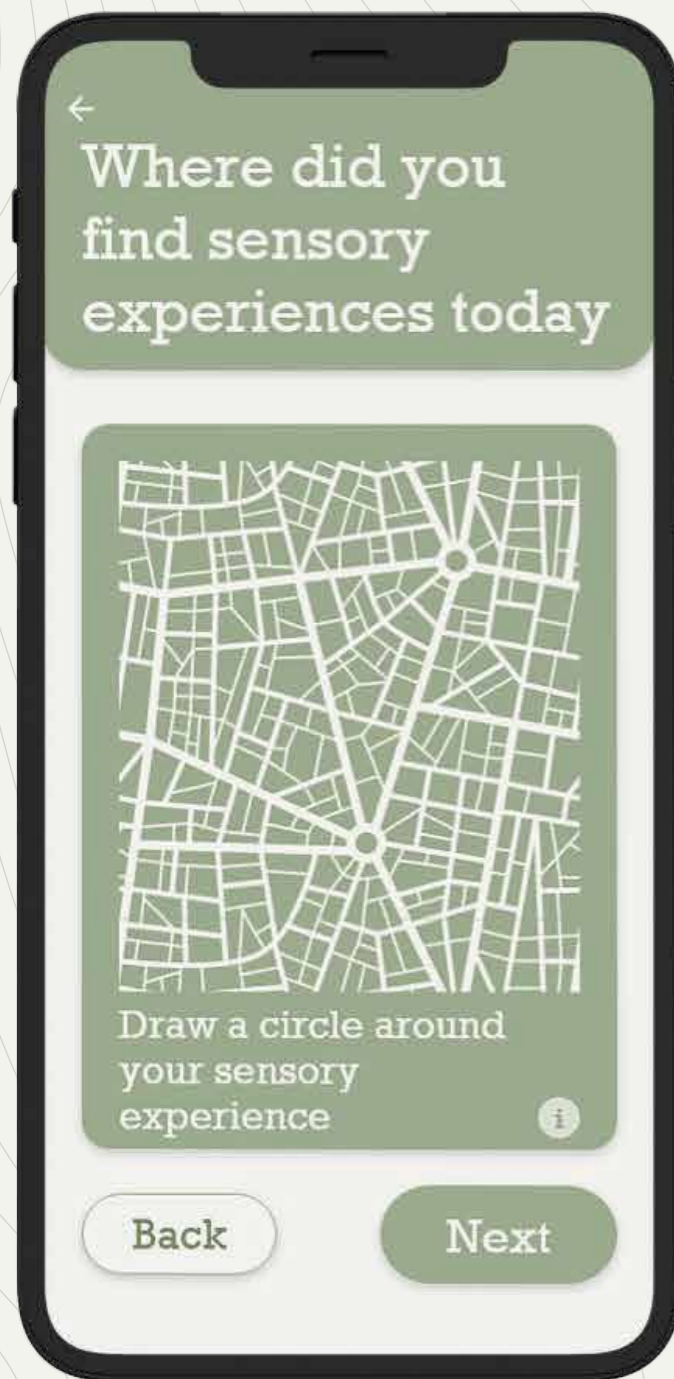
Park Rangers spend huge chunks of their time traveling and exploring the area they are responsible for. Therefore, they have a very intimate relationship and understanding of the land and the things that inhabit it. They are often aware of animal migratory patterns and when certain flowers bloom. They might be aware of a trail that would be preferable in extreme heat due to some sort of natural phenomena. However, the downside is that one has to ask these questions in order to answer them. Also the federal budget for BLM land and National Parks is very small so the park staff is usually fairly minimal. One also has to either plan their trip out in advance and call the office of the BLM during business hours in order to inquire about their trip or go to a visitor center during hours of operation and ask in person.





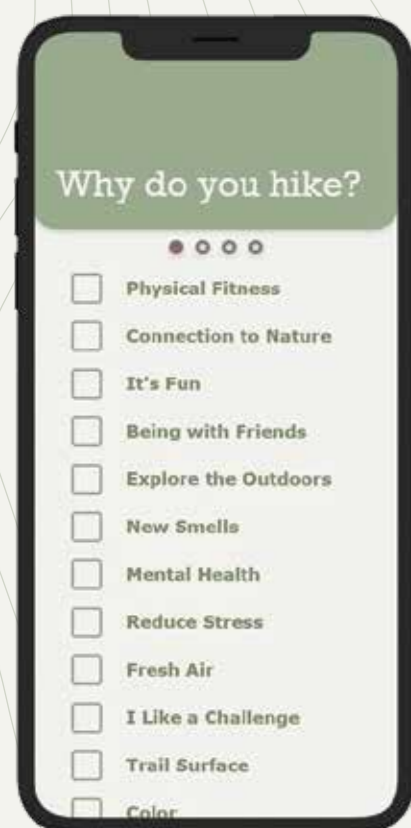
The multi-sensory experience does not exist on any existing digital hiking platform. There is an **opportunity to connect park rangers to the digital space in order to enhance the experience of hikers planning a trip to include multi-sensory experiences** such as how wind direction might change over the course of one's hike based on rock features for example. This would include smells, sounds, and tactile elements where appropriate as well as any historical information rangers might have.

Ranger Reports



Rangers are able to add sensory experiences as they encounter them throughout their day. Their reports first include location in the form of a circle drawn around the location this experience occurred. Rangers then input the intensity of each sense on a sliding scale ranging from not intense to very intense. They also have a large space to include detailed notes on each sense. This can include information about safety, history, engagement, etc. that might be relevant to visitors or hikers. Finally, rangers will have the opportunity to enter an additional experience or return to the ranger home page.

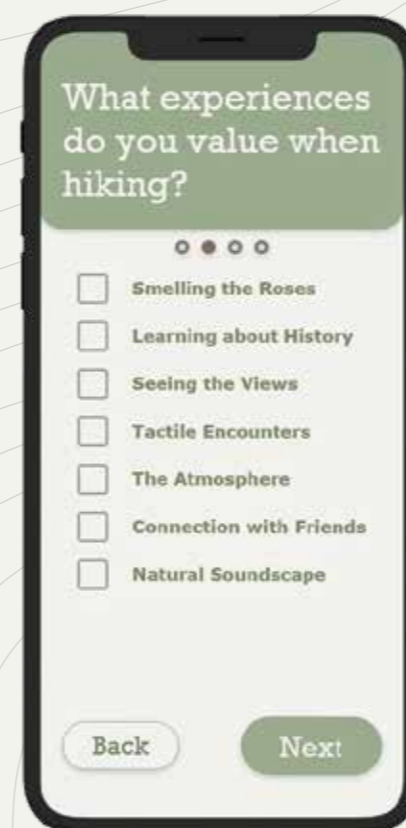
Visitor Sign Up



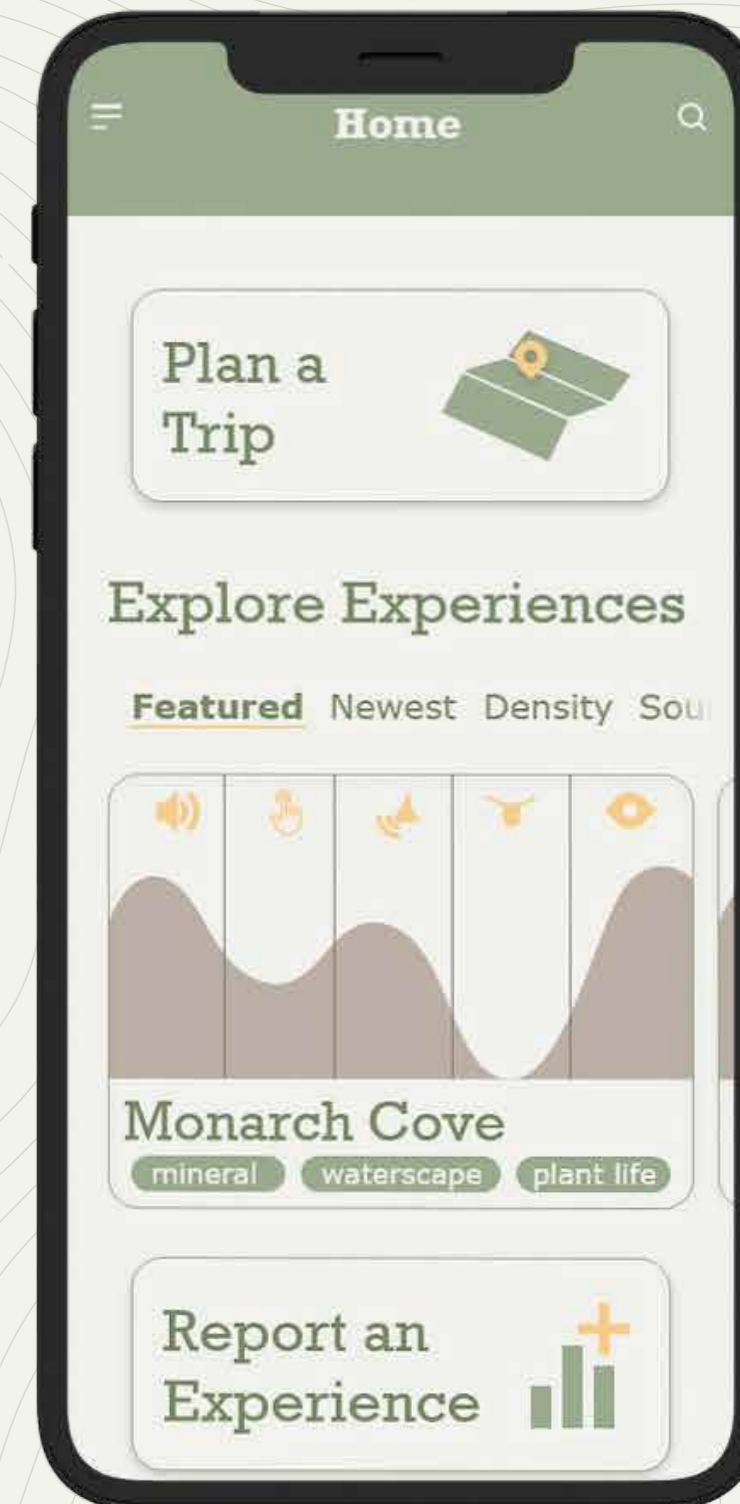
When a new user signs up for a visitor account, they complete a short survey. This starts with some reasons someone might enjoy hiking in the form of checkboxes. Then users enter any disabilities that might affect hiking. This information is not publicly broadcast or shared anywhere.



The next page allows users to rate how important each of the senses are to them as it relates to hiking. This is achieved through a sliding scale ranging from not important to very important. Next, users check boxes depending on experiences they value while hiking.



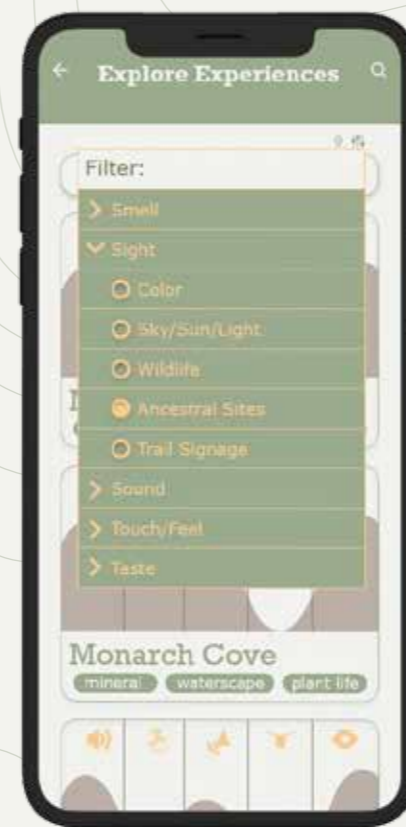
After users set up a username and password, they sign in and are taken to a home page. From here, users can plan a trip, explore experiences, report an experience they had, report a problem they might have encountered, or direct message a ranger if they have a question.



Visitor Sign Up



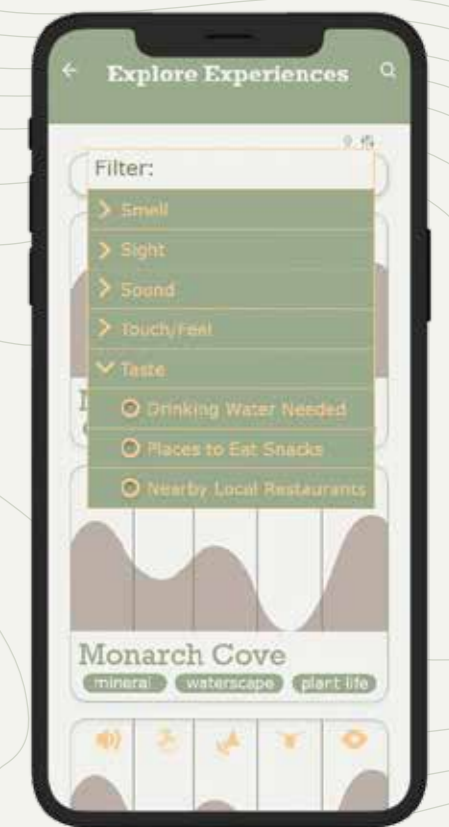
The Explore Experiences page shows a scrollable list of hikes with multisensory experiences. The large format icons including the name of the trail, the intensity level of each sense as well as a list of relevant tags related to the sensory experiences a user would be likely to encounter.



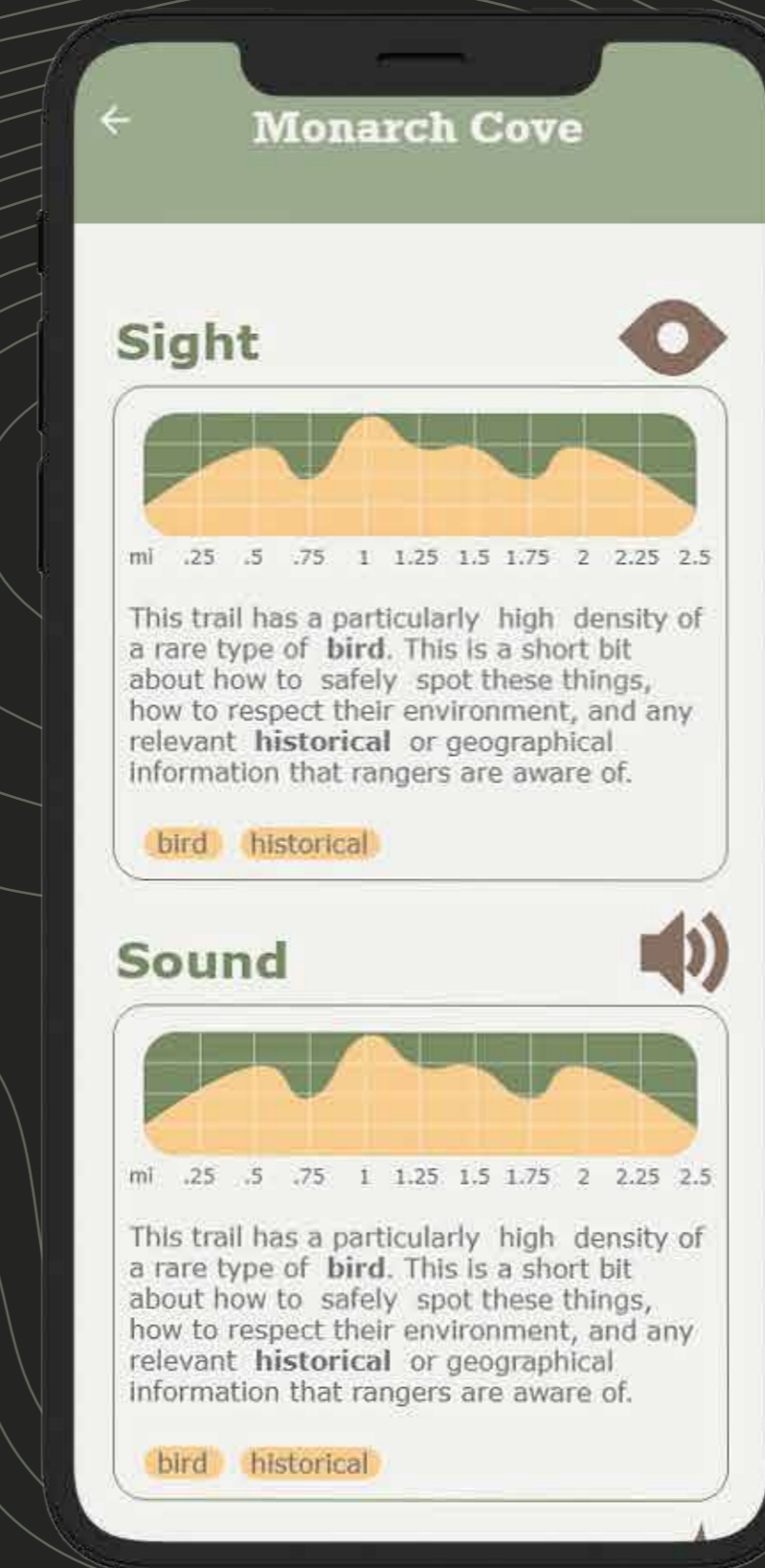
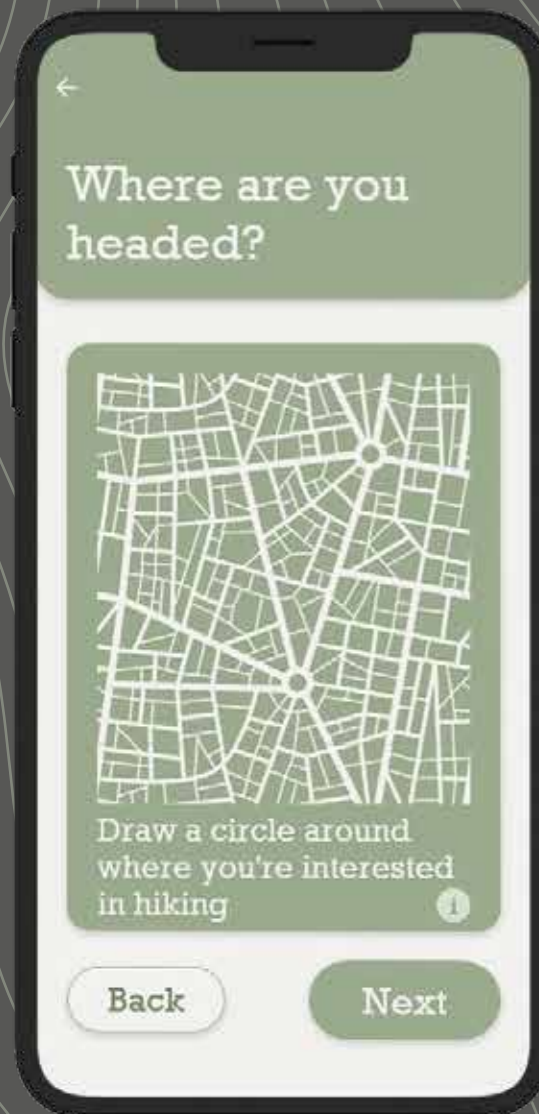
Users can filter the list of experiences based on the five senses. They can navigate specific aspects of each sense, such as particularly loud areas, based on ranger data as well as ranger approved data from visitors.



There is also a searchbar that hikers can use to get more specific, such as searching for a specific hiking trail.



Plan a Trip



Planning a trip starts with location. The user draws a circle around the area they can go hiking in. Once the circle is drawn, the user has to confirm that this is correct. In the next page, they rate how important each sense is to them and what types of sensory experiences they would like to have.

Once this is complete, they will be taken to a tailored list of experiences based on their responses. They can then scroll through and find the hike they would like to go on. Tapping on a hike takes the user to a detailed page containing more information on sensory experience related to distance.

This creates a new way for hikers to plan a trip; one that is not centered around pictures or difficulty, but around the type of experience one might have. This would not only benefit hikers with vision loss, but could show all hikers a new way to experience the outdoors.

