

Hades: The Darkride Proposal and Prototyping

CMPM 179-01

6/12/2024

Link to simulation: <https://alhinator.github.io/hades-the-darkride/>

Abstract

This paper aims to serve as an in-depth proposal for a “dark ride” style theme park attraction using the Hades IP; drawing from the games *Hades* (2020) and *Hades II* (Early access, 2024) developed by Supergiant games, LLC. It contains an overview of the original video game’s structure, descriptions for the characters included in the dark ride experience, the outline of the ride’s themed journey, specifications and suggestions for technical and decorative aspects of the experience, and a simple state-machine readout meant to give an example of the way traffic is managed and the flow of the ride is controlled. The project strives to accentuate two specific aspects of dark-ride design: the queue being part of the experience, and a higher level of rider interactivity and agency than is normally allotted.

This paper contains spoilers for both the Hades and Hades II games.

Original Game Structure Overview

The original *Hades* game, released in 2020, follows the story of Zagreus, the young Prince of the Underworld, son to Hades and Persephone of Greek mythos. Zagreus seeks to escape the doleful land from which he was born, defying his father, searching for his lost mother, all the while fighting upwards through increasingly difficult chambers of the underworld in a rogue-lite genre style. Along the way, a cast of Underworld-based (or deceased, and residing there) characters such as the Fury Megaera, Achilles, Sisyphus, and Thanatos act as friends, rivals, mentors, and enemies; meanwhile, the Olympian gods provide “boons”, or upgrades, to Zagreus’ various weapons and abilities. Zagreus has access to one of six weapons during each escape attempt, as well as one “Keepsake” at a time. Later in the game, the “Heat” mechanic is introduced through the “Pact of Punishment”, allowing the player to increase the difficulty of the game in exchange for better rewards. The game is narrated by the disembodied voice of Homer, the great poet, who is seemingly only able to be heard by Zagreus and the player.

Each time Zagreus dies during an escape attempt, he returns to the House of Hades. This cyclical gameplay is the core of the rogue-lite experience: erasing some boons and rewards the player attained during the attempt, while retaining others to use as currency, gifts, or upgrades.

A single escape attempt falls into 9 distinct “stages”. Stages 1, 3, 5, and 7 consist of clearing a series of individual rooms in succession; stages 2, 4, 6, and 8 are single-room boss fights.

- 1) The player battles through Tartarus, the lowest levels and catacombs of hell.
- 2) The player must defeat the Fury Megaera, the boss guarding the exit of Tartarus.
- 3) The player battles through Asphodel, a lava-filled series of traditionally ‘hellish’ caverns.
- 4) The player must defeat the Bone Hydra, the boss guarding the exit of Asphodel.
- 5) The player battles through Elysium, verdant underground mountainsides home to the spirits of champions and good-doers.
- 6) The player must defeat Theseus and Asterius, the boss(es) guarding the exit of Elysium.
- 7) The player battles through a series of “Satyr-tunnels” in the Temple of Styx, searching for a grotesque “Satyr-sack”, which is fed to the guard dog Cerberus (so that the players do not have to fight him).
- 8) The player emerges from the underworld onto a snow-covered mountainside; they must defeat Hades to proceed to the outside world and “beat” the escape attempt.
- 9) Zagreus, who is bound by the curse of his bloodline, is, without fail “Taken by the Styx”; he cannot survive outside of the Underworld, so he dies, and is transported back to the House of Hades.

The game’s story and gameplay reinforce the core values of perseverance, familial and companionable bonds, and the tenets of showing kindness, forgiveness, and learning to change toxic, abusive, or self-destructive habits. After the main story of the game is completed, Zagreus manages to make some amends with his father after reuniting with his mother on the surface, and now, instead of attempting to escape the Underworld out of ill will, takes on a “security consultant” position, where he “tests the Underworld’s defenses” in order to retain its fearsome reputation, managing to find both meaning and fun in what he now does. He also, with the help of Persephone, manages to bring his family back to good terms after a long period of disgruntlement and disagreement between Hades and the rest of the Olympian gods.

Characters

The following list of characters only includes those that would be included in the attraction, in order of their appearance; this information is specific to game lore and not necessarily reflective of traditional mythos. More detailed information can be found in-game or on the online Hades wiki.

Chthonic Characters & Shades

Charon - The boatman who brings souls to the underworld. Speaks in grunts and groans that only Zagreus and a few others can understand, and sells wares to the player in exchange for Obols, a golden currency.

Zagreus - The fiery, hot-blooded Prince of the underworld with a rebellious streak against his father.

Hypnos - The god of sleep and doorman of the underworld; cheerful and friendly, but often lazing about on the job.

Hades - The staunch, hard-headed Lord of the underworld. Is less temperamental than he used to be, after reuniting with Persephone.

Skelly - A prankster skeleton; Zagreus' friend and training dummy.

Sisyphus - A prisoner of Tartarus, sentenced to forever rolling a boulder up a hill. Kind and friendly to Zagreus, one of the few people that treats him with respect.

Megaera - The eldest of the three Furies, torturers of the underworld. Zagreus' former lover and rival.

Thanatos - Death, the brother of Hypnos. Soft-spoken and vigilant, and sometimes aids escape attempts by slaying enemies alongside Zagreus.

Theseus - A skilled combatant with overflowing arrogance, he guards the gates of Elysium with his friend Asterius and sheer disdain for Zagreus.

Asterius - The original Minotaur; he is more respectful than his counterpart, and fights with decorum, respect, and earth-shattering axe-blows.

Cerberus - The beloved three-headed dog guardian of the underworld, and favored pet of the House of Hades. Is often bribed, treated, and pampered by Zagreus.

Olympian Gods

Athena - The calm, level-headed goddess of Wisdom. Was the first to originally aid Zagreus in escaping, and remains one of his allies and confidants.

Zeus - The King of the Olympians and Lord of the skies. Brash and a little egotistic, but friendly to Zagreus and his cause.

Poseidon - The laid-back Lord of the seas, assuming the “cool uncle” role to Zagreus during his journeys; he has a habit of unleashing a stormy temper when he’s disrespected.

Dionysus - The chill, relaxed god of wine and parties; is one of the closest Olympians to Zagreus on account of his down-to-earth nature and affinity for mortals.

Hermes - the fast-talking messenger of the Gods; works closely with Charon, as he also delivers mortal souls to the underworld.

Ares - The cool, calculating god of war with a mutual respect for Zagreus’ combat skills and an undying bloodlust.

Artemis - The reclusive goddess of the hunt; often flustered by Zagreus’ guileless kindness.

Demeter - Mother of Persephone and Zagreus’ grandmother; at one point brought the world into an eternal winter as retribution for losing her daughter.

Aphrodite - the goddess of love; overly flirtatious but ultimately well-meaning.

Themed Journey

The “story” of the attraction would be a non-canonical addition that takes place sometime after the events of *Hades* and far before the events of *Hades II*.

Pre-ride

The riders, or guests, enter the Underworld accidentally; via a magical thinning of the barrier between the worlds of the living and the dead. After passing through the Mists of Erebus, a dense forest, guests will queue in the “Fields of Mourning”, a wide, dreary expanse of dying wheat stalks. They are then taken by the boatman Charon to the House of Hades, and are intercepted by Zagreus making a routine security check during the journey. He explains in shock that they shouldn’t be here, as they’re still alive, and that their time in the Underworld must be as fast as possible in order to avoid becoming permanently dead. He advises them to try and speak with his father in order to try and clear up the misunderstanding, in hopes that they’ll be able to return to the surface.

Upon reaching the House, guests are greeted by Hypnos and informed they must wait their turn in line amongst all the other guests (and shades) to await judgment for their appeal. At some point immediately after entering the House, the guests would be given 3D glasses or another form of altering eyewear in order to see the screen-based special effects in the queue, under the pretense that “mortals would spontaneously combust if they saw gods without protective eyewear”.

Guests will be brought “to have an audience with Hades” in groups of 20-30, using this as a breakpoint in traffic flow. Ride attendants will sometimes open a “side gate” reserved for invisible specters, pretending to let through groups of disgruntled ghosts.

When the guests reach Hades’ throne-desk, he dismisses their case with indignance, scoffing that even if they *were* alive, There Is No Escape (A motif commonly repeated in the game). Zagreus secretly catches the guests’ attention from a passageway to the right while Hades is distracted, ushering the group into the next waiting area, a lush underground garden filled with pomegranate trees and leafy bushes. From there, the guests climb a hidden flight of stairs and through a secret passageway that overlooks Zagreus’ room, then descend into a courtyard on the other side of the room, which serves as the loading zone. Zagreus explains that with the help of his pal Skelly, he commandeered a series of Nemean Chariots for the guests to ride to safety, while being escorted by himself. Guests will then sort themselves into six loading zones, and divide into pairs. The carts, carrying two guests each, will launch, and the voice of Homer will send the guests on their way. Each group of six carts carrying two riders each will be referred to as a “batch”.

The Ride

The ride itself is designed to give a high level of rider-experience uniqueness; each room of each area has three different sets of dialogue, corresponding to the order in which that room was visited by the rider. During the boss fight for each area, the riders will have the option to rapidly press one of their three cart buttons, filling the associated “meter” for a god. At a certain point in the boss fight, whichever meter of the three is highest among the batch will “win”, and Zagreus will call out to that god, asking for their aid and using a related power (see “Calls” in-game).

Area 1: Tartarus

Immediately, the guests will be confronted with a choice after being driven to a three-way split: The console of the carts will have three large buttons which light up using digital displays. They will choose between the symbols of Athena, Poseidon, and Zeus; this choice will be first-come-first-serve among the batch, with two carts assigned to each doorway, and stragglers being sorted into whatever symbols haven’t been selected after a few seconds.

Tartarus consists of three adjacent rooms with connecting passageways between them; the passageways are sealed during the duration of each room, and open while the carts cycle through them. Each room plays out a short combat scene in which Zagreus fights enemies using the “boons” of the god associated with that room (Athena, Poseidon, Zeus). After the scene

finishes, the carts in the batch rotate, until the carts have seen each room. Each room should take about 30 seconds to complete. On rare occasions, guests in one room would be ushered into a smaller subroom by Sisyphus, in which he offers respite and dialogue while Zagreus fights.

After the carts have seen each room, they all filter into a final room, the “boss room”. This room is an empty, underground church hall, with green and purple theming; stained glass casts colored shadows onto the floor. This is where Zagreus will fight Megaera with all three of the boons he “acquired” in Tartarus.

Area 2: Asphodel

After Zagreus wins the fight against Meg, the riders’ chariots ascend an elevated ramp, with a window to their side overlooking Zagreus drinking from a fountain in a “rest area” between underworld areas. The riders will be presented with another choice, this time between Dionysus, Hermes, and Ares.

Similarly to Tartarus, riders are cycled through each room, two carts per room, and deposited into a boss room after all three rooms have been visited. This room is a large underground cavern, on a flat island made of stone surrounded by a lake of lava. Massive, snakelike heads of a skeletal hydra (the Bone Hydra) are fought and defeated by Zagreus, using the same Call mechanic as described above. In this region, Hermes is not available during the call; his icon is replaced by a question-mark. If this option “wins” the Call contest, Zagreus will call out to Thanatos for aid instead.

Area 3: Elysium

Following the same pattern as the first two areas, riders are given a choice between three initial gods, then are cycled through three rooms. The choices in this area are Artemis, Demeter, and Aphrodite. After cycling through each room, riders are deposited into a boss room, where Zagreus must confront Theseus and Asterius, the champions of Elysium. The room is a large, ornate, gilded coliseum, populated by ghosts, with spectators ringing the stands as well as four spectator pillars rising out of the center of the arena. The Call contest will occur twice during this fight, the first being used to slay Asterius, and the second to slay Theseus.

Area 4: Satyr Tunnels/Mountainside

The entire batch of riders is brought through a snaking, fast-paced series of grungy, dim-lit, dirt-hewn tunnels, slowly sloping upwards; during this, Zagreus is fighting hordes of Satyr cultists and giant rats, the enemies are alive, now, rather than dead. At the end of the tunnel, a brief respite is found as the tunnels open up into the ornate Temple of Styx, the main

entrance to the underworld. Zagreus bribes Cerberus, who is guarding a massive pair of doors, with a disgusting “Satyr sack”, a burlap sack filled with contents of questionable procurement.

The doors then open, and Zagreus and the chariots file out onto a snow-covered mountainside to confront Hades in battle. The battle will take place in two phases, each taking about 30-45 seconds to complete. At the end of the first phase, Hades will appear to falter, but regains his strength as the music changes and he yells in defiance. During the battle, two Call contests will take place for the riders; each cart will be given the options of the three gods they picked as the first of each region. The first Call will take place during Hades’ “first phase”, and the second will take place during his “Second Phase”.

Area 5: Aboveground

After Zagreus defeats Hades, he opens a set of large stone doors for the riders to exit the mountainside, insisting he would follow, but cannot, as he is bound by the curse of his bloodline. The riders see him fade into a pool of blood behind them as they leave the indoor section of the ride, emerging into the actual outdoors, which will overlook a forced-perspective mountain scene, as well as the outdoor section of the queue. Riders will disembark aboveground, and the chariots will be cycled back underground/indoors.

Technical / Decorative Specifications

Characters and Animatronics

Animatronics in the ride should all be designed in a “cel-shading” style, mimicking the artstyle of the game. They should not aim for realism, rather, aim to immerse the guests in the world. Manipulate forced perspective to make godly characters seem larger than they are, as well as single-angle viewpoints for shaded characters that should only be viewed from one side. Animatronics should not be used during combat for any humanoid characters; animation should provide for more fluid movement. Animatronics for the bone hydra or non-humanoid enemies found in the various regions is highly recommended, as they will provide a physical mix-up to the digital space the ride will provide through 3d projections, without losing the motor control required of a humanoid. LED screens should be used sparingly, especially when the guests will be close enough to determine whether or not it’s a screen or projection. Ideally, LED screens should be framed by uneven rock or another real material to disrupt the barrier between physical and digital.

Decorations

Living decorations, such as plants or leafage, should only appear aboveground. In the underworld, potted plants or the like should be replaced with gilded or gem versions of their living counterparts. All nonliving objects should be cel-shaded and lit to accentuate points of focus.

General Lighting

Lighting should be manipulated to appear if the underground is lit with a constant dull glow, with highlights coming from torchlight/sconces/braziers. Use real fire when possible, otherwise, hide the source of light and flicker to give the illusion of fire. Use torches in the underground queue to line pathways and direct the flow of traffic. Lighting should be warm-toned in the House of Hades (firelight, red-gold), Asphodel (heavy, hot reds and oranges); it should be cool-toned in Tartarus (warm green, purple), the mountainside (cold, windswept blue/white, sunrise daylight); and mixed in Elysium (light blue, pink), and the Satyr tunnels (daylight filtered through dust, sickly green glow).

Lighting in the outdoors should be cool blue or gray in Erebus, used only to illuminate the undersides of trees & the walkway; it should be sodium-vapor orange in the Fields of Mourning. Lighting in both of these areas should only be used at night or when visibility is low.

Hide light fixtures in both areas; especially in the Fields of Mourning - disguise lights inside stone pillars or crumbling buildings as torchlight sconces.

Queue

Mists of Erebus

The mists of Erebus are a dense forest path, mainly used to separate the space of this attraction from the rest of the theme park. Trees should be mostly evergreen with mixings of deciduous trees, as they are meant to act as a natural barrier to block line of sight between the attraction and the rest of the park. The path through the forest should be winding, causing the guests to lose their sense of direction, especially at night when they lose the sun as a point of reference. Use stone or cobblestone pavement; fences are plain, rectangular wooden posts connected by ashen/pale planks. Shrubbery should be pale green and overgrowing, the illusion of unkemptness. Rocks and boulders should be scattered to block major lines of sight between the lines; ideally, guests are not standing still while in Erebus. Ghostly wailing should occasionally interrupt low, ambient music.

Fields of Mourning

The fields of Mourning comprise the outdoor section of the ride's queue. The floor of this area should be trampled dirt and cobblestone patches. The area's borders should be forced-perspective wheat fields, culminating in short, hilly peaks. Line of sight in this area should be broken by crumbling stone buildings, and occasional shade/misting should be provided for guests by stretching cover between buildings or thicker stone pillars. The area should be dotted with sparse deciduous trees, ideally those with upturned branches to mimic the "Golden Boughs" of Hades II. The end of the aboveground queue will be at the River Styx, a controlled water feature.

The River Styx

Guests will be guided in groups of 12 onto a slow moving gondola. Only one boat should ever be visible to the queue at a time, as it is "piloted" by an animatronic of the boatman Charon. Guests will be loaded and then brought through the water ride portion of the experience where they are introduced to the story. They disembark the boat at the edge of the House of Hades, where they rejoin the standing queue to wait to get inside.

The boat is piloted from the surface to the underground area using a standard "log flume" system, and recovered to the surface using an integrated coaster lift - the riders never experience going upward on the boat.

The water ride portion should take a few minutes to experience, and is a way to:

- a) Break and maintain a flow of traffic, especially so that guests are not waiting for as long inside the underground building.
- b) Act as a stopping-point for guests if the underground portion of the experience is out of service; they should be denied access to the underworld rather than have to use a service corridor that brings them outdoors from the underground portion of the ride.
- c) Provide a breakpoint in the line mentality; the average wait time would likely be very long due to the ride's complexity, so it gives the rider an opportunity to "take a break from waiting".

Multiple boats should be able to go through the water ride portion at the same time, as long as they are out of earshot of any dialogue from previous/successive riders.

The design of the river itself should be a red-bottomed river surrounded by polished black stones. Black and gold pillars should accompany every archway, and the caverns the boat rides through should be filled with the various treasures of the underworld. Ceilings should be rough black stone, and lighting should be mottled red/warm tones. Red reflections of the water should light up the ceilings, and the caverns should be filled with mist when passing through corners and before Zagreus' encounter.

The House of Hades

The House is a series of long rooms with high-vaulted ceilings, smooth/polished tiled floors, and black walls framed with golden pillars. Ideally, the area is cold, echoey, and utilizes long, straight segments of queue rather than the Fields' compact and wrapping queues. Large paintings with gilded frames should be placed high on the walls, a mixture between museum and palace ambience. Decorative urns, coffers, and relics should be placed on pedestals just barely outside of the guests' reach.

Hades' administrative desk is a massive stone piece, gilded with patterns of the underworld. It should be around six to seven feet high, with Hades himself towering over guests while he's sitting behind it; his voice should project from a set of main speakers either in his desk or behind his head. If animatronic, Hades would be more imposing; if projection/Pepper's ghost, he'd have a wider range of expression and movement.

The garden is the only area where plants are found underground. A cobblestone pathway should line a dull, mossy dirt floor, separated every ten or so feet into garden beds by small

stones. Include as much underground shrubbery as possible, as well as a few large pomegranate trees, which can be carved wood; a “petrified” look is good if realism is not feasible.

Zagreus’ bedroom, since viewed from only a small angle, can be rendered on a screen behind layers of curved glass or material to make it seem like a wider angle than it is.

Mountainside/Above Ground

The mountainside will be indoors, but use a high ceiling with lighting diffusion channels & material barrier to appear as if it was an overcast, cloudy dawn. The floors should be painted and lit to give the appearance of fresh-fallen snow, and this room should be significantly colder than the rest of the ride. Wide stone pillars should rise out of the ground in wide intervals, and the edges of the room should be lined with stone barriers. If possible, a live water feature should be included as a river, provided it doesn’t make the area smell too much like chlorine. LED walls on the stone pillars may be used to have Hades and Zagreus appear inside the arena itself during their fight, and the room’s walls should be lined with LED panels for 360° views of the snowy cliffside. The doors the riders came through should be at least twelve feet tall, black and gold, and have vague patterns, but not enough to detract from the rest of the scene.

The outdoor area itself should be decorated in the classical “Ancient Greek” style; white pillars, tan or white stone floors, olive trees and dry shrubbery. Chariots should be cycled around a corner out of sight before returning underground, and guests should be walking on a gentle downward incline to return to the exit of the attraction area.

Ride-Flow Simulation

The ride-flow simulation is a fairly simple state-machine built in the Phaser.js framework. Based on cycling states of bringing guests into certain areas, awaiting queues, carts, and empty areas, the ride can process 1000 guests in 4 hours 40 minutes barring any hangups, which is an extremely low rate compared to standard roller coasters (the average being about 1,200-1,800 an hour^[4]). Creating the simulation definitely exposed some weaknesses as well as interesting insights into the flow of the ride, as well as traffic management, flow control, and how much people-moving power is actually required to process so many guests through separate parts of the attraction.

total guests: 336 guests inside: 84 Add guest to queue	fields queue 252	charon's boat status Boarding(1) Cycling(2) Dropping off(3) guests:12	house of hades queue 24
Add guest(48x) to queue	hades' audience status Awaiting Guests/Empty Zag guests:0	zag's room queue Launching guests:48 avail carts:24	
stopwatch: 00H:12M reset stopwatch			
	tartarus status Awaiting Carts/Guests guests:0 avail carts:0	asphodel status Awaiting Carts/Guests guests:0 avail carts:0	elysium status Awaiting Carts/Guests guests:0 avail carts:0
	styx status Awaiting Carts/Guests guests:0 avail carts:0	hades status Awaiting Carts/Guests guests:0 avail carts:0	mtn/outdoor status Disembarking guests:0 avail carts:0

While fairly simple-looking, the readout provides extremely useful information upon long periods of observation. Parameters had to be set to avoid overcrowding underground areas, as well as adjustments to ensure guests were only waiting in the areas they should be waiting in; staggering cart launches from Zagreus' room had domino-effect consequences for the processing speed of guests in the House of Hades queue as well as back on itself, as it now had to wait longer to receive chariots back; this could be fixed by having more than 24 carts, but 24 seemed like a reasonable number based on manufacturing constraints as well as the amount of technology packed into the carts. The simulation, rather than an end-product experience, was something I used to help tune, modify, and evaluate the design of my darkride.

Process Documentation and Iteration Cycles

For the design aspect, the main iterations I went through were determining how to give the riders a unique experience with meaningful differences between the choices in each area of the ride. Dialogue differences as well as the Call Contest mechanic ended up being sufficient; originally, I'd proposed a system where each cart corresponded to one of the unique weapons Zagreus uses, but there were way too many possible combinations/permutations of rider choice for that method to be mechanically reasonable, given the constraint of putting all the content into physical space.

The decision to make the carts themselves chariots was easy; I still am unsure how exactly the seats themselves would be oriented, especially considering two factors: accessibility to disabled/hard of movement riders, and the concern of whiplash if chariots are making tight turns but there's no back/neck support for riders that might be buckled into the chariots standing up.

For the simulation, phaser.js was the immediate easy answer; with its built-in control loop and the easy ability to plug it into an HTML webpage, it was a perfect jumping off point. The state machine went through one revision early on, as an issue arose with function execution context. I'd been working in typescript the past few weeks, so the js change led to a few scope/loose-typing related issues, but I was able to resolve them fairly easily.

Reflection

Overall, I really enjoyed working on this project. Unfortunately, I burnt out a lot code-wise due to having a substantial amount of work for my CMPM 147 class, so most of my focus for this project was on the actual design of the ride itself. As someone with extensive technical theater experience, this was a great opportunity to create a thematic experience based on content/an IP that I enjoy.