



Game Design Document

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Section I - Game Overview



1.1 Game Concept

In *Ape Overdrive*, players control Apes who have reclaimed Earth as their jungle, repopulating the metropolitan areas. Through participating and completing time-based events, which appear throughout the map at set intervals, players will accumulate points, here-after named “Bananas”, both the games Currency and Scoring System. Using this currency, players are able to buy items to enhance their abilities, or become a banana-hoarder and aim to finish the game with the most Bananas. Either when the timer runs out, or a player reaches the Banana Threshold, the game will end, and a winner will be decided based on who has the most Bananas.



1.2 Genre

- Action
- Objective-Based
- Casual Multiplayer



1.3 Design Pillars

The Design Pillars for *Ape Overdrive* are Replayability, Fast-paced Action, and Casual Competition.

1.3.1 Replayability

Replayability is reinforced in the design of our game through the variety of objectives and items that the players interact with. Objectives will occur on the map in different spots every game, and the shop will randomly generate what items are for sale every time a new event occurs. Players are meant to be able to catch onto the game very quickly, but mastering it should take time, thus urging the player to replay multiple times.



1.3.2 Fast-Paced Action

Through high speed mobility in gameplay, as well as thoughtful UI/UX design, we are capturing the essence of a fast-paced game. Low downtime between objectives, no menus or alternative windows, and simplistic, easy to determine items will allow players to keep the pace of their game going at a high, and make smart choices quickly to get back into the action.



1.3.3 Casual Competition

Ape Overdrive's gameplay hones in on the chaos that ensues between players during events, and thus leads to some intentional and unintentional plays. There is no reward for ultimately winning a game, other than the satisfaction, but as events progress forward, and the overall timer comes closer to an end, players will feel competitive in spirit as they race to be first place.

1.4 Game Flow Summary

The players all begin the match at the same standpoint; no Bananas, no Items, evenly placed apart. Moments after the match begins, the first objective will become marked on the map, and all players will be alerted of the event, and its location. The event's timer will begin to count down the instant a player enters, and begins participating, in the event. Once the event has been completed, either through the timer expiring, or by a player being victorious, the current event will disappear, moments later displaying to the players the next upcoming event, as well as location. Throughout the entire game, there are banana bushel pickups scattered across the play area. Players can collect these at any time to increase their point total by a small amount. After collecting a bushel, it disappears for a short time, respawning afterwards.

This process of "Event -> Complete Event -> Event" will continue until a player reaches the Banana Victory Threshold, or until the overall timer runs out, where a winner will be decided based on who has the most Bananas. Players may deviate from the path of events to visit the shop at any time and, provided they have enough Bananas, purchase items that passively increase their character statistics.

1.5 Game Length

Ape Overdrive's game duration is near limitless, as the game is meant to bring players back for more fun every time. A singular match is timed at 12 minutes, allowing players to participate in up to 10 events before the timer is reached, or a player reaches the Banana Threshold for victory. The replayable and refreshing nature of the game is meant to draw the players back to the game, changing their playstyle and approach for a fresh change of pace.

1.6 Target Audience

According to ESRB *Ape Overdrive* is allowed to dawn the E for Everyone rating. Only containing 'Cartoon Violence' in which violence is shown but no injuries and inflicted after the fact our game like a party game is targeted at anyone! It is targeted at adults trying to see who's the best, and children laughing at the funny

moments they share with each other as they play. Children can play with their parents, and parents can play with their children and all will have fun!

Section II - Interface



The menus of *Ape Overdrive*, along with the rest of the game, will be navigated using controllers. Before the games, there will be menus to allow the players to set up games and tweak their settings. Once in-game, the essential information (score, events, locations etc.) will be communicated via the heads up display, visible to the players at every point in gameplay.

2.1 Visual System

The following headings outline all the elements that the player will interact with;

2.1.1 Heads-Up Display

The H.U.D (Heads Up Display) of *Ape Overdrive* features only the essential elements in order to keep the screen as open as possible. The features shown are the timer, which tells the amount of time remaining in the game, an arrow pointing to the location of the event, the name of the current event, the scoreboard, the players inventory, and the players personal score.

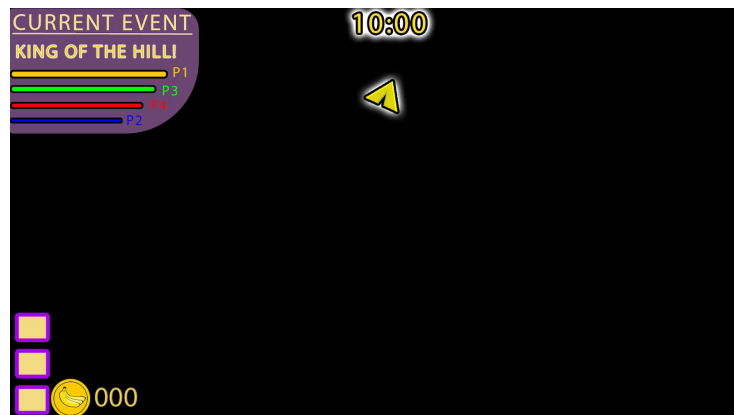


Figure 2.1.1a Heads up Display

2.1.2 Menus

Ape Overdrive has buttons on the menu to press play, go to settings, view a credits screen, or quit the game. In the pause menu during gameplay, a player can resume, drop out, or exit the match entirely.

2.1.3 Camera

The camera is third person, with a view over the back/shoulder of the ape. The player controls the camera independently of the movement of the ape. The camera will still be centered on the ape, but the players can move the camera

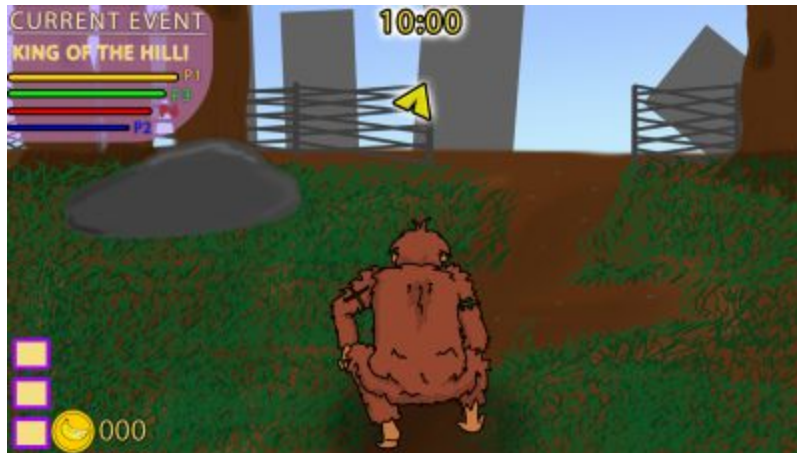


Figure 2.1.3a Player View



2.2 Control System - Controllers




Figure 2.2a Controller

Our game will exclusively use controller support, the most common being the Xbox One controller. The menus will be navigated with the left joystick and the A & B buttons, with the in game controls utilizing more of the controller, as is to be detailed in 3.3.1.1 General movement.

Section III - Gameplay and Mechanics

3.1 Gameplay

Ape Overdrive has a single standard gameplay mode that one “match” consists of. 

3.1.1 Play

In a match of *Ape Overdrive*, each of the four players take control of an ape character that is battling to collect Bananas, using those Bananas to purchase items that help them for the rest of the match, and ultimately reach a Banana Threshold before the other players in order to win. Alternatively, the player that has the most Bananas at the end of a 12-minute match timer will be the winner. Bananas are primarily gained by means of events that are cycled through during a match, detailed in Section VI.

3.1.2 Gameplay Progression

Gameplay progression consists of players being against one another in the game’s playable area, where they compete in a cycle of objective-based events that are generally either won outright or competed in purely to gain points, before the system moves on to the next event.

Prior to entering the level where the match takes place, players are put into a pre-game lobby where players have the opportunity to get used to the controls before the match starts, as detailed in Section 5.

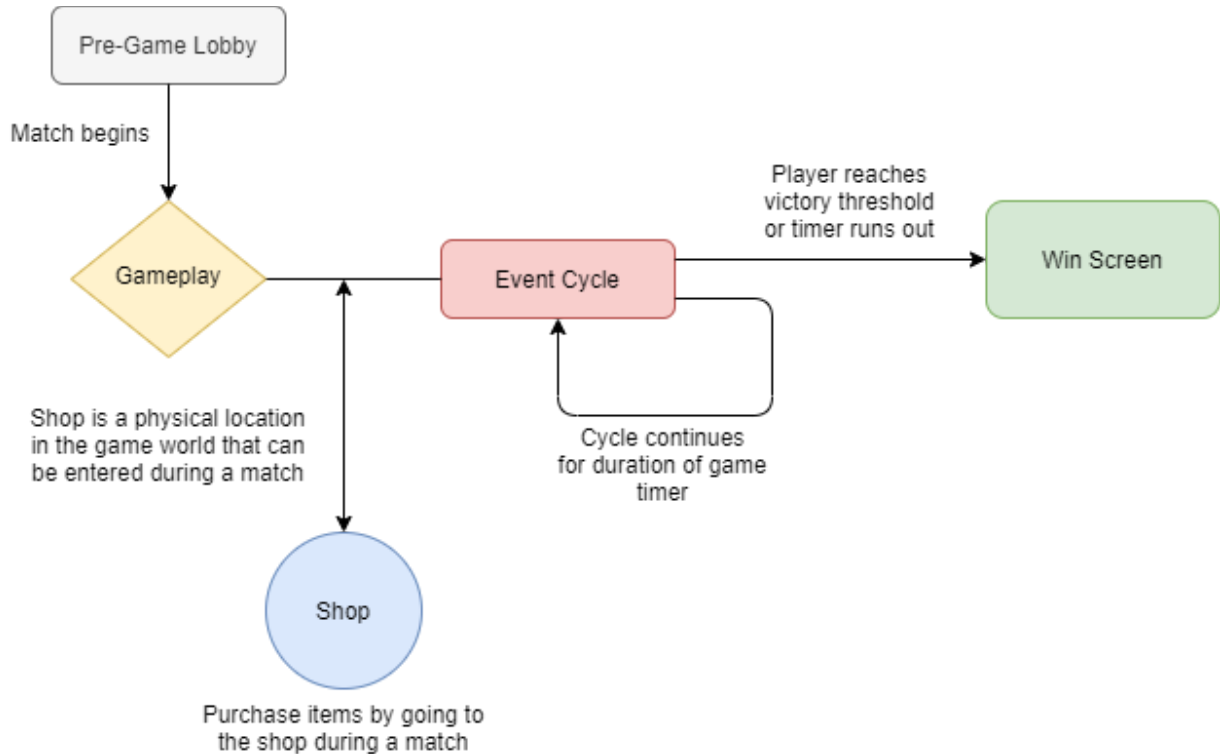


Figure 3.1.2 Gameplay Progression Flow Chart

3.1.2.1 Spawn Points

Player spawn points are annotated in Section 4.3. A player's spawn is where they begin their character is placed at the beginning of the match. A player's spawn point also serves as the place they deposit certain objectives to, such as in the *Shopkeep's Bounty* and *Banana Scramble* events.

3.1.2.2 Collecting Bushels

Throughout the game, bushels of bananas will appear throughout the map, most being hidden and off the beaten path. While these bushels are not a good source of income if a player plans to clean sweep a victory, they are a good way to increase your income during the small amount of downtime the game provides. These bushels have a low spawn timer, so consistently stopping to grab them isn't easy to abuse.

3.1.3 Shops

At any point during a match, a player can venture to the shop that's in the game world. Not through a menu, the shop is a physical location that the player walks into. The shop appears as a market stall with a "shopkeeper" NPC sitting behind it. Here, a player can purchase items that give them passive stat boosts for the rest of the game.

Items are displayed on the counter of the market stall. The shop has four items on display at a time, which refreshes with new items randomly chosen from a pool after every other event concludes. To purchase an item, a player simply walks close to it and presses the interact button. The item is added to the player's inventory.

An item is purchased using Bananas that a player earns during the match. For thematic purposes, a player purchases an item by paying the shopkeeper in bananas.

3.1.3.1 Items

Items that a player acquires in a match grant passive stat boosts as long as the player has it in their inventory. These stat boosts include increased jump height, increased running speed, increased acceleration, etcetera. Items are detailed in Appendix A. iv.

Items are stackable, meaning a player can gain multiple of the same item, but they have diminishing returns. For example, the MASA Badge increases jump height by 30%. If the player gained a second MASA Badge, the second one increases by another 15%, and a third would increase jump height by 7.5%, bringing the total jump height increase to 52.5% for three MASA Badges.

3.1.3.2 Player Inventory

A player's inventory has a maximum of four slots. The player can see a box of their inventory in their UI. When a player purchases an item, it fills up their slots left to right. Once a player's inventory is full, they may still buy items, however, they lose the leftmost item in their inventory, this being the oldest item they have. If a player's inventory is full, they also purchase new items at half price, since they lose an item as part of the transaction.

3.2 Screenflow

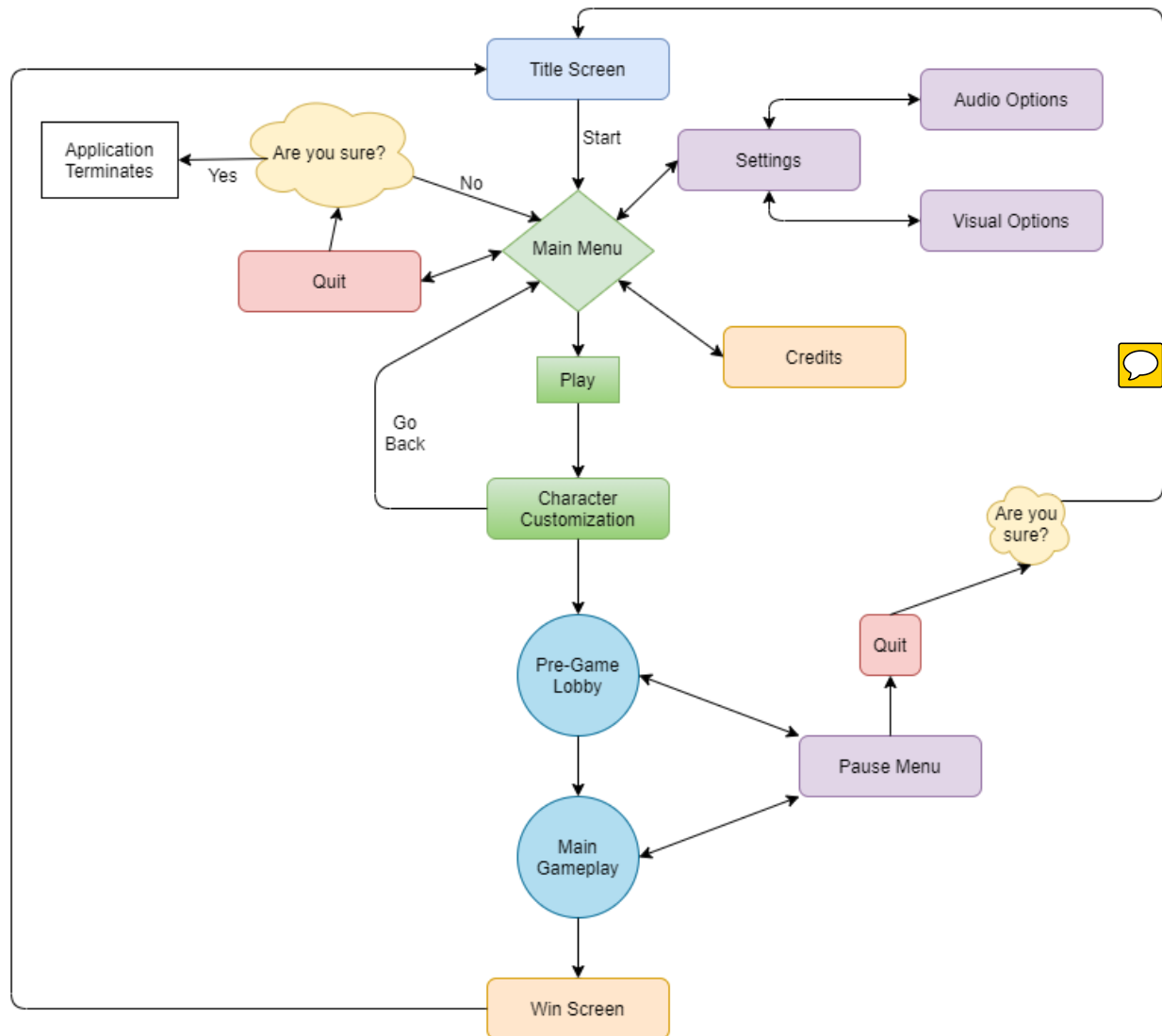
Players will spend the majority of their time in-game, so that will be the primary screen/engine scene that they will see. They start at a title screen before pressing a button to go to the main menu, where they will have the buttons "Play", "Settings", "Credits", and "Exit."

Upon selecting "Settings" the player is given options to change audio and visual settings. "Credits" simply brings the player to a credits screen, and "Exit" terminates the application after an "Are You Sure?" prompt.

Selecting "Play" leads to a character customization screen. Here, each player connects a controller to join, and customize their character based on a "hat"

that each ape character wears to differentiate the players, detailed in Section 8. After every player has readied up here, they see a brief loading screen before being put into the pre-game lobby, detailed in Section 5. Following that once all players ready up once again, they are then taken into the main game level, eventually to reach a win screen, and then back to the title screen once a match is fully concluded.

The game can be fully paused by any player during a match. A player has the options to resume the game, drop out (removing their character from the rest of the match), or quit to the title screen.



3.2a Screenflow Chart

3.3 Mechanics

3.3.1 Movement

Players control their characters in a third-person view and utilize a basic control scheme with a gamepad to control their character.

3.3.1.1 General Movement

The players will control their apes with controllers with the following control scheme:

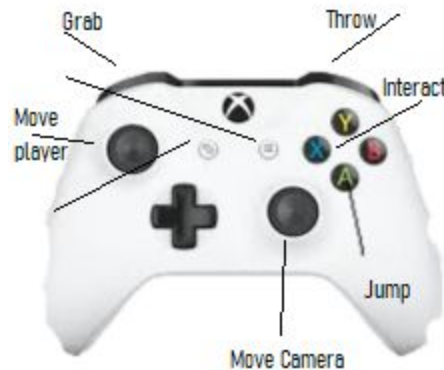


Figure 3.3.1.1a Control Scheme

When a player begins moving from a dead stop, their player character is initially walking on its hind legs, before switching to all fours and moving at full speed. This delay is one full second, While moving at any speed, a player can press the jump button to jump. A player holding down the jump button after jumping will allow them to reach their maximum jump height

(1) **(Insert Image Here)**

3.3.1.2 Climbing

The players can climb short walls, or areas indicated by vines or other climbable areas. The player initiates the climb by pressing the interact button, which will then make their movement along that third axis. As the player has a jump button, they will naturally be able to jump off of the climbable surface that they are on. This will only make them jump perpendicular from the wall.

(2) **(Insert Image Here)**

3.4 Actions

3.4.1 Picking up and Throwing Objects

Using the pick up and throw buttons, the player can pick up and throw objects and players. While the player has picked up something their speed will decrease, the amount that the speed will decrease will be proportional to how large/heavy the object they are picking up. While the player has picked up something, the player's model will show that they are moving on 2 limbs as the other 2 are occupied by holding the object. The player will grab in the direction their avatar is facing, not their camera, this is different from where they want to throw the object.

Some objects that are around the map will be able to move, still by using the pick up button, and throw button. To grab and release respectively.

When the player wants to throw an object they can hold down the throw button to throw the object further at a higher exit speed. While they are charging, their movement speed will decrease even further, till they are at a standstill where their throw distance will be maxed. The object will be thrown in the direction that the camera is facing, not where the player is facing.

If there are two different players trying to pick each other up at the same time, or around the same time, they will be both knocked back at the same distance.

A unique mechanic to *Ape Overdrive* is that we will be adding ragdoll physics to the players when they get thrown, or hit by an object at a certain threshold of force.

(3) (Insert image of ape hold)

3.4.2 Escaping being Grabbed

While you are being grabbed, there will be a bar at the bottom of the screen which will have an area where you must stop the cursor at. The cursor will be moving back and forth on the bar at a fast speed, which slows down over time giving the player an easier time breaking out. They will also be a given button which the player will need to press in order to stop the cursor.

3.4.3 Purchasing, Picking up, and Selling Items

Around the map there will be a shop where the players can go and interact with the given item that they wish to buy from the assortment of items that are on display. The items that are on display, will be random from our list of items.

In order to sell an item back, the players must talk to the shopkeeper and the amount of currency they get back will be 50% of the regular cost of that item.

(4) (Insert image of shop of items)

3.4.4 Banana Toss

If the player is not currently holding an object to throw, they can press that button and throw a banana, which will consume **1** banana from their current score. This banana can affect any player on the map. It will appear as a regular banana on the ground, however when the player goes to pick it up, they will slip on it and their model will ragdoll for a few seconds.

(5) **(Insert image of Ape tossing Banana on ground)**

3.5 Economy

The currency is in bananas, which is also the point system in order to win the game. So the players must be careful if they want to purchase something as that makes them further away from winning, but giving them better stats. You can earn bananas from participating in the events which happen around the map, the higher you place in the event, the more you earn.

ii) **(Insert bananas)**

Section IV - Story, Setting, and Character

Ape Overdrive is a game where the story will take up much less of the players time than the gameplay. As such, we've made a simple backstory to support the dynamic, dilapidated city park that the players will play in and the apes that the characters that they will control.

4.1 Story and Narrative

The story will be told through background elements such as environmental cues and details while in game. Our game will also include a short extra where the backstory information will be available in a written form for those who wish to learn more about the setting in which they're playing in.

4.1.1 Back Story

Humans have left earth behind to explore the stars and find new home worlds. In their absence, nature has reclaimed much of what people once owned, overgrowing the vast cities with plants and fauna.

This environment has led to animals roaming free and in greater numbers than ever, especially the apes of the world. These overgrown cities have become their playgrounds.

4.2 Game World

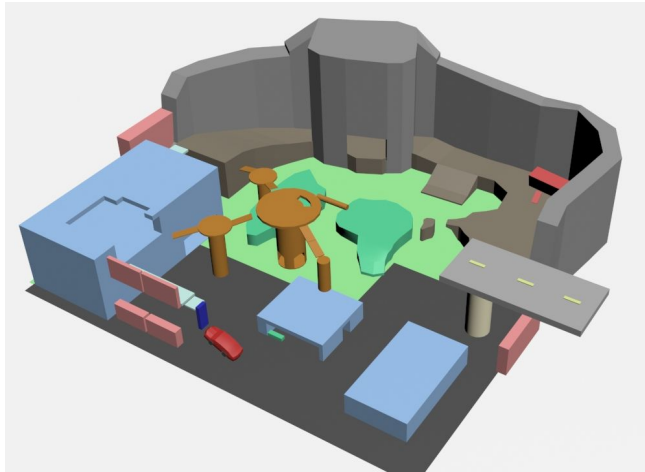
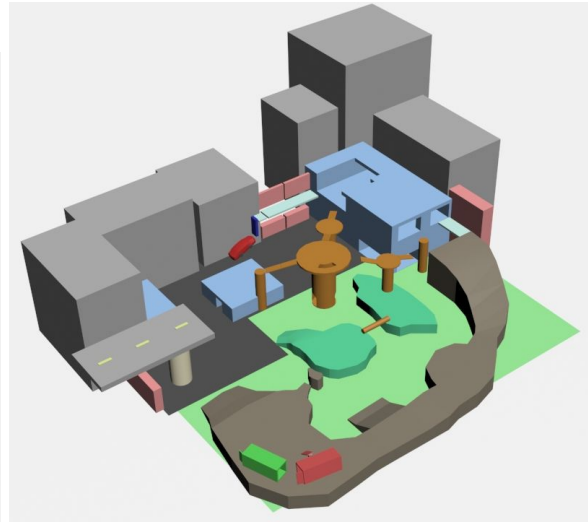
The game world will consist of a city park, with buildings and structures being opposite of the natural parts that have begun to take hold of the city.

4.2.1 General Look and Feel of World

The world has an overgrown, abandoned feeling when at a standstill. In motion, the environment turns more chaotic as apes move around at full speed, attempting to complete their objectives. Despite the abandoned setting, the world is bright and colourful, as matches take place during the day.

4.3 Map

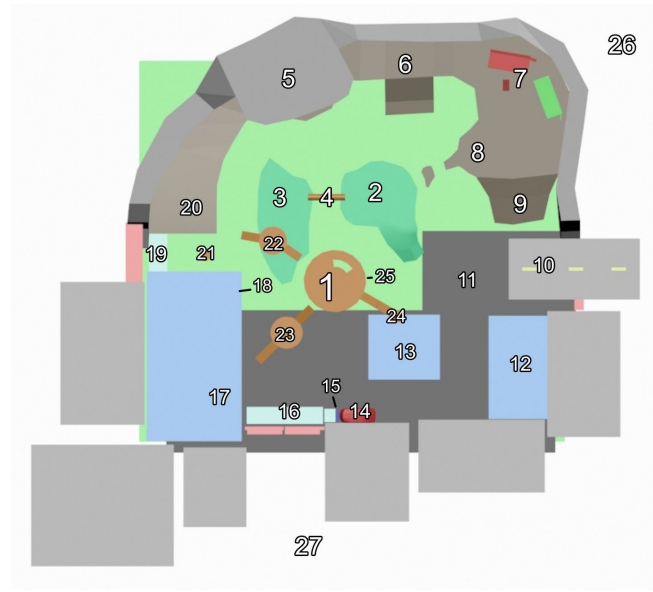


*Figure 4.3a Map View 1**Figure 4.3b Map View 2*

4.3.1 General Description

A section of a large city that has been overtaken by plants and wildlife. The remnants of society that were left on earth (buildings, vehicles, storefronts etc.) are in various states of disrepair, being abused by the animals and elements with no one to maintain them. The main area where the players interact has more natural and jungle aspects.

4.3.2 Physical Characteristics



- | | |
|---|---|
| 1 - Large central tree. Circular wooden platform at the top, open on all sides. Gap at the north side so apes can climb up the trunk to reach it. | 14 - Crashed car. Ramps upwards, supported by debris underneath. |
| 2 - Elevated segment of land, vertical ridges around all sides except for a gentle incline at the south edge. | 15 - A business' sign, hanging from the wall of the attached building. Climbable. |
| 3 - Another elevated segment of land, no ramp. | 16 - Elevated catwalk with road signs. |
| 4 - Log laid across the gap between segments like a bridge, easy to pass beneath it. | 17 - Three storey building, top floor is empty and ceiling has collapsed at shown position. |
| 5 - Cavern inset in the cliff. Access on left and right, as well as opening to the south. | 18 - Three storey building. One section of the bottom floor is open. |
| 6 - Ridge leading around the northern edge of the area. Short ramp at shown position. | 19 - Catwalk connecting building's third floor and ridge. |
| 7 - Shipping containers. Can pass through the interiors. A door functions as a ramp up. | 20 - Highest point of the ridge. Leads north to the cavern, sloping downwards. |
| 8 - Outcropping of rock pointing towards the elevated segment. Easy stepping stone in between. | 21 - A chopped tree trunk. Functions as a small platform between the building and the ridge. |
| 9 - Large slope leading to ground level. | 22 - A tree with a circular platform atop it. Provides an incomplete bridge to the central tree. |
| 10 - Highway overpass, supported by pillar. The top is inaccessible, but it can be passed under. Truck falls from road. | 23 - Another tree with a circular platform on top. Leads to the central tree. |
| 11 - Asphalt meets earth. Truck's crash site. | 24 - A small tree branching off the central tree. It breaks through the wall of the building below it. |
| 12 - One storey building. Cannot be entered, easy roof access. | 25 - The shop, built into the base of the central tree. |
| 13 - One storey kitchen-style building. Storefront on the south side is open, with a hallway leading through the building and to a door at the east. Roof is easy to reach. | 26 - The cliff face that borders the north edge of the area. Not climbable. |
| | 27 - The cityscape bordering the southern edge of the area. Leads off into the distance, but is blocked off by fences and roadblocks. |

The map will have parts that are both the ruined city buildings and the jungle that is overgrowing into the city itself. The map will have 3 general height levels. A majority of the lowest level is a grassy, unkempt surface with vegetation growing longer than intended. A cliff face swings around the north side of the map that the players can walk across the top of. The cliff face rises as it loops around to the west. On the cliff face, there is a cave that the players can enter, which serves as an event area.

In the South-West corner, there is a large 3 story building with the top and bottom floors being accessible. The South-East corner has a short building that can be climbed onto to get to the roof.

Connected to the central tree is a one-story building that can be climbed onto and moved through on its lowest level. The center of the map is a connection of platforms up in the treetops of massive trees with bridges connecting them. The shop is built into the base of the largest tree.

4.4 Characters



4.4.1 Player Character

4.4.1.1 Look



Figure 4.4.1.1a Main Character

4.4.1.2 Physical Characteristics

The apes are a cartoon representation of real life apes. Most of the characteristics can be best related to Chimpanzees with larger arms and bodies. Their fur colour will be brown with lighter tans for their skin. In order to tell the players apart, small details can be added by the players such as funny hats or makeshift accessories, as well as colour palette shifts.

4.4.1.3 Relevance to Game Story

Now that humans have left the earth, apes are now the most developed and intelligent life on earth. They have decided to use the lands once used by the humans as ways to keep entertained, and to find and store their precious bananas.

The apes that the players control are the main characters in the game, brought together by these events and prospects of bananas.

4.4.2 Shopkeep

4.4.2.1 Look



Figure 4.4.2.1a Shopkeep

4.4.2.2 Physical Characteristics

The shopkeeper is a much larger ape than the player characters. It's a fat, old ape with grey fur and aging skin that sags on their face. Their right eye is missing and their left eye is lazy, often drifting off to the left. The only thing adorning its massive torso is a bib from a restaurant that reads "Hot Stuff".

4.4.2.3 Relevance to Game Story

The shopkeep has set up a stand where he sells goods and items to the players for the price of bananas.

Section V - Levels

5.1 Main Area

The main area is the battlefield where the players will fight it out, finishing as many events as possible and collecting bananas along the way to reach the top spot. The main map will be a city that has been covered by trees and plants to give different levels on play fields for the level and it gives the player a lot to do with the events going around the area we are going to make it look like a clean two toned shaded area to give a cartoon feel off it. The area by itself is small but with the buildings and different floors of buildings or buildings that fell over makes the area seem bigger than it is and that is what we wanted to go for we want to make sure the players find each other enough that the game is interactive with other players but not too much to feel like that is all you will be doing. With the mechanics in the game the player shouldn't have a problem traversing the area. With the size of the map the player will also visit most of the map in one game if it's getting to the events or if they collect the bananas laid out around the field.

5.2 Pre-Game Lobby

The pre-game lobby is a free range arena for the players to learn the controls and about the items. The area is a flat floor with walls in the shape of a box with textures that will allow the players to see the difference between the objects as well as the floor and walls. This area is available after the players pick their cosmetics to design their apes. All four players run around the same arena so they can mess around with each other as well as using the assigned areas with the objects there for specific ways to try things.

All the items in the pre-game lobby are used in the world so it keeps a consistency for the player for what they can and cannot interact with. There are sections of the arena that give the player barrels, bodies of actual players and more with a big area to throw them around. The players can also test out the banana peel throw ability that they get when using bananas they earned in the game that will cause other players to slip and fall. In this area there is a spot designated for the items that players can buy from shops in the game for free and trade them back for another item to try all sorts of combinations with the items. The player is only allowed to have 3 items at a time so it will be nice to see what combinations people like and come up with. In this area with all the players ready they can select the ready option and once all four people are ready they will start to load into the main map for the real game to start.

Section VI - Events

6.1 Overview

In a match of *Ape Overdrive*, multiple *Events* will occur, in which players will participate in, and gain Bananas equivalent to their placing, or just by taking action in said event. There are two different kinds of events, *Score-based Events*, which the players actively participate in in an attempt to gain Bananas, and *Map Events*, which affect the physical state of the map, as well as how the players make decisions in the game world.

6.2 Score-Based Events

Score-Based Events are events that occur on the map that players may participate in to gain Bananas. The location that they occur in is unbeknownst to the player until the event actually occurs, in which an arrow will lead the player to the event's location. When an event ends, players are rewarded Bananas based on their placing in the event.

6.2.1 King of the Jungle

King of the Jungle is an event where players face off against each other in an attempt to hold dominance over a marked location. For each second a player remains uncontested in the area, they gain 1 point. If the area is contested by two or more players, scores are put on halt until only one player remains in the area. This event completes when a player either reaches the threshold (30 points), or the event expires (1 minute 30 seconds). This event has three locations, inside the North-West Cavern, atop the South-West building, and on the treetop in the center of the map.

6.2.2 Simian Stampede

Simian Stampede is a race-styled event where players must travel from Point A to Point B in the fastest manner possible, passing through checkpoints along the way. If a player enters point B without passing through every checkpoint, they will not be considered finished the event. This event concludes when at least 3 players have finished the race, or when the timer runs out (1 minute). This event has two locations, both resulting in the Apes running around a majority of the map, as well as through buildings and structures.

6.2.3 Coconut Dodgeball

Coconut Dodgeball is a projectile-throwing based event where players throw Coconuts at each other in an attempt to gain points. For each Coconut they hit, they gain 1 point. Alternatively, if a player picks up another player, and hits another player with them, they will gain 3 points. This event concludes when the timer runs out (1 minute). This event has one location, atop the log bridge near the center of the map.

6.2.4 Shopkeeper's Bounty

Shopkeeper's Bounty is an event where players fight for the possession of the shopkeeper's store flag, attempting to bring it to their designated location. An ape who is holding the flag cannot grab or pick up another player, and if they are to be grabbed by another player, they immediately drop the flag on the ground. The winner of this event is not rewarded with Bananas, however, is given a coupon by the Shopkeeper for one free item. The winner of this event is determined by whomever can bring the flag to their return point, located at one of four places, each being the spawn point of chosen Ape. For example, if Player 1 Ape were to attempt to bring the flag to Player 2 Ape's spawn, he would not win, nor would Player 2. Instead, Player 1 would be issued by an on-screen prompt or the Narrator to bring the flag to their own spawn.

6.2.5 Truck Takedown

Truck Takedown is an event where a truck filled with Bananas drives on one of two set paths, bringing with it the promise of many Bananas. If an ape steps in front of the moving truck, they are knocked away from the truck at an alarming speed. The apes have 1 minute to rip apart the truck as much as they can in an attempt to destroy it. Should they fail, the truck will drive away, surviving the onslaught. If the apes succeed, the truck will explode, blasting all apes around it away, and scattering Bananas in the area, free for all Apes to collect. There is no "winner" or "loser" for this event, nor is it a team based event. The truck's path forms a figure-eight through the Overpass crash site, looping around the small Southern building, and loops under the log bridge.

6.2.6 Banana Scramble

Banana Scramble is an event where players physically collect Bananas from atop the central tree, to return to their corresponding spawn point, indicated by a tree stump adorned with a flag bearing their Player colour. You gain 1 point for

every Banana the player can return to their spawn and the event lasts for 2 minutes. The player with the most points at the end of the timer wins the event.

6.2.7 Grade “A”pe Chef

Grade “A”pe Chef is an event where players must scavenge the map for ingredients to bring to the Kitchen located inside the South-Eastern building. The event requires players to physically grab items from around the map and bring them to a central point within 1 minute, scoring them 1 point per item they bring. The player with the most points at the end of the timer wins the event.

6.2.8 Relic Juggle

Relic Juggle is an event where players fight over the possession of an ancient human relic known as a “X”. Similar in fashion to *Shopkeeper's Bounty*, players must physically hold the relic to gain points, gaining 1 per second. If a player is grabbed, they will drop the relic, allowing anyone else to pick it up. The event is completed by either a player hitting the point threshold of 30 points, or the event ending after 1 minute 30 seconds. This event begins on the South-Eastern building roof, although players may bring the relic anywhere on the map and still gain points.

6.3 Map Events

As stated before, Map Events are Events that occur on the map that alter the physical playspace the players participate in. This forces players to be reactive to what they’re doing, and also shakes things up so that not every game is the same, allowing for more replayability.

6.3.1 Firesale

Firesale is a rare Map Event that occurs once a game max. When the event begins, all items currently available within the store become drastically cheaper and can be purchased an infinite number of times. This map event only lasts one minute, and can occur while other Score-Based Events are occurring, resulting in players making a decision on whether to participate in the event, or create some crazy item-builds. Once the Firesale finishes, the shop closes for two events.

6.3.2 Banana Airdrop

Banana Airdrop is a Map Event that spawns a crate filled to the brim with Bananas from overhead, parachuting down to safety. As it slowly descends, players are given time to navigate to where it's going to land, exactly where it is

unknownst to players, but it is within the play space and is always accessible. If a player were to pick up the crate and throw it, on impact, it will explode out a cluster of Bananas for anyone to take, similar to Truck Takedown in 6.2.5.

6.3.3 Tropical Storm


Tropical Storm is a Map Event that creates a raging storm surrounding the play space that slowly begins to centre in on a location within the map. Not only does the storm make it difficult for the player to see through, if a player attempts to walk through the storm, they have a chance to be ragdolled and launched into the air, potentially further into the storm. The storm rages for two minutes, reaching its apex, or its smallest point, at 1 minute 30 seconds in, preferring to circle in on current events.

Section VII: Game Art

7.1 Style Guide

The core of *Ape Overdrive*'s visual style is a low-poly look with a focus on shape and colour and little to no texture detail. The primary goal for the visuals is identifiability: ensuring that the player knows exactly what they see at all times, with no unnecessary confusion. The proportions of all assets will be more exaggerated than real-life equivalents, creating a cartoon-esque style. Without textures to add detail to scene assets, their visual identity will instead rely on silhouettes and shape language. All assets will have a low polygon count to provide a more angular feel. Any surface detail for an asset will be achieved using the geometry, and so without the use of textures. With the use of shaders, the saturation and exposure in the world is enhanced greatly, finalizing the visuals.

7.1.1 Colour Scheme

Metal/ Concrete	Vegetation	Decorative
 #6C6C6C	 #143D1A	 #C62913
 #BBBBBB	 #398243	 #F05C48
Earth		
 #826E3E	 #3DD552	 #561A5D
 #C9B587	 #99F7A6	 #AC3AB9
 #F5DDA8	Wood/ Stone	
 #DAB418	 #462814	 #31586F
 #F7D05B	 #723D1A	 #2792D3
	 #CA652E	 #98CFF0

The colours will play a large role in the art style, with a mix of vibrant tones and duller, muted hues to provide contrast and make specific assets and set pieces stand out. Textures and images will only be used for some decorative elements

such as road signs that need to convey visual information. These will not be highly realistic, in order to keep with the style, merely using colour in specific ways such as text or decals. With such low poly counts and the use of flat colours, the art of *Ape Overdrive* will have a very clean, colourful style.

7.2 Characters

The ape character models will follow the same guidelines as other assets. Their poly counts will be higher to allow more flexible models but they will still match the established style. The only characters in the game are the player's avatar and the shopkeeper, and so more detail can be put into them.

7.2.1 Character Art

Due to the camera following the player, it's necessary that the player's model is of high quality. Proportionally, the ape is slightly less realistic, especially its facial features. Its facial expression will not change, but the mouth will be able to open and close. The ape bears face markings, similar to war paint, to enhance the sense of conflict. Around the model's arms are bands of vines, sticks and stones, which are purely for aesthetic.

Though the game is played in a multiplayer setting, the default character model does not change between players. However, based upon which number each player is (P1, P2, P3, P4), the colour of their ape will change, helping to distinguish players from one another in-game.

7.2.2 Character Cosmetics

On the player select screen, players will be able to choose whether their character has any cosmetic items. These items appear on the character model's head as if being worn like hats. This serves as an additional way to identify who is who, while also adding personalization during play. The objects will be static, meaning they have no animating components, and will not be highly detailed. Above all, these objects are only for personalization and have no impact on the game's mechanics.

7.2.3 Shopkeeper Art

The shopkeeper bears a very unique design compared to the players' avatars, making him easily identifiable as an established character and reflecting his personality. He is much less realistically proportioned for comedic effect.

7.3 Environment



The environment is fairly constrained, so players will be traversing through the same places many times, so it must be visually appealing, else players will tire of it quickly. To achieve this, it uses a wide array of colours and has simple yet detailed geometry. The scene is populated with many small items that add character to the world. Natural objects break through the greys of the city street and industrial objects are littered throughout the park area. The game is set during the day, and so the lighting for the game is bright. The skybox is a bright blue sky with few clouds.

7.4 Items

The items players can acquire are visually representative of their function. They are not highly detailed; rather, their silhouettes must be distinct since it is most important that each item is easy to identify so that players can make purchases at the shop quickly. Items are only visible in the shop and in the player's inventory. In the shop, the item's model is on full display in order to be seen from all angles. When seen in the player's inventory, the item will instead be displayed as a rendered image.

7.5 User Interface Design

The graphical user interface plays a large part in the gameplay loop of *Ape Overdrive*, providing a great amount of information to the player. As such, it's important that it has a visual style completely unique from the game world assets, both visually striking and functional.

7.5.1 UI Colour Scheme



The colour scheme for the interface is a combination of black, light green and neon-bright, non-natural colours, such as magenta, red, cyan, yellow and white.

7.5.2 UI Concept



Figure 7.5.2a Event Text Concept

Black is used to form the outlines for all UI elements, while a simple pattern made using the green tones forms the background and incorporates the theme of nature. The other, brighter colours will be used to create an effect similar to chromatic aberration, adding visual flair. The shape design resembles onomatopoeic sound effects from comics, being more stylistic than regular shapes. The font is very bold and blocky, making it easily readable on screen. The main lettering is white, with a black drop shadow behind it, creating high contrast and making it more prominent against the light green background.

7.6 Visual Effects and Particle Systems

Particles and visual effects will be used to enhance various animations, mostly for the player characters. The effects will complement the character movements and environment interaction. However, other effects will be necessary to designate event areas, such as the return points for *Shopkeeper's Bounty* and the closing circle of *Tropical Storm*.

Section VIII - Audio

8.1 Music

The background music will be divided into two parts. One will be a remix of natural sounds like footsteps, ape noises, robotic heavy footsteps and environment sounds. The main one is going to be a soundtrack like the Wooded Kingdom or DKC Tropical Freeze that is relaxing but also with a strong rhythm.

8.1.1 Main Track

The main track will be played through the whole game. The volume will raise by code once players achieve a certain high above the ground. This can also let players know where they are at during gameplay.


8.1.2 Sub Track

The sub-track will only be played if the player is not involved in any events. The volume will be reduced by code once players leave the ground. It will contain a lot of environmental sounds in a jungle such as birds/bees voices, leaves crunching, water dropping and animal voices.

8.2 Audio and Sound Effects

Sound effects will be based on the players' actions. There will be different sound effects for menu buttons, characters' movements, involved events, etc. They will be designed for specific events, please also review audio/sound in Appendices-Sound effects

Area	Music	Sound effect/Audio
Environment	Environment sounds will be based on the natural sounds of the jungle. There won't be much difference other than in this game we won't include a lot of other animals' noises. The main track will be played through the	Jungle voices(birds/bees voices, leaves crunching, water dropping and animal voices)

	whole game. The volume will raise by code once players achieve a certain high above the ground.	
Shop	Once players enter any shop, there will be a noise environment sound added based on the background music.	Enter shop(door open sound), shop  purchases(short sharp sound), bought item(money reduce sound, item put in bag sound), shopkeeper interactions(shopkeeper will have specific line record by someone)
Menu	Same as environment music	Button select(animal voices),
Player		Player movements(footstep sound), climb the wall(lighter footstep sound),be thrown by other players (stone hit ground sound), throw other players(lift heavy object up sound), player jumping(ape noises sound)

Section IX - Management

9.1 Risk Management

When it comes to creating a risk management plan for *Ape Overdrive* a set number of rules were created catering to our game specifically to properly satisfy the risk presented. These were created off of the thought that the risk should be addressed in an order created by the following equation.

There are three risk factors. Low, Medium, and High. Followed by the percentage chance we believe the problem will actually present itself Low%, Medium%, High%.

High, High%

High, Medium%

Medium, High%

Medium, Medium%



High, Low%

Low, High%

Medium, Low%

Low, Medium%

Low, Low%

These risk factors are decided by a multitude of different variables. These include the complexity of the risk, the time usage required, and the overall scale. An example could be the textures required for our game would be considered a high risk, and the character movement controls would be a low risk.

The risk percentage chance will need to be assessed by the person associated with that certain risk. They will need to make a judgement from previous work on how often issues have come up, or how likely it is with the risk they were given and it's scale that an issue will come up. An example is in the mechanical programming for the events that would be a high% as it is very likely with the scale and complexity there will be many issues in the code. However, the whiteboxing for our level would be considered a low% as whiteboxing very rarely has any possible risks and is very simple.

9.2 Project Scope

Our project really consists of a couple of things split into separate groups. Group number one is programming/mechanics. Group number two is art/modelling. Lastly group number three consists of other/testing.

Our overall timeline of the project is to have it done in five months. Therefore we must appropriately keep our scope to a low enough point where we can produce a well rounded and thoroughly tested product.

Our biggest scope comes from the programming aspect. We have **four** separate events/minigames that will be implemented into our final product. This will mean that a separate event should be created monthly to have ample time in the final month to test. It will also consist of player mechanics and gameplay mechanics such as pushing, and throwing other players. For the scope of five months and with three programmers this is in our scope.

The second group consists of art and modelling. Our game does not rely heavily on realism, and our art style is low-poly. This allows for quick creation of many separate models to inhabit our map. The largest piece of the scope for this group consists in the texture creation. Our map though not large consists of many different and individual textures, possibly too much for the length of time we have. Therefore we will focus on sharing textures with minor changes to multiple objects. An example is taking the concrete texture of buildings and modifying its shade slightly to share with other buildings.

Lastly is our testing. This will be our final month of production to completely focus on testing, smoothing, and polishing any game mechanics, textures, and bugs we run into last minute. For our game size testing should not be incredibly strenuous and that is why such a small timeframe has been allotted.

Appendices

Appendix A - Art Assets

Appendix A includes all assets required for environment, interactables, characters, items, and the user interface.

i) Environment



Asset	Quantity	Description
Rock	4	Decorative rocks of various sizes to be reused
Plant	4	Decorative plants and bushes
Tree	2	Decorative tree, small, not for climbing
Fallen Branch	2	Decorative branches fallen from trees overhead
Vines	3	Tileable sets of vines that can be spread on vertical surfaces
Garbage Can	1	Decorative garbage can
Debris Pile	3	Decorative debris pile
Cliff Face	1	A large cliff side that wraps around the side of the level to contain players, not for climbing, with cave
Central Tree	1	A large, climbable tree in the center of the level. It has a small tree house on top
Shop Room	1	The interior area, directly under the central tree, where the shop is located
Shop Stall	1	The market stall that the Shopkeeper sits behind, and the

		counter that items sit on
Ridge	1	Ridge that runs along the Cliff Face, players can climb and stand on ridge
Catwalk	2	Steel catwalks that act as bridges
3-Story Office Building	1	Office building, only ground floor and 3rd floor are accessible, catwalks leading to openings on top floor
Tree Trunk	4	Tall tree trunks that are climbable and have surfaces that can be stood on on top
Log	1	A wooden log to be walked on
Wooden Platforms	2	Circular platforms that form walkways on top of tree trunks
Wooden Bridge	2	Bridges between wooden platforms
Roadblock	1	Bars the player from leaving the map down a road
Highway Sign	1	A highway sign that stretches over the road with a catwalk attached to the front of it. Reads "New Ape City 2 Miles" and "Exit Keep Left"
Hanging Building Sign	1	A sign that hangs off the side of a building. Climbable
Crashed Car	1	A crashed, rundown car
Skyscraper	2	A skyscraper that acts as a natural barrier opposite to the cliff face to keep the player contained
Restaurant Building	1	A 1-story building with accessible interior where Grade

		"A"pe Chef takes place, climbable
1-Story Building	1	A 1-story building that cannot be entered, climbable
Wire Fence	1	A tall wire fence to contain players
Overpass	1	An overpass with a supporting pillar underneath that the truck drives off of in Truck Takedown. Cannot be climbed on top of.
Shipping Container	2	An old shipping container. Can be walked through
Terrain	1	The ground level. Has hills and natural formation. Asphalt sections scattered across it like old roads

ii) Interactables

Asset	Quantity	Description
Bushel of Bananas	1	A bushel of five bananas. Pickup, contributes to player point total.
Banana Peel	1	A banana peel dropped by a player, ragdolls a player character if they walk over it.
Coconut	1	Pickup around the world that spawns during the Coconut Dodgeball event.
Banana Crate	1	A crate containing 3 bushels of bananas. Players must pick up and throw the crate to collect the bananas
Spawn Point	4	A tree trunk with a flag on top, matching the respective player's colour on the leaderboard.

iii) Characters

Asset	Quantity	Description
Ape Character Model	1	The player's avatar
Shopkeeper Ape Character Model	1	The shopkeeper non-player character
Bowler Hat	1	Hat worn by player character, accessed in character customization screen
Bowtie	1	Bowtie worn by player character, accessed in character customization screen
Laptop	1	"Hat" worn by player character, accessed in character customization screen
Baseball Cap	1	Hat worn by player character, accessed in character customization screen
Top Hat	1	Hat worn by player character, accessed in character customization screen
Crown	1	Hat worn by player character, accessed in character customization screen
Devil Horns	1	Hat worn by player character, accessed in character customization screen
Newspaper	1	"Hat" worn by player character, accessed in character customization screen
Garden Pot	1	"Hat" worn by player character, accessed in character customization screen

Bird's Nest	1	"Hat" worn by player character, accessed in character customization screen
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iv) Items

Item	Mechanical Function	Visual Description
MASA Badge	Increases player's maximum jump height by 30%	A badge belonging to the Monkey-Ape Space Association. A crude drawing that resembles the emblem of another group.
Barrel	Increases player's throw distance by 25%.	A typical barrel, it looks like it could contain bananas, apes, or rum. Who knows?
Toy Wooden Car	Increase a player's acceleration to full run speed by 50%	A classic toy wooden car, wheels and everything. Painted light blue with a racing stripe down the middle.
Sock Monkey	Increase a player's grab escape time by 40% (if grabbed by another player).	Not quite a full plush toy, it's actually just a sock that could be used as a puppet.
Super Banana	Increases the player character's size by 15% and speed in all forms by 10%. During a contested grab, a player that has more Super Bananas than the other player automatically grabs the other player.	A VERY large banana.

v) User Interface

Asset	Description
Leaderboard	Leaderboard displays current player point

	standings. Accessed by pressing a button on the controller.
Inventory Box	Inventory slots where items appear when a player purchases them.
Event Titles	A box for each event that will appear for the respective event.
Arrow	Arrow on the screen that directs the player to the current event.
Timer	Timer that shows how much time is left in the match
Event board	Shows the player standings of an event as it is happening and includes a timer of how much time before event ends

Appendix B - Animations

Appendix B includes all animations required for characters and user interface.

i) Character Animations

Animation	Description
Idle	The character stands idly, shifting up and down a bit
Special Idle	The character pauses to look around themselves
Run	The character runs forwards on all fours
Walk	The character walks forwards on its hind legs, arms at its sides
Jump	The character jumps using arms and legs and raises their arms as they rise
Fall	The character descends with their arms above their head
Land	The character lands on all fours after a fall and crouches to absorb the impact, then returns to usual stance

Climb	The character climbs a vertical surface using arms and legs
Grab	The character's arms come upwards, leaning forwards a little to grab in front of them
Grab Miss	The character didn't grab anything so their arms raise a bit further above their head before dropping back to the ground
Carry	The character grabs something or someone else, so they raise onto their rear legs, holding their catch above their head
Throw	The character tosses anything they're carrying away, swinging their arms overhead to the front, then drops back to their default pose
Being Carried	The character has been grabbed by another player, so they struggle in their grasp, waving their arms and legs helplessly
Drop Banana	The character stops to pull a banana out of their fur, pops the fruit into their mouth and drops the peel behind them

ii) User Interface Animations

Animation	Description
Event Pop-up	Event title and brief description pops up onto screen and disappears after five seconds.
Inventory sliding	A purchased item slides into the leftmost open slot of a player's inventory. When a player's inventory is full and they buy a new item, the leftmost item slides out and the new item goes into the rightmost slot.
Leaderboard updates	The leaderboard adjusts to who is in the lead when players are gaining points.

Appendix C - Visual Effects

Appendix C includes required particle effects.

i) Particles

Effect	Description
Dust Cloud	A small cloud of dust that appears behind the player as they walk, used in areas with dirt, stone, concrete
Kicked-Up Grass	A small cloud of grass and leaves that appears behind the player as they walk, used in areas with grass or in trees
Smoke	A cloud of smoke that emanates from destroyed objects
Grab - Smoke Cloud	When two players attempt to grab each other at the same time, a large smoke cloud engulfs them momentarily

Appendix D - Sound Assets

Appendix D includes all sound assets required for music and ambient sounds, sound effects, and lists a few examples of what is required for voice work.

i) Music/Ambience

Area/Scene	Description
Environment/ Main Menu	Main game track - "jungle" soundtrack, played throughout the main game and main menu.
Shop	Shop ambience - subtle background noise when a player is in the shop.

ii) Sound Effects

Source/Scene	Effect and Description
Environment	Animal sound 1 - Birds chirping
	Animal sound 2 - Bees buzzing
	Leaves - Leaves rustling in the wind
	Water - Water rushing
Shop	Enter shop - door open sound

	Hover over shop options - short, sharp sound
	Purchase - "cha-ching" sound
	Purchase - item "plop" into bag
Player	Movement - footstep sound
	Climbing - lighter footstep sound
	Pick up - lifting up sound
	Throw - throw sound
	Being thrown - lighter "throw sound"
	Jump - See Voice
Menus	Button select - See Voice

iii) Voice

Voice Line	Description	Quantity
Jump	Ape noise when the player character jumps.	2
Button Select	Ape noise for when a button is selected in a menu.	1
Grunt	Shopkeeper grunts when a player enters	3
Narrator Lines	Narrator that announces new events, game start, etc.	TBD