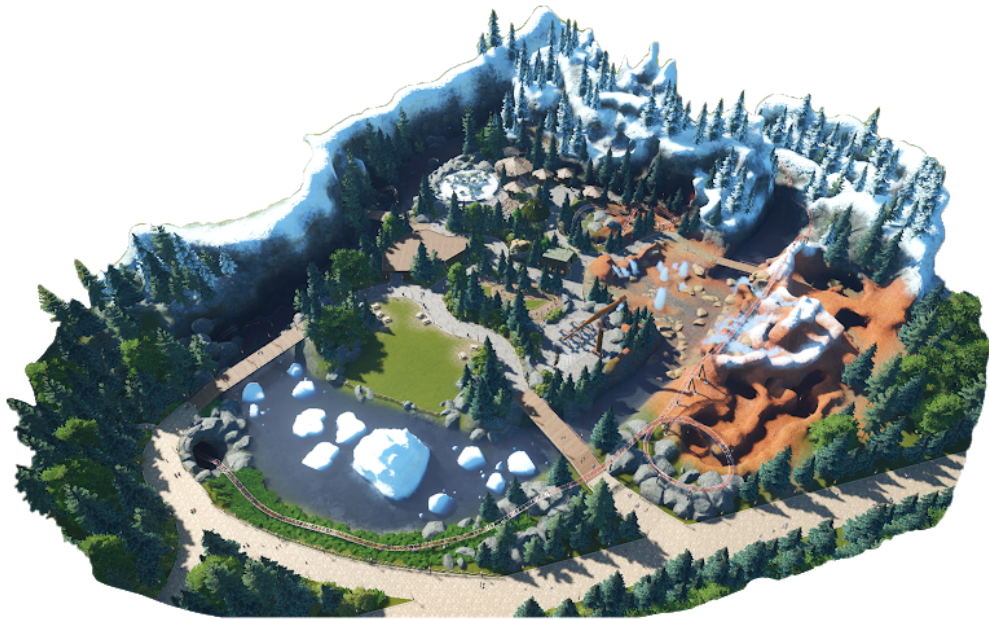


Team 10 Development Challenge



Concept

Eighteen thousand years ago, near the end of the Ice Age, the Chesapeake and Delaware Bays were unveiled as the last of the snow receded. Millions of years of glacial movement formed vast valleys and shaped the coastlines that exist today. Wild plants and fierce animals once inhabited these lands, alongside our ancient ancestors. Glacier Gorge brings Delaware's rich history to Universe of Fantasy to explore the roots of its past. The land combines thrilling attractions, creative technology, and educational opportunities into magical adventures for an unforgettable family experience.



First Impression

Guests enter Glacier Gorge through either of two entry experiences. The first pathway guides guests through a scenic alpine forest with era-appropriate plants and views of Sabertooth Peak coaster trains diving underground. The second pathway leads guests under the coaster, over the lagoon, and into the land below D-ticket ride Flight of the Condor.



Both pathways lead to a mother & baby mammoth animatronic pair standing with each other in front of a glacial valley — a perfect photo opportunity. The pathway forks into a wide, easy-to-navigate loop with intertwining paths leading to major attractions.



Attractions

*E-ticket Family Roller Coaster
(featuring new Queue Technology)*

“Sabertooth Peak” is a massive family roller coaster that mixes fact and fiction to tell the story of a young boy on a quest to explore the lands beyond his village.

Each guest entering the queue is given a “stone” which contains a hidden RFID chip, microprocessor, and LED light, which tracks their place in line. The queue leads under the river and opens to a large half-dome with a dynamic storyteller animatronic atop a large central boulder. The storyteller tells entertaining stories depicted by cave paintings on the walls. As she



motions, relevant paintings “come to life” through projection and 3D mapping technology. Pathways leading out of the cave lead to various RFID stone interactions (similar to Universal’s Volcano Bay¹). Guests are encouraged to explore and insert their stones in slots to interact with their surroundings by:

- Activating fiber-optic displays
- Solving cave art wall puzzles
- “Discovering” their spirit animals through projected images



This queue area also has activities such as exploring primitive living quarters and participating in a drum circle.

When guests are next in line, their stones will light up to notify them. Cast members will collect the stones as guests board the ride. The queue system uses the stones to calculate their total wait times, assisting with operations.



¹ <https://orlandoinformer.com/universal/taputapu-volcano-bay>

The coaster begins with a short dark ride section in the cave, where the storyteller tells the tale of the boy's quest of exploration. Guests follow the boy as he braves dangerous rivers, crawls through dark caves, and encounters wild beasts. Notable ride interactions include:

- Traveling over a stone arch above the family cave exploration area



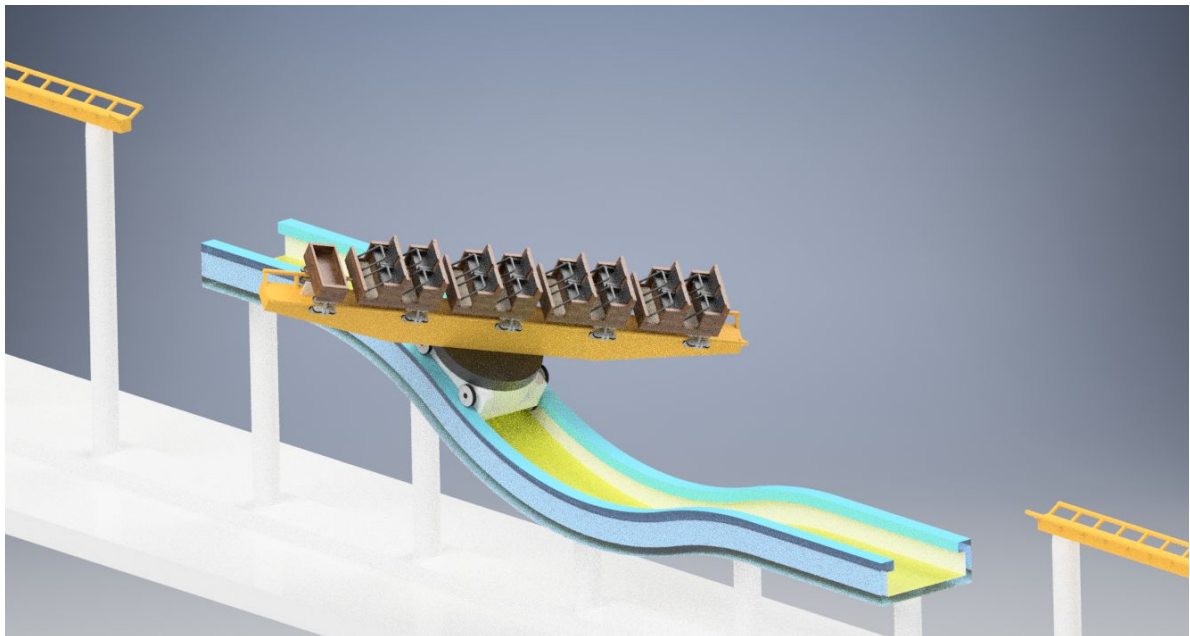
- Crossing a "splash-down" above the waterfalls in the water play area



- Passing over the river and under the bridge near the restaurant



Sabertooth Peak circumnavigates the park and returns to the enclosed ride building within the glacial facade, where the guests experience a novel roller coaster element during a “rockslide” scene. Here, the train transfers to a special platform - attached to a separate chassis - and rotates the entire train while descending on its own track.



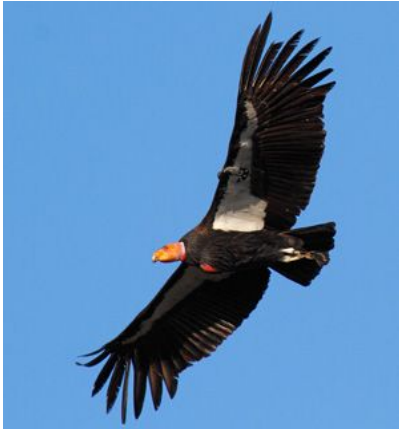
This novel element supports the thrilling story by simulating a disorienting rockslide. After this exciting climax of the ride, a final storyteller scene completes the experience, and the ride ends.



To ensure Sabertooth Peak is friendly to most guests, there are no drops taller than 60 feet, and the max ride speed is at fifty miles per hour, similar to Manta at Seaworld San Diego².

D-Ticket Gerstlauer Sky Fly

The “Flight of the Condor” attraction is a seventy-two foot American Condor themed Gerstlauer Sky Fly that soars over guests as they enter Glacier Gorge. With only one other model in the USA, this unique ride offers a moderate thrill level through the sensation of flying like a California Condor, the largest surviving bird from the Ice Age³.



² [https://en.wikipedia.org/wiki/Manta_\(SeaWorld_San_Diego\)](https://en.wikipedia.org/wiki/Manta_(SeaWorld_San_Diego))

³ https://en.wikipedia.org/wiki/California_condor

⁴ <https://news.ucsc.edu/2012/06/condors-and-lead.html>

C-Ticket

The “Dizzy Armadillo” attraction is an Eli Bridge Deluxe Scrambler. Themed with a Pleistocene-EPOCH Armadillo spinning on its back in the middle, this ride offers a fun, silly, family-friendly experience. Touting a high hourly capacity, this is the perfect addition to round out the diversity of rides in Glacier Gorge.



Experiences

Family Water/Cave Exploration area

Glacier Gorge’s Family Water and Cave Exploration area features interactive elements including waterfalls and volcanic formations common during the ice age⁶.

The water area features stepping stones zigzagging across streams, bursting geysers for cooling down, and a maze of tunnels and caves the whole family can explore. Guests can press buttons integrated into the scenery to trigger similar special effect interactions as those in the queue area of Sabertooth Peak. This saves on R&D costs and provides multiple chances for guests to enjoy



⁵ <https://www.thoughtco.com/glyptodon-carved-tooth-1093213>

⁶ <http://sciencenordic.com/volcanic-eruptions-hastened-end-last-ice-age>



these interactions, even if they skip the coaster experience. All climbable features are safety-surfaced with rubber.

Guests can see the roller coaster pass over the waterfall every 20 seconds (2 trains, 40-second dispatches), splashing water towards anyone playing underneath.

Restaurant



Glacier Gorge's "Hole in the Wall" cave restaurant provides a diverse selection of food, from hearty barbeque to light salads and healthy proteins. After picking food from the grab-and-go counters, guests can sit under vaulted cave ceilings and stalagmite/stalactite columns lit by

colorful flood lights. Small waterfalls connecting the columns add to the cave aesthetic and create soft ambient noise to reduce echoes.



Food Stands

There are three food stand locations scattered throughout the land, strategically placed near “hotspot” areas, pictured:

Stands are themed to wood-and-thatch huts (similar to Epcot’s Africa - pictured⁷), and sell on-theme finger snacks like turkey legs and corn-on-the-cob. They also offer vegetarian and common⁸ allergy-conscious (egg and peanut-free) snacks.



⁷ <http://www.orlandounwrapped.com/visit-africa-at-disneys-epcot/>

⁸ <https://www.healthline.com/nutrition/common-food-allergies>

Retail Stores

The main retail store “Mammoth Mart” is situated near the main entrance/exit of Glacier Gorge. It is the first and last major experience guests visit in Glacier Gorge.



In Mammoth Mart, guests can purchase merchandise that is both respectful and playful to the history of the Neanderthals, including the tools⁹ they used and animals¹⁰ they lived with, such as:

- Toy bows and arrows
- Wooden staves
- Stuffed ice age animals

The second retail store is themed as a small village of huts near Sabertooth Peak’s exit. It sells the above merchandise as well as non-computerized queue stones engraved with the spirit animals guests “discovered” in the ride queue.

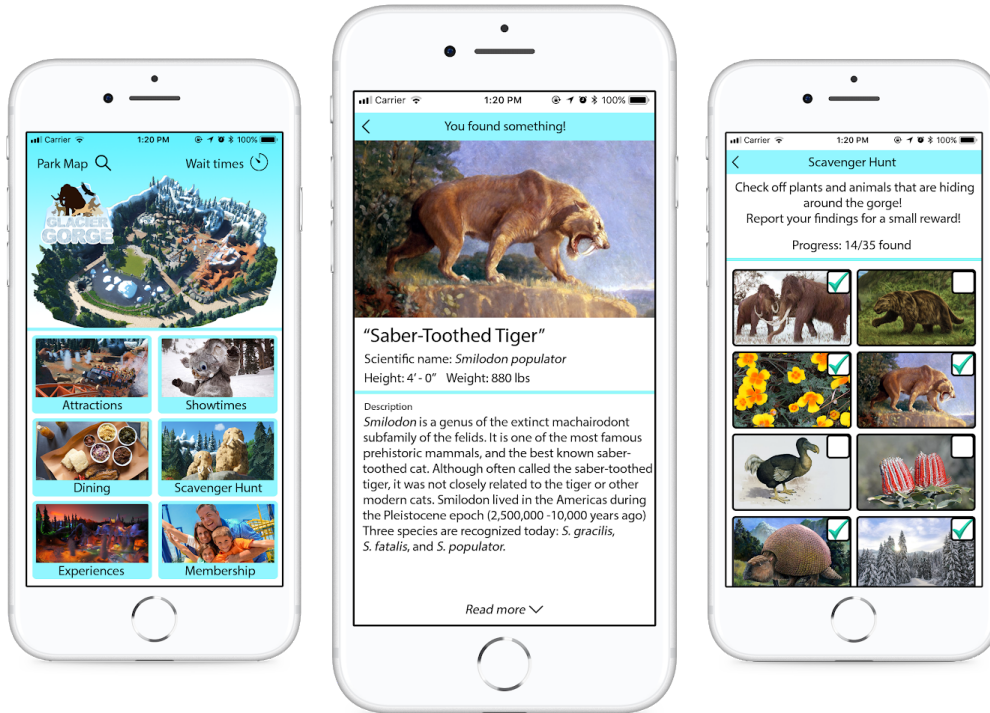


⁹ <https://www.brighthubeducation.com/history-homework-help/117937-stone-tools-of-the-neanderthals/>

¹⁰ <https://www.livescience.com/51793-extinct-ice-age-megafauna.html>

Flora & Fauna Scavenger Hunt

To encourage exploration of Glacier Gorge and interest in preserving Delaware's natural environment, guests can download an app-based scavenger hunt (with potential to expand to the rest of Universe of Fantasy) that introduces Delaware-native plant species and Pleistocene-epoch animals. Completion earns guests a free souvenir pin from retail locations.



Lagoon Show

At night, guests watch in wonder as the lagoon's glaciers come to life in "Ice Paintings." Guests will join the storyteller from Sabertooth Peak as she recounts how ice age adventurers Allu and Zot discovered the magic of cave paintings.

Walkways surrounding the lagoon provide nearly 360-degree viewing. Projection mapping technology and programmable fountains create the illusion of ice falling and cave paintings coming to life. Iceberg rafts will carry puppets and supporting actors wearing animal costumes that support the narrative. The adventure culminates in a message of preserving the magic that lives in cave art and natural ice formations.



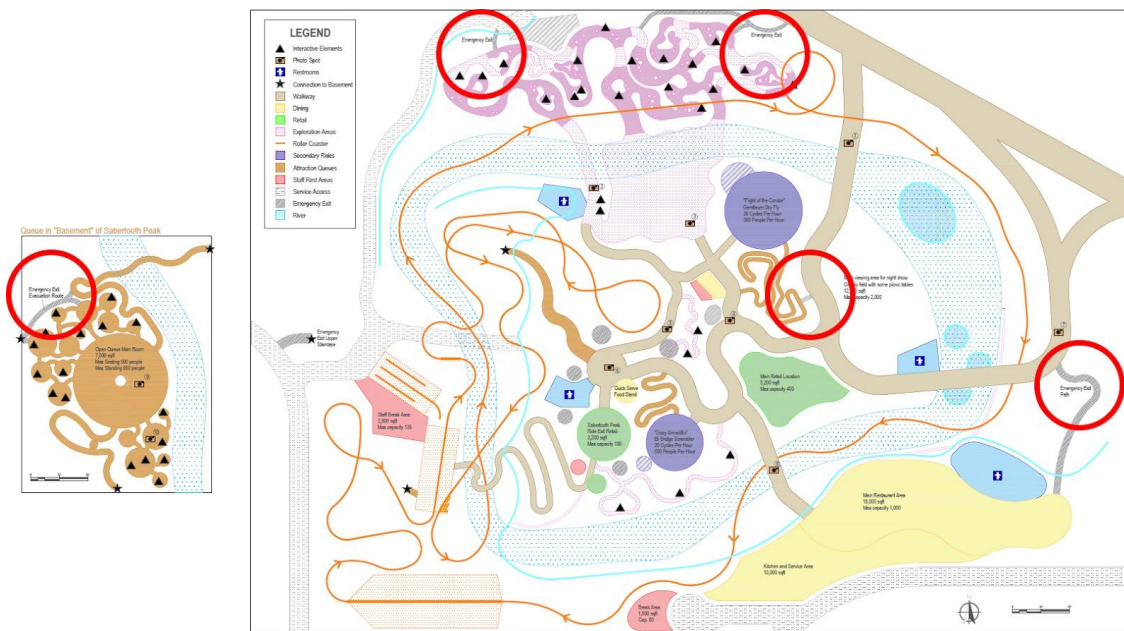
Operations

Throughput

- Based on Busch Gardens' Cheetah Hunt¹¹, and Carowinds' Copperhead Strike¹² (both 16-person trains), the Theoretical Hourly Capacity (THC) for Sabertooth Peak is 1,300 people per hour (pph).
- Based on manufacturer specifications¹³, at 12 people per load, and 30 rides per hour, Flight of the Condor THC is 360 pph.
- Based on manufacturer specifications¹⁴, at an average of 30 people per load, and 20 rides per hour, Dizzy Armadillo THC is 600 pph.
- Based on the 18000 square footage and an average stay of 30 minutes, the restaurant can host 2000 pph.¹⁵¹⁶

Accessibility

- Following wheelchair access standards, all walkways including queues have a grade of 5 degrees or less.
- Sabertooth Peak has a separate loading platform for ADA guests.
- Stroller parking is available near ride entrances in signed areas.
- Emergency exits throughout the land are shown below:



¹¹ https://en.wikipedia.org/wiki/Cheetah_Hunt

¹² https://en.wikipedia.org/wiki/Copperhead_Strike

¹³ <https://www.gerstlauer-rides.de/products/flat-rides/sky-fly-en-US/>

¹⁴ <http://www.elibridge.com/scramblers.htm>

¹⁵ <https://www.banquettablespro.com/space-and-capacity-calculator>

¹⁶ <https://smallbusiness.chron.com/calculate-seating-capacity-restaurant-39808.html>

Maintenance

- The service road is directly attached to the maintenance bay for Sabertooth Peak, feeding from a switch at the beginning of the ride, and allows storage for up to 3 trains.
- The service road connects directly to Glacier Gorge through Sabertooth Peak, pictured:
- All major walkways are minimum 15 feet wide, leaving enough room for vehicles to access all attractions and venues.
- The service road connects directly to the restaurant's kitchen, allowing for easy delivery of food throughout the day.

Staging

- There are two main employee rest areas:
 - Behind the restaurant
 - Under Sabertooth Peak
- Several animal character mascots that roam Glacier Gorge throughout the day can get costumed and access the land through the rest area behind the restaurant.