



King Saud University
Collage Of Computer and Information Science
Information Technology Department

IT210
Fundamentals of IT
The wilderness Adventure

Prepared by

Group 3

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Design Thinking Stages:

Stage 1: Empathize

1.1 Empathy Post

- Overwhelming clutter obstructing progress.
- Despair stemming from data overload.
- Lack of effective data management methods.
- Need to restore balance and efficiency.

1.2 Empathy Map

- Says

1. I feel lost in a maze.
2. The clutter hampers progress and breeds despair.
3. We're searching for methods to manage our data and efficiency again.

- Thinks

1. Thinks that clutter is hindering progress.
2. Thinks that better methods are needed for organizing and managing data.
3. Thinks that finding balance and efficiency is important.

- Does

1. Searches for better ways to manage data.
2. Strives to achieve balance and efficiency in data management.

- Feels

1. Feels overwhelmed and lost.

2. Feels frustrated and hopeless.
3. Feels a desire to regain balance and efficiency

Stage 2: Define

2.1 Capture findings:

The people of ChatGPT find the current state of the land difficult to navigate.

2.1.1 Needs

1. Organization of the clutter.
2. Focus on one thing at a time.
3. Use a systematic approach to organizing and categorizing data.
4. Set clear goals and prioritize tasks based on importance.

2.2.1 Insights

1. -The main issue causing overwhelming clutter is the obstruction in progress and data overload, which are related to lack of effective management methods.
2. -The people of Land ChatGPT need a systematic approach to restore balance and boost efficiency.
3. -Land ChatGPT fights with the issue: lack of efficient processes. Without clear systems, chaos delays navigation and digital thriving

2.2 Problem Statement

Within the digital realm of Land ChatGPT, the people face challenges in efficiently managing their workload. They struggle with disorganization, which delays productivity and generates frustration. Despite their efforts to establish order, they find themselves trapped in a difficult maze of information overload, lacking the tools necessary to distinguish valuable information. This difference between their current state of chaos and the required state of balance and effectiveness calls for a systematic approach to organizing and categorizing the information overload. Our goal is to develop solutions that allow these people to effectively navigate, prioritize, and utilize their data, thus enhancing productivity and overall well-being.

Stage 3: Ideate:

Level 1: The Archive Mountains

The Archive Mountains - To tackle data overload, we can introduce an AI-powered sorting system that categorizes incoming data based on relevance and urgency, allowing users to efficiently manage and prioritize their data.

Level 2: The River of Streaming Stories

The River of Streaming Stories - Implementing blockchain technology can help ensure data integrity and prevent unnecessary clogging of the river. Each data entry can be encrypted and stored in a decentralized network, ensuring a smooth flow of information without the risk of pollution or dams.

Level 3: The Cloud Forest

The Cloud Forest - Enhance cybersecurity measures by implementing multi-factor authentication and encryption protocols to protect against data leaks and breaches. Additionally, fostering a community-driven approach to cybersecurity education can empower residents to identify and respond to potential threats effectively.

Level 4: The Data Detox Forest

The Data Detox Springs - Introduce a data auditing tool that identifies and removes redundant or obsolete data, optimizing storage space and improving overall efficiency. Educating users on data hygiene practices, such as regular data cleanup sessions, can also promote a clutter-free digital environment.

Level 5: The Recycling Realm

The Recycling Realm - Develop algorithms that analyze unused or outdated data and suggest potential repurposing or recycling options. Additionally, incentivize users to participate in

data recycling programs by offering rewards or recognition for their contributions to sustainability efforts.



Map " Levels "



Map" Levels "



Stage 4: Prototype

Text in red refers to the edited version after feedback

Designing The Overall Game Structure:

Game concept summary:

Our game focuses on data overload, cybersecurity, data management, and recycling data. It follows our main character, Echo, a data analyst, who gets called by the citizens of Chatgpt to help them manage their overwhelming amount of data that flows in from the users back on earth. However, trouble strikes when thieves interrupt and corrupt their world. With Echo's help, the citizens of Chatgpt learn how to de clutter, organizing, defend, and recycle important data and documents.

Consistent Interaction Rules Across Levels:

implementing consistent interaction rules across all levels to create a cohesive gameplay experience is one of our main goals of the game. The core mechanics of the game involve collecting items, solving puzzles, and avoiding obstacles which remain constant throughout the game. However, each level introduces a new challenge or element that adds variety and complexity to the gameplay. This twist in each level sets the player's engagement and interests as he or she progresses through the game, offering a fresh experience while still maintaining the familiarity of applying problem-solving skills to the core mechanics.

Mapping out instructions point:

Our game comprises five levels, each offering a unique gameplay approach. In the first level, players engage in a searching game that focuses on data organization, where they must locate specific items. Moving on to the second level, an interactive puzzle awaits, symbolizing data contamination. As players progress to the third level, a new threat emerges, centered around cybersecurity. Here, they must defend vital data against potential threats. In the fourth level, players confront the remnants of defeated threats, delving into data sorting and analysis. They are tasked with storing usable data while discarding corrupted information. Finally, in the fifth and final level, the game revolves around the recycling and reuse of data gathered in the previous stages. Leveraging the data collected in level four, players employ recycling methods, such as harnessing solar panels and utilizing light energy.

As the game progresses, the interactions and challenges become more complex and engaging.

- 1- In the first level, players search for specific items, starting with simple searches and gradually facing hidden or encrypted data.
- 2- In the second level, they solve interactive puzzles to combat data contamination, starting with basic rearrangements and advancing to more intricate challenges.
- 3- The third level introduces cybersecurity threats, requiring players to defend important data with firewalls and encryption techniques.
- 4- In the fourth level, players sort and analyze data, initially by categorizing and later using advanced algorithms.

Finally, in the fifth level, players recycle and reuse data, incorporating it into renewable energy systems like solar panels.

Overall, the game's progression offers increasing complexity, challenging players to develop their skills and adapt to new concepts and strategies.

Feedback Mechanisms for the Entire Game:

In our game, we have implemented many consistent feedback mechanisms to enhance the player's overall experience, from the visual feedback it includes the use of color changes on the game's map to indicate

progress within the levels and symbols such as X's are displayed when the player makes a mistake. Additionally, auditory feedback is provided through sound effects such as chimes for correct answers and buzzers for incorrect and sometimes ones from Echo's handy partner telling the player to "try again! ". The game's narrative also serves as a form of feedback with Echo's partner providing hints, guidance, and encouragement to the player.

Balancing Interaction Complexity Throughout the Game:

Our game offers an interactive and engaging experience where users learn data management through play. Echo's partner, Eva, guides players through the game mechanics, which become progressively more challenging as they progress through the levels. However, this increasing difficulty presented a design hurdle: how to ensure a smooth transition between levels with such distinct mechanics? We addressed this by dividing the game into two parts. The first focuses on data organization, while the second emphasizes data recycling.

Incorporating Branching Choices and Multiple Endings

The branching mechanisms within the game allow players to make decisions that influence the direction of the story and the outcome of the game. For instance, if the player chooses for Echo to ignore key items in each level, Echo may not be able to defeat the thieves in Chatgpt land. This is because Echo's health points (HP) will decrease (as the thieves will fight back!!), causing the player to lose the game and fail to progress past level 3. However, if Echo collects key items like rocks and water guns, he will be able to defend Chatgpt land and he will be allowed to complete the rest of the levels. These choices provide players with a sense of agency and ownership over their gaming experience.

Developing a Game-Wide Storyboard with Interaction Design

Storyboard Overview:

1. Level 1: The Archive Mountains

- Residents need help organizing lots of data in the mountains.
- Echo helps sort and manage the overload of data.

2. Level 2: The River of Streaming Stories

- The river is contaminated with too much data, making it hard to use, so Echo is going to build a river dam

- With Echo's help, residents clean up the river and make it flow nicely again.

3. Level 3: The Cloud Forest

- Thieves try to mess up the forest by stealing important data.
- Echo is going to protect the forest and kick out the thieves.

4. Level 4: The Data Detox Forest

- Some stolen data needs to be sorted out and saved.
- Echo helps find the good data and get rid of the bad stuff.

5. Level 5: The Recycling Realm

- Residents figure out how to use stolen data in a new way.
- Echo help them recycle and make the most of what they have.

Narrative Elements

- Character Development: Echo learns and grows alongside players as they tackle data problems together.
- Conflict Resolution: Each level presents a challenge to solve, showing how Echo and residents work together to fix data issues.
- Educational Focus: The game teaches players about organizing data, staying safe online, and being resourceful, with Echo's help.
- Community Engagement: Players team up with Echo and friends to protect their digital world and make it better, learning and having fun along the way.

Designing Individual Levels:

Level 1: The Archive Mountains

In the land of Chat GPT, the residents are constantly bombarded with overwhelming amounts of data. Unable to handle the heavy load on their own, they seek help by going to the mountains. However, even there, they find the task too daunting. It is at this point that they reach out to Echo for assistance in organizing and managing the data overload.

Game Objectives:

- Primary objective:

This level's main objective is for the residents of Chat GPT to seek assistance from Echo in organizing and managing the overwhelming amount of data overload in the mountains.

- Secondary objective:

Players must collect resources in the mountain level to aid in data management, which will be used in the next level's challenges.

Level-Specific Mechanics and Rules:

- Unique elements:

Echo is going to collect several items that he is going to use in the Introduction and mastery.

The stone and the wood will be introduced to echo while cleaning up the mountains.

- interactive objects: the Data



Interactive objects after feedback: the colors "data", dangerous fire, fishing net, slingshot



- Evaluation within level: Level 1 Evaluation:

In Level 1, players confront data overload in Chat GPT's mountains. They seek Echo's aid in managing the influx of data. The level introduces the challenges of organization and sets the stage for Echo's involvement. As players progress, they collect resources crucial for future levels. This establishes the foundation for the game's themes and mechanics, emphasizing the importance of data management.

Internal Relationships and Interactions:

Cause and Effect: How players handle data in the Archive Mountains affects their success later. Echo's help builds trust, while exploring unlocks useful tools. Weather hints at future challenges, encouraging players to adapt.

Cause and effect after feedback: In Echo's initial trial, he encounters a fundamental task requiring precise data organization. His objective? To sort colors meticulously, aligning them in the revered order of the rainbow. Once this feat is accomplished, the mountainous landscape undergoes a notable transformation, now exuding tidiness and structure. With this accomplishment, Echo can descend the slopes, poised to confront further obstacles in his quest for advancement. As he approaches the threshold of the next level, Echo braces himself for the heightened challenges that lie ahead, ready to tackle them with determination and perseverance.

Environment Design and Level Layout:

Environment Design:

The Archive Mountains loom tall, shrouded in mist and crackling with energy. Trees cling to rocky outcrops, surrounded by green grass and colorful flowers. But amidst the beauty, trash piles up—discarded data scrolls and broken devices clutter the slopes, awaiting cleanup with Echo's help.

Level Layout:

Level Layout:

1. Starting Point:

- Players begin at the base of the Archive Mountains, surrounded by misty peaks and lush greenery



2. Clearing Paths:

- Trash piles, consisting of discarded data scrolls and broken devices, block certain pathways.
- Players must clear these obstacles by interacting with them to proceed.



3. Hidden Treasures:

- Scattered across the level are hidden treasures and collectibles tucked away in alcoves and secret passages.
- Players can explore off the beaten path to discover these rewards.



By incorporating these elements into the level layout, players are immersed in a challenging yet manageable experience that reinforces the theme of data management and organization in the face of adversity.

Level layout:

1. Starting Point:

- On Echo's first day in the world of ChatGPT, he meets its people amidst the mountainous beauty. They open up about their struggles, sharing their challenges and seeking understanding. Amidst the serene landscape, Echo begins to grasp the complexities of their lives, setting the stage for his journey of empathy.



2. Clearing Paths:

As Echo faces his first challenge, he takes in the refreshing mountain air and the joyful melodies of singing birds. Despite the beauty around him, he encounters a messy array of colors along his path. Unsure of how to organize them, Echo turns to his helper for guidance. Together, they seek to bring order to the chaos, ready to discover the right sequence and criteria for this task.



3. Hidden Treasures:

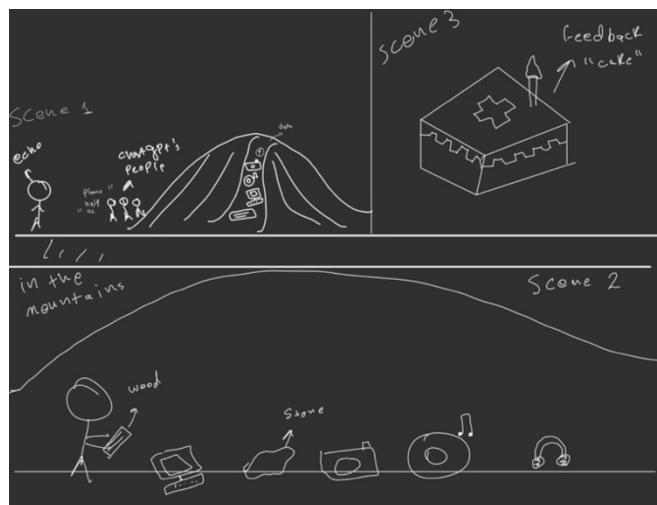
After Echo completes his first challenge, he starts his journey down the towering mountains. The scenery is stunning, with tall peaks covered in greenery and streams flowing down the slopes. As Echo makes his way, he encounters obstacles but also finds hidden treasures along the path. Gathering these treasures, he continues his journey, surrounded by the beauty of the mountains





Storyboarding:

Storyboard Details:



Level 2: The River of Streaming Stories

These corrupted data disrupt the smooth flow of the river of streaming stories. Once the residents organize all the data from the mountains, they move up to the river, which is polluted due to the excess data. With the help of Echo, they aim to clean up the river and restore its flow once and for all.

Game objectives:

- Primary Objective: Help Echo build a river dam to clean up the contaminated river.
- Secondary Objectives: Assist residents in cleaning up the river and restoring its flow. while also be on the lookout for a key

Level-Specific Mechanics and Rules:

- Unique Elements: Players must manage data contamination and build a river dam using building blocks.
- Introduction and Mastery: players are Introduce to controlling Echo and the tools needed to clean up the river, through Echo's chatGPT partner at the beginning of the level.

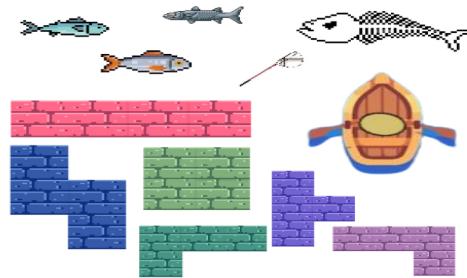
Objects and Attributes in the Level:

- Interactive Objects: contaminated data patches



- Evolution within Level: The river's appearance changes as contamination is cleared, and resident interactions evolve based on player choices.

Interactive Objects: Tools for building the dam, contaminated data patches, residents needing help.



Internal Relationships and Interactions:

Cause and Effect: Cleaning data patches improves the river's flow, while helping resident's results in positive feedback within the game.

Environment Design and Level Layout:

Level Layout:

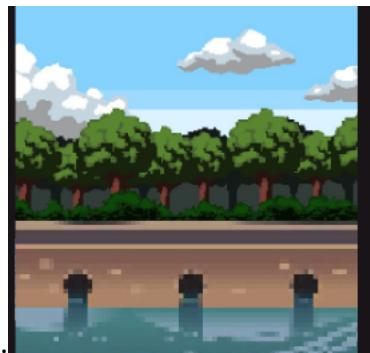
1. Starting Point:

- At the start of the level, players are greeted with a grim sight - a polluted river overflowing with overloaded data. The once majestic river now resembles a chaotic mess of digital debris,



2. Cleaning the river:

- as players progress through the level and assist Echo in sorting out the data, the river gradually transforms before their eyes. With Echo's help, the polluted water is filtered and cleansed, revealing its true colors before their eyes



3. Building the Dam conversation:

- players are tasked with helping Echo repair a damaged river dam using building blocks.



4. Blocks Building of the Dam :

- By working together to rebuild and reinforce the dam, players not only prevent future environmental disasters but also learn valuable lessons about the importance of sustainable infrastructure and resource management seeing as in the river's is finally at ease.



Level layout:

1. Starting Point:

- At the start of the level, players are greeted with a grim sight - a polluted river overflowing with overloaded data as dead fish roaming around the river quickly became of the current.



2- “Catching” the overloaded data and cleaning up the river.

- As players advance through the level, they are directed to use their first key item the fishing net to capture the excessive data (referred to as dead fish), however they must be mindful of the swift current of the river as the fish move quickly.



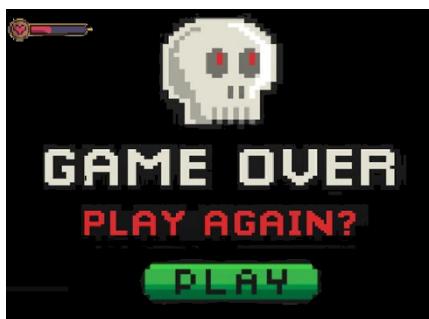
3- Kayaking to the river dam.

- After organizing the river and cleaning it up, Echo has to kayak to the river dam. Zara warns him that it won't be easy, as the river is treacherous and he needs to obtain the next key item to proceed in the challenge.



4 - Game over kayak challenge.

- If Echo loses all his HP or doesn't catch the key item the challenge is over and the player would have to play the challenge again.



5- Building the river dam blocks puzzles:

- Players need to solve three puzzles by correctly position the blocks to their designated spots. These challenges can be both fun and beneficial for improving problem-solving skills and spatial reasoning.

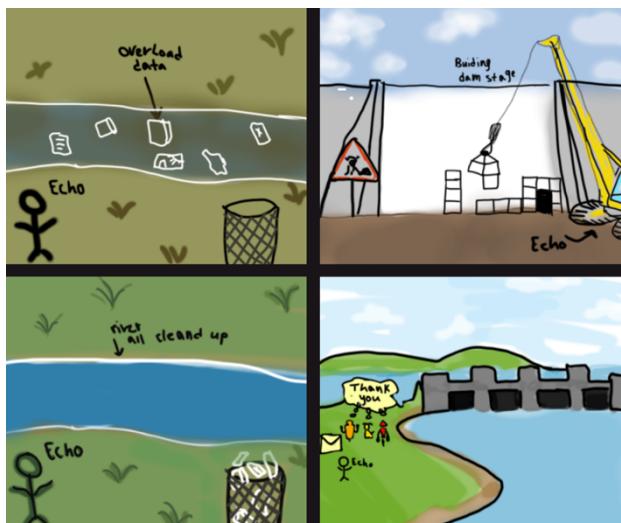


6- Built River Dam

- Finally, after solving all the puzzle the river dam is built and Echo with Zara decide to take a break at Zara's favorite place to study passing the gate to level 3.



Storyboarding:



Level 3: The Cloud Forest

OH NO! While the residents and Echo were preoccupied solving issues and organizing the mountains and river, they discovered intruders from beyond their land entering to cause chaos in the forest. These outsiders were attempting to destroy the forest, prompting the inhabitants of viruses to fight back, defeat them, and expel them from the land as they were after the valuable data.

Game Objectives:

- Primary Objective: In this level, Echo's main challenge is to swiftly defeat the thieves.
 - Secondary Objectives: Additionally, Echo aims to uncover the weaknesses of these thieves to eliminate them and advance to the next level.
-
- Secondary Objectives: Additionally, Echo aims to safely navigate through the maze to reach the forest, then uncover the weaknesses of these thieves to eliminate them, clean the forest from the traces of the fight, and then advance to the next level.

Level-Specific Mechanics and Rules:

- Unique Elements: Combat becomes a central element in this level! Echo must engage and overcome the thieves encountered here for the first time.

- Introduction and Mastery: As Echo strives to rid the forest of thieves, they will come to appreciate the importance of the items gathered from previous levels. Understanding the value of the stones collected in the first level and the water gun acquired in the second level becomes crucial. Faced with a variety of thieves and their increasing numbers, Echo will develop quick and effective strategies to overcome them.

Objects and Attributes in the Level:

Interactive Objects: The Thieves:



Interactive Objects: The thieves, their remnants:



Evolution within Level: The thieves exhibit virus-like behavior. Without swift defeat, they replicate, posing obstacles for Echo's mission completion.

Evolution within the level: Thieves exhibit virus-like behavior. Without swift defeat, they can inflict injuries on Echo that affect his health when the situation is not controlled.

Internal Relationships and Interactions:

Cause and Effect: For example, the water gun affects thieves susceptible to water, unlike those immune to it. Echo must uncover additional weaknesses, such as vulnerable body parts, to exploit with the stones they possess.

Environment Design and Level Layout:

- Environment design:

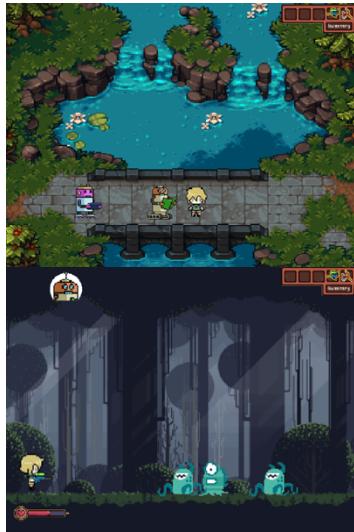
A dense, dimly lit forest teeming with towering trees, with a moderate climate but abundant pollution clouds overhead. The sounds of thieves echo throughout, mingling with the rustling of trees swaying in the breeze. The landscape is dotted with shrubs and interspersed with several lakes.

Before entering the forest, there is a large maze filled with strong bushes that attract individuals who touch them, and this maze serves as the path to the forest. After navigating through this maze, Echo arrives at a dense, dark forest filled with towering trees, with a moderate climate and thick pollution clouds overhead. Echo encounters many thieves within the forest, and after defeating them, the sun rises in this dark forest.

- Layout Sketch:



- Layout Sketch:



- Level Layout:

In the forest, once the player hears about thieves coming to steal data, their job is to get rid of them and stop the theft. At first, a warning will pop up about the thieves, and the assistant will remind the player to use tools collected earlier. Then, the challenge begins: figure out the thieves' weaknesses, use weapons, and eliminate them before they become too many or overpower the player. If the player can't beat the thieves because they lack tools or skills, the thieves will invade ChatGPT land and steal all the data. But if the player wins, the assistant thanks them, and they start collecting parts from the thieves' robots. When they have all the parts, the level ends, making sure nothing important is left behind.

Scene 1:

In Zara's serene hideaway, nestled amidst the verdant hills and babbling brooks, Echo and Zara revel in the tranquility of their surroundings. The gentle rustle of leaves accompanies their leisurely conversation as they bask in the success of their recent endeavors—cleaning the river and erecting the grand dam that now stands as a testament to their teamwork. Suddenly, their moment of reprieve is interrupted by the urgent arrival of Zara's trusty assistant, who bears grim tidings of intruders lurking in the forest, intent on plundering valuable data. As the assistant delivers the alarming news, Echo and Zara exchange concerned glances, immediately springing into action to formulate a plan to thwart the impending threat. Echo is briefed on the treacherous maze he must navigate to reach the heart of the forest, where the nefarious thieves lie in wait.



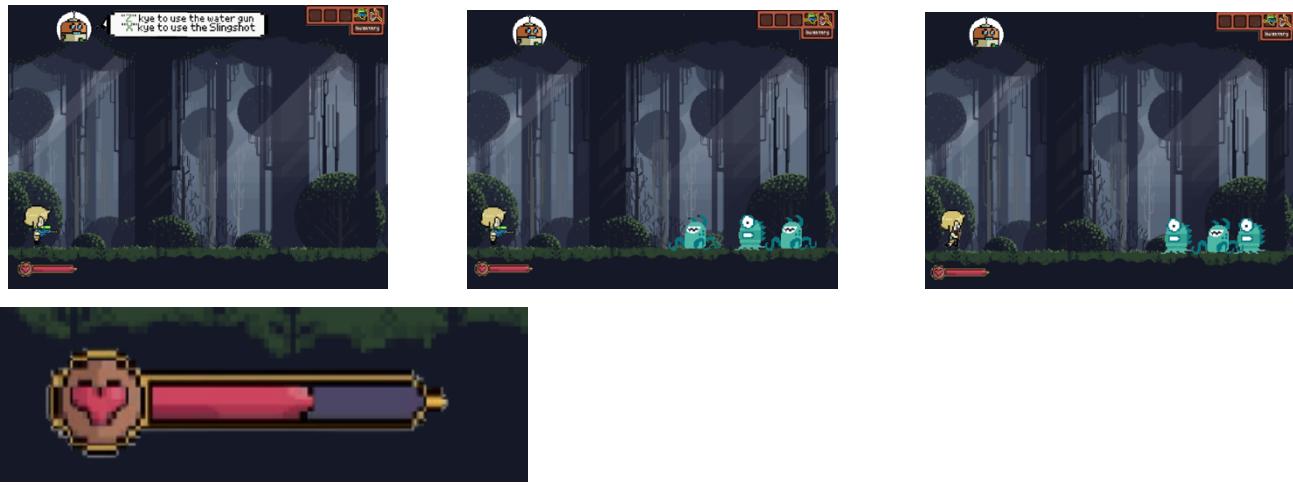
Scene 2:

Lost amidst the labyrinthine maze, Echo finds himself ensnared within a labyrinth of dense foliage. Towering bushes loom ominously, their gnarled branches casting eerie shadows upon the twisting pathways. With every step, Echo must tread cautiously, keenly aware of the dangers lurking within the entangled undergrowth. The air is thick with tension as Echo presses forward, his heart pounding with each rustle of leaves and distant echo. Victory lies just beyond the labyrinth's grasp, but first, Echo must conquer the maze's formidable challenges and emerge unscathed on the other side.



Scene 3:

Emerging from the labyrinthine maze, Echo enters the heart of the forest, where darkness reigns supreme beneath the towering canopy of ancient trees. The once serene atmosphere is now fraught with tension as Echo confronts the looming threat of the thieves. Their ominous presence hangs heavy in the air, their nefarious intent palpable as they skulk amidst the shadows. Armed with only his wits and a few trusted tools, Echo must confront the thieves head-on, uncovering their weaknesses and outmaneuvering them in a battle for control of the forest.



- When Echo defeats the thieves:

Scene 4:

With the thieves vanquished and the forest reclaimed, Echo stands triumphant amidst the tranquil beauty of his surroundings. Zara approaches, her expression a mix of relief and admiration, as she commends Echo for his bravery and resourcefulness. Yet, amidst the newfound calm, a new challenge emerges—restoring order to the chaos wrought by the thieves' intrusion. Zara presents Echo with a task: to identify the subtle differences between two images of the forest, one before the thieves' onslaught and the other after. With diligence and determination, Echo sets about the task, his keen eye uncovering the telltale signs of the thieves' disruption hidden within the serene landscape.



Scene 5:

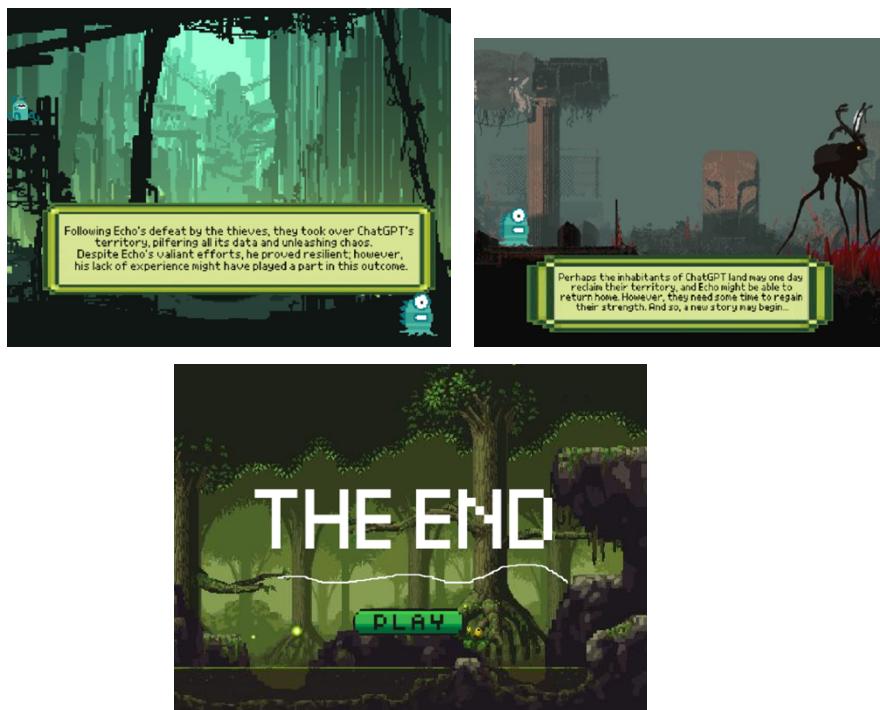
As Echo meticulously cleanses the forest of the thieves' lingering remnants, Zara watches with a sense of pride and gratitude, her faith in Echo's abilities reaffirmed with each discarded trace of chaos. Finally, as the last vestiges of the thieves' presence are swept away, a sense of tranquility descends upon the forest once more. The gate to the next stage swings open, beckoning Echo forward into the unknown, his journey far from over but his resolve unwavering in the face of whatever challenges lie ahead.



- When Echo is defeated by the thieves:

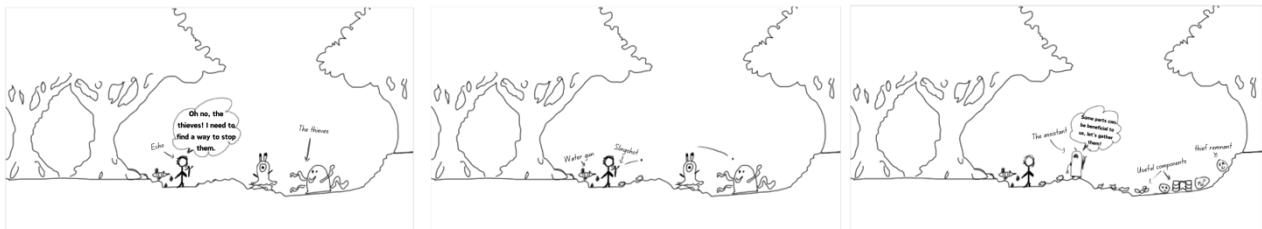
Scene 4:

Amidst the chaos and turmoil wrought by the thieves' unchecked rampage, Echo stands battered and defeated, his valiant efforts proving insufficient to stem the tide of destruction. As the thieves seize control of the planet, plunging it into darkness, Echo's vision fades to black, his mission ending in failure and despair. And then the story unfolds, detailing the fate of the planet following this calamity:



Storyboarding:

Storyboard Details:



Level 4: The Data Detox Forest

As the intruders are known for stealing from various regions worldwide, upon defeating the thieves, they left the stolen data to ChatGPT Land. Echo needs to help in sorting the lost old, unnecessary data and save the valuable data from the world.

Having retrieved the stolen data and debris from the previous level, Echo must now tackle data sorting and forest restoration. This level focuses on the crucial skills of data organization and cleanup, ensuring efficient and effective completion of the task.

Game Objectives:

- Primary Objective: In this level, the player must store out usable data and unusable data. Additionally, after defeating the thieves there are leftover parts that need to be utilized.
 - Secondary Objectives: The data collected is then transferred to the next level to be recycled.
-
- Primary Objective: The level involves meticulously sorting through the collected items: separating usable data from unusable data and discarding the remaining trash. It also deals with strategically placing the usable data in its designated locations, ensuring the forest's restoration proceeds smoothly.
 - Secondary Objectives: When the data is placed in their correct place, the player can move on to the next level.

Level-Specific Mechanics and Rules:

- Unique Elements: Elements in this level include sorting and organizing specific data to be able to determine whether they are corrupted or not.
- Introduction and Mastery: Introduces the players to help fix and clean up the data the thieves corrupted.

Objects and Attributes in the Level:

Interactive Objects: The leaves represent the data: good data are the green and red leaves, bad data are the brown leaves. The solar panels are the left-over recyclable material.



Interactive Objects: Changed the solar panel style. The green and red bins are for sorting out the good and bad data. The trash is for the defeated thieves.



Evolution within Level: The level is disorganized and in a state of chaos. If there's no organization, the player won't be able to move to the next level. Within this level, the player must acquire the data to recycle in the next level. **Within this level, the player must sort out the data to be able to move on to the next level.**

Internal Relationships and Interactions:

Cause and Effect: Sorting and filtering out unstable data helps resort the forest to its previous state. It also helps teach the people of ChatGPT the importance of data management and cybersecurity.

Environment Design and Level Layout

- Environment design:

The level plunges you into a dark and gloomy forest, ravaged by the recent battle with thieves. Disorganization and despair cling to the air. Huge amounts of data litter the landscape, a tangled mess of usable and unusable information that needs to be sorted and stored in its rightful place.

- Layout Sketch:



- Layout Sketch:



- Level Layout:

The player arrives at an area containing the data litter from, resulting from the previous war in Level 3. There are three types of recycling containers: one for usable data, one for damaged or deleted data, and one for war-generated waste. The player must sort the data and waste into the appropriate container by dragging and dropping it into the designated recycling bin.

1- Opening Scene:

Echo enters the fourth level, only to be met with a chaotic mess scattered across the forest floor. His helper delivers some information to help clear up his confusion: the collected items from the previous level were meant to be sorted and discarded, a task Echo happily agreed to do.



2- Sorting Out:

Echo arrives at an area containing the data collected in Level 3. There are three types of recycling containers: one for usable data, one for damaged or deleted data, and one for war-generated waste (defeated thieves). Echo must sort the data and waste into the appropriate container by dragging and dropping it into the designated recycling bin.



3- Placement:

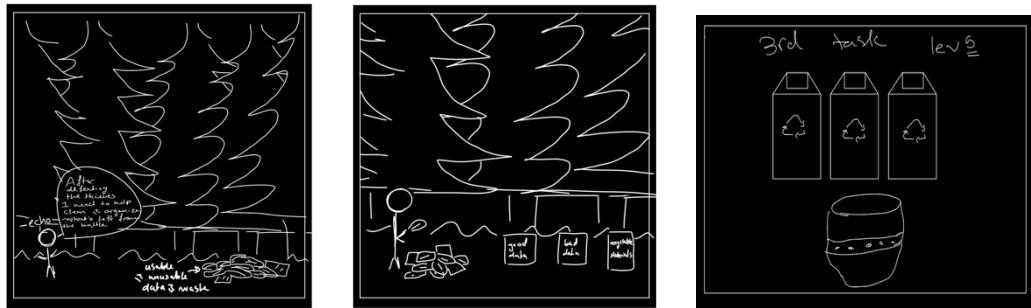
After sorting out the material, Echo must place the solar panels collected in the previous level in their correct places to return the forest to its original environment. Only after completing all these tasks can Echo continue on to the next level.



Storyboarding:

- Storyboard Details:

Some stolen data needs to be sorted out and saved. Echo helps find the usable data and gets rid of the corrupted ones.



Level 5: The Recycling Realm

Upon receiving some data from the thieves, the residents discovered that while some of it was valuable, it wasn't in the format ChatGPT could make use of, prompting Echo and the residents to recycle and repurpose the data. This innovative approach allows ChatGPT land to reorganize the data and possess effectively.

Game Objectives:

- Primary Objective: in the last level, after the long adventures after Echo beats the thieves and collects the spoils from their bodies in these level echo will start recycling the materials beneficially for the chat GPT planets.
- Secondary Objectives: echo and chat GPT people will start to organize their planet by recycle methods example/ take the solar panels from their bodies and use it for irrigation systems.

Level-Specific Mechanics and Rules:

- Unique Elements: in the last level echo barrel will be full of elements and the player will always have a hint to tell him to collect the items because he will need it in the last level, the user will be curious and excited to achieve this level and will learn a lot about recycling and sustainability.

- Introduction and Mastery introduces the player to help Echo by recycling the spoils to improve the planet by introducing the recycling and sustainability process.

Objects and Attributes in the Level:

Interactive Objects: The trash data from level one and pieces of thieves' bodies from level three and other items from detoxing levels the player will be able to recycle.



Interactive Objects: pieces of thieves' bodies from level three the player will be able to recycle and a medal.



Evolution within Level: after all the previous levels were the player helped to develop the data management skills in Chat GPT planets, the trash and the unused items will not be just disappeared but will be collected in a barrel and in the last level before Echo returns home he will help the residents of chat GPT planets to emptying the tank and use ever element to achieve the concept of recycling.

Evolution within Level: After the previous levels where the player helped develop data management skills in Chat GPT planets, the new concept involves a different mechanic. Instead of collecting and recycling trash, the player will now gather pipes and connect them to an irrigation system. These pipes will be obtained from the bodies of defeated monsters in Level 3. In the second challenge, the player will connect wires to provide electricity to the homes of the chat GPT planet's residents, after installing solar panels in Level 4

Internal Relationships and Interactions:

Cause and Effect: at the end of level four the barrel will be full, and Echo won't return until he completes his mission to rid the planet of data overload, so he had to teach the inhabitants of chat GPT planet how to recycle so they won't face this problem again and they will have the ability to take advantage of accumulated data.

After Echo built the dam and took the body parts of the thieves, now comes the turn to take advantage of these things and create an irrigation system from the water flowing from the dam by developing the energy system from an electric one to an energy system based on the solar system. After that, the player will begin the task of arranging the pipes, allowing the water to pass through to reach all... the trees.

Cause and Effect: After all the previous levels where the player helped develop data management skills in Chat GPT planets, the revised concept involves Echo carrying pipes with him as he progresses through the level. These pipes are necessary for delivering the water supply that he repaired in Level 2, symbolizing the flowing data that needs to reach the trees as storage files.

Throughout the challenge, there will be a hidden code that remains present, but the player needs to pay close attention to it. The player must actively search for and remember the hidden code.

In the next challenge, to enter the electricity room and connect the solar panels installed in Level 4, the player will need to input the hidden code as a passcode. This ensures that the player has been observant and attentive throughout the game.

Upon successfully connecting the wires, electricity will flow smoothly to all the homes of the inhabitants of Chat GPT planet. Once Echo completes all the challenges, his assistant will inform him of a surprise. Then, the king of Chat GPT planet will personally commend and thank Echo for his assistance. He will present Echo with a medal, signifying his contribution to the planet. Afterward, Echo will return to the real world, and the game will conclude.

Environment Design and Level Layout

- Environment design:

The surroundings of the power station depict a sprawling factory complex, with tall smokestacks billowing out dark smoke into the sky.

- Layout Sketch:



- Level Layout:

Scene 1: The player character arrives at the planet's power station, which is currently running on conventional electricity. The player interacts with a control panel that allows them to switch the power source to solar energy.

Scene 2: "Echo" meets a friendly character who is responsible for managing the water flow through the forest. Eco explains that the goal is to arrange the pipes underground to ensure water, representing data flow, reaches all areas of the forest. The player is presented with a puzzle-like grid system, where they must connect the pipes to create a continuous path for the water. The pipes are shown traversing beneath the ground, highlighting the underground network.

Scene 1: The player character arrives in a lush forest filled with tall trees. The assistant greets the player and informs them about the task of connecting pipes underground.



The scene transitions to an underground setting, where mud and pipes are visible. The player needs to remember a specific code associated with the pipes. After successfully connecting the pipes underground, the scene returns to the same forest that the player had just arrived in.



- The forest is vibrant, with sunlight filtering through the canopy, creating a serene and peaceful atmosphere.
- The assistant is friendly and supportive, guiding the player through the task and providing relevant information.
- The underground section showcases the player's progress, with mud and interconnected pipes representing the challenge of data management.
- Upon completing the underground section, the player emerges back into the familiar forest, symbolizing the successful integration of data management within the natural environment.



These changes reflect the new environment design and level layout, emphasizing the connection between the forest, the underground pipes, and the overall theme of sustainable resource management.

Scene 2: Echo meets the friendly character. The perspective then shifts to a dark and gloomy power station that resembles a factory.

- The power station is dimly lit, with flickering lights and ominous machinery, creating a sense of urgency and suspense.
- The player's objective is to navigate through the power station and locate the assistant for further instructions.
- The environment is filled with industrial elements such as control panels, mechanical equipment, and buzzing electrical wires.

- The player must rely on their memory to recall the specific details of their encounter with the assistant in order to progress.

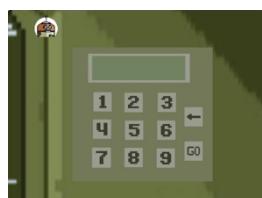
This revised scene adds a mysterious and challenging element to the level, as the player explores the dark power station and must rely on their memory



Scene 3: Echo moves to the perspective of the electrical room door. The door is made of metal and has the number "53" on it. Echo stands in front of the door, preparing to enter the room. The room itself appears to be a control room, with buttons and panels visible on the walls. Echo realizes that in order to gain access to the room, they need to find a writing board where the password code is written. This code is essential to proceed further in the game .



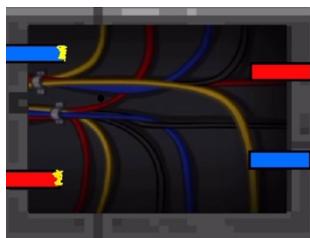
After pressing the writing board for the password, the scene transitions to the board itself. The board displays numbers from 1 to 9 along with symbols for "back" and "go." Echo realizes that they need to enter the correct password to gain access to the room behind the door. The correct password is the same one that Echo encountered in the previous challenge, hidden behind the pipes. Echo must recall and input the correct code in order to proceed and open the door to the next stage.



Scene 4: Echo finds himself in the main electric generator room that serves the entire planet of Chat GPT. The room takes on a hexagonal shape, characterized by its multiple facets, with six equal-length walls. The room appears spacious. The multi-faceted walls give it a unique and intriguing appearance, while also conveying a sense of organization and precise engineering. The electric generator is a sturdy metal box with a prominent lightning symbol. Sparks emanate from the symbol, indicating the presence of strong electrical currents inside.. It contains intricate wiring and connectors that deliver electricity to various devices and systems.



Scene 5: After the player presses the door of the generator, the scene transitions to the interior. Inside, the scene reveals a set of wires, with the red and blue wires separated. The red wires extend in one direction, leading towards specific components within the room, while the blue wires extend in another direction, also heading towards different components. There is a sense of tension and gravity in the scene, as the separation of the red and blue wires indicates a need for reconnection or system repair. Remnants of electrical sparks can be seen at the points of separation, suggesting that powerful effects occurred during the disconnection.



Scene 6: Echo stands next to the assistant and expresses gratitude for successfully connecting the wires, enabling the smooth transmission of solar power to all the houses of the planet's inhabitants. The scene depicts houses with solar panels installed on their roofs, with the sun shining brightly. Echo and the assistant stand together at the center, bathed in the warm glow of the rising sun. The houses are designed with solar panels positioned on top, harnessing the sun's energy to generate electricity. The panels gleam under the morning light, symbolizing the planet's commitment to sustainable and clean energy sources. The scene evokes a sense of harmony with nature and a bright future where renewable energy powers the community. Echo and the assistant stand side by side, acknowledging their successful efforts in ensuring the smooth flow of solar power to all the houses. Their presence in the center of the scene signifies their pivotal roles in bringing sustainable energy to the planet's residents. As the sun rises on the horizon, its radiant glow illuminates the

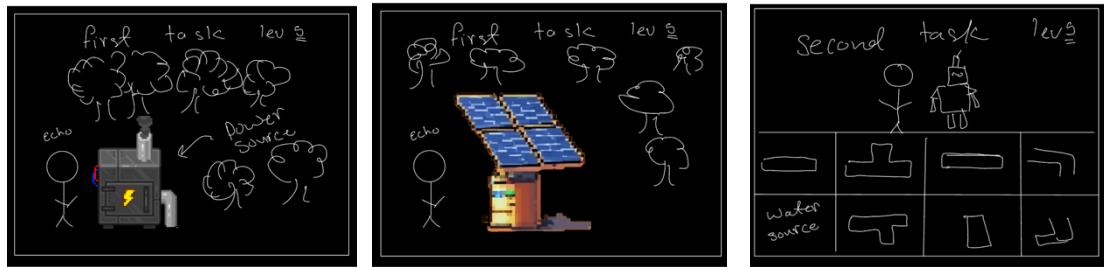


Scene 7: A grand theater setting is depicted as King Chat GPT steps forward to honor Echo for their exceptional achievements. The stage is adorned with majestic decorations, reflecting the importance of the moment. The theater is filled with an audience consisting of distinguished guests, officials, and enthusiastic spectators, all eagerly awaiting the ceremony. As King Chat GPT approaches, a sense of anticipation fills the air. The king is dressed in regal attire, exuding authority and grace. They carry a prestigious medal, symbolizing recognition and honor. Echo stands before the king, radiating a mix of pride and humility. Their contributions and dedication have earned them this special moment. The audience applauds, acknowledging Echo's exceptional accomplishments. With a gracious smile, King Chat GPT presents the medal to Echo, signifying their recognition and appreciation. The medal gleams in the spotlight, representing the embodiment of achievement and excellence.



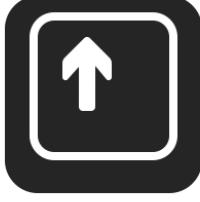
In the final scene, Echo returns to their natural world, feeling proud of the accomplishments they have achieved. Echo proudly wears the medal presented to them by the king around their neck, and it gleams with a special radiance in the sunlight. The final scene represents Echo's complete journey and their sense of pride and fulfillment after achieving their goals. Success and recognition are symbolized by wearing the medal and returning to nature, where they can enjoy its beauty and feel a sense of belonging to this inspiring and supportive world.

Storyboarding:



Integrating Interactivity into Level Design:

- **Sprite Design with Interactive Features:**

player commands	sprites respond		
			
			
			
			

	
	
	Mouse Left Button needed for multiple game challenges

- **Implementing Interactivity:**

Event Triggers:

When player clicks on start button the story of how Echo moves to the chat GPT planet will show and immediately starts level one after finishing the level one challenges other story will show to existing player about what will happen in the next level the player won't be able to choose the level randomly, he needs to complete each level in order of the story.

When players click on the start button the game start event is triggered.

When the players reach the end of the level, the level completion event is triggered.

When players click on items, the items will be collected.

When players click Z key, Echo starts shooting with water gun.

When players click X key, Echo starts shooting with Slingshot.

Interactive Objects:

Items: player can collect items by click on it leading to use it in other levels

Buttons: Players can click on buttons to trigger events, shooting, or activate other mechanisms in the game.

thieves: players will fight them and collect spoils from their bodies.

Non player characters: player can interact with other characters like chat GPT people by talking to them and maybe asking for hints.

- **Engaging Conversations Between Sprites:**

Dialogue Design:

Intro:

After answering the call from chat gpt's worlds

Zara: Hello Echo I'm Zara from chatGPT's world, we've heard about your exaptational organizing skills, we need your help!

Echo: Hi Zara, delighted to meet you, how can I help you and help chat GPT's world

Zara: we are facing a massive data crisis, drowning in information overload, your expertise is our lifeline.

Echo: I'm ready to dive in, data wrangling is my jam!, just grant me the access code

Level 1 :

Echo: Hello there! I'm Echo, here to help you organize all this data.

chatGPT's residence : Thank goodness you're here, Echo! It's like a never-ending tsunami of information crashing down on us!

Zara: Hey there, data adventurers! Get ready to tackle epic challenges in this level, it's all about organizing data like a boss! Along the way, you'll stumble upon some seriously cool data treasures, and hey! I'm here if you need my help.

Echo: Whoa, sounds like you guys are in a serious pickle, but hey, you're in luck because I'm the Master of Data organization, let's turn this chaos into order together!

Level 2:

Scene 1

Echo: OMG why is the river so flooded and overloaded??

Zara "helper": It's been clogged with unnecessary data causing a mess for a while now, That's why we need your help with clearing up the river and building a dam to stop the river from overloading again, this level consists of three challenges, 1st challenge is clearing up the river, for now the river is overloaded by extra 4 dead fish databases collect them all to go to the next challenge, this is a great time to use your first key item!!.. i hope you got your fishing net ready.

Echo: woah well Of course!! I'm here to help, Let's dive in and start sorting through the data overload in the river, I'm sure i can clean it up in no time.

Scene2

Zara: Wow Echo, you really are very good at this !! the river already looks much more cleaner, now i hope this wasn't a hassle because your next challenge needs a little more concentration.

Zara: Bring it ON. what do you have for me my guide ?

Zara: now that's the sprit! your 2nd challenge is to kayak to the river dam to fix it, but beware the river is still very dangerous and you will encounter a lot of rocks, Just stay focused and move past anything that would harm your life

Echo: ohh really ??

Zara: yupp, follow me

Scene3

Zara: you are hereeee, you passed your 2nd challenge. great job!!!

Echo: yeah... it really was a hassle....

Zara: Hahaha, well this is your 3rd and final challenge, then our river will finally be clean annd organized, this challenge consists of three geometric puzzles, solve them to build the river dam once and for all.

Echo: great!! Got it.

Scene4

Zara: well would you look at that, very Impressive Echo, the flow of information will finally move smoothly once and for all, the river dam looks amazing, thank you!!

Echo: my pleasure, my friend, now how about we sit for a little break? all this data cleaning got me tired

Zara: you are so right! we can go to my favorite spot to study?

Echo: Lovely that will do!!

Zara: okay just follow me through the gate.

Level3

Scene1

Zara: The weather is nice.

ChatGPT residence: Hey Echo, there are thieves in the forest trying to steal data! We need some help.

Zara: Oh my, what should we do?

Echo: I think the solution is to eliminate them. Do you have any way to do that?

Zara: Maybe we should use some items we found in previous levels, Echo, go to the forest on the right and I'll contact you to provide some assistance.

Echo: Okay!

ChatGPT residence: Uh-oh, here's the twist, the path to the forest is a bit of a winding road, Stay sharp, or you might take a detour

Echo: No problem at all! I've got this in the bag, and we'll make it fun along the way.!

Scene2

Zara: Echo, you've succeeded in defeating the thieves, I'm so proud!, I need a small favor before we move on to the next location. It might be a fun challenge for you. I have some pictures of this forest before the thieves attacked it, and some recent ones, Can you help me spot the differences to ease the cleanup process after the chaos they caused?

Echo: Sure!

Scene3

Zara: Wow, that was quick! And the gate has finally opened. Let's try entering it and see what awaits us there.

Echo: let's go!

Level4

Scene1

Echo: *???

Zara: Echo! We've collected all the remnants you mentioned and brought them here.

Echo: wow excellent!

Zara: Could you assist us in distinguishing between the remnants and fake data from the genuine data?

Scene2

Zara: Good job Echo! Now please continue to the right to move on to the next Level

Echo: Alright!

Level5

Scene1

Zara: Hey Echo!!, Great job on fixing the water system in level 2!!, Now you should connect the pipes , pay attention to the number beneath the ground!, You will need to use it in the next challenge.

Echo: Got it!, Thanks for the heads up!

Zara: You're welcome! Good luck with the pipe connection.

Scene2

Zara: Wow Echo! That was fast!

Echo: Thanks for heads up about that number under ground

Zara; Sure!

Scene3

Zara: I've got a great idea! After what you did on level 4 ..If you're looking for a new adventure, did you know we can harness solar energy in power stations?

Echo: wow that's cool! Let's do it!

Zara: Awesome

Scene4

Echo: You Completed the solar power connection challenge! The electricity is all over the chat GPTers houses flowing smoothly now!

Zara: Congrats! Your use of solar power is eco-friendly, Great job navigating the challenges.

Echo: Thanks! Your guidance really helped.

Zara: We got a surprise for you Echo!!

Scene5:

ChatGPT planet King: Ladies and gentlemen,

Today, we gather to honor Echo, a remarkable individual who has transformed our kingdom through his dedication to data organization, sustainability, and progress. Echo, your tireless efforts and unwavering commitment have made a profound impact on our society. We are grateful for your invaluable contributions. Thank you!

Echo: Yes, it is my utmost pleasure, and I am truly grateful for the opportunity to serve as the savior of your planet. I sincerely hope that your planet remains prosperous and sustainable. I will continue to work

diligently to contribute to building a bright and sustainable future for all. Thank you once again for this incredible opportunity and for your trust in me.

Interactive Dialogue Triggers:

In our game, sprites interact with each other in various ways. For instance, when Echo first encounters a resident, they engage in automatic dialogue to establish a connection. For example, in the initial level, residents may express concern about the thieves wreaking havoc in their world. Additionally, in Level Three, during Echo's confrontation with the thieves, they engage in combat using their respective weapons. Each time Echo's weapon contacts a thief, it inflicts damage, gradually weakening them until they are defeated. This dynamic showcases the interaction between characters and their weapons throughout the game.

- Designing Close-Up Scenes for Narrative Depth:**

Visual and Sound Design: Describe how detailed visuals and sound design are used to enhance narrative depth in close-up scenes.

Detailed visuals and sound design are key in enhancing narrative depth in close-up scenes. In each level, the visuals and sound effects work together to create an immersive experience and emphasize the transformation of the environment. For example, in level 1, close-up shots of Echo sorting data in the mountains are accompanied by mountain sounds, while in level 3, tense visuals of Echo confronting thieves in the forest are enhanced by exciting music. Overall, these elements add depth to the story of Echo's journey to assist residents with data challenges in various settings.

- Crafting Engaging Challenges:**

In the initial level, Echo's task is straightforward: it must organize the mountains and sift through their data to tackle the overwhelming data challenge.

Moving on to the subsequent level, Echo's objective is to uncover the root cause of river pollution and take steps to purify it by filtering out irrelevant data that obstructs swift access. Furthermore, constructing a dam is essential to regulate the data flow, mitigating the processing challenges posed by the data surge.

Advancing to the third level, Echo encounters a significant obstacle in thwarting forest thieves who are attempting to steal data while Echo is occupied assisting residents of Chat GPT land with their data management.

In the fourth level, Echo begins the mission of restoring order in the forest by sorting through data brought by thieves from distant planets, cleaning it alongside the data they attempted to steal, and removing any remaining traces of robot thieves.

Finally, in the fifth and final level, Echo endeavors to repurpose salvaged components to establish a solar-powered irrigation system. This system aims to draw water from the river to nourish the trees, thus completing the ecological restoration process.

- Balancing the difficulty in our game is crucial to ensure an engaging experience for players of all skill levels. We achieve this through several methods, primarily driven by player feedback:
 1. Gradual Ramp-Up: The difficulty gradually increases as players progress through the game. This allows newcomers to become familiar with the mechanics before facing more demanding challenges later on.
 2. Integrated Hints: Hints are seamlessly woven into gameplay to assist players when they encounter difficulties. These hints provide guidance, suggestions, and encouragement, aiding players in overcoming obstacles and progressing through the game. They are strategically placed to ensure they are accessible without compromising the player's sense of accomplishment.

Overall, our approach to balancing difficulty is centered around gradual escalation as players advance, ensuring newcomers can grasp mechanics before encountering more demanding challenges. Additionally, hints are seamlessly woven into gameplay to offer guidance and encouragement, strategically

- **Interactive and Dynamic Objects:**

Interactivity Details:

in our game, players dive into a world of data trials, cyber escapades, and environmental exploits, all while encountering a multitude of dynamic elements. Meet Echo, the astute data analyst summoned by Chat GPT inhabitants to tame the overwhelming flood of data pouring in from Earth's populace. As players progress, they're greeted with a variety of interactive features that enhance their gaming experience.

1. Mountain Mayhem: At the outset, players confront towering mountains of data, a formidable challenge indeed. Their mission? To sort and categorize this torrent of information. As they navigate through the digital deluge, Echo finds a hidden treasures

2. River Rescue: In subsequent stages, players confront the murky depths of river pollution. Filtering out irrelevant data becomes crucial, mirroring the process of purifying polluted waters. Erecting a dam serves as a digital guardian, controlling the data flow.

3. Forest Follies: Echo squares off against cunning forest thieves, scheming to steal valuable data. Players spring into action, deploying data defense measures to foil these digital bandits.

4. Jungle Justice: On a mission to restore order in the forest, Echo cleanses stolen data, wiping away the digital traces left by robot thieves. Citizens applaud Echo's outstanding cleanup efforts, safeguarding the digital integrity of the jungle.

5. Solar Serenity: The climax sees players repurposing salvaged components to construct a solar-powered irrigation system. Trees rejoice as nourishing waters flow, completing the cycle of ecological restoration. Before Echo returns to Earth, citizens throw a farewell party in celebration of his success.

Throughout this whirlwind adventure, dynamic interactions propel players through a range of challenges. Whether navigating data floods or protecting digital ecosystems, feedback mechanisms ensure players experience the impact of their actions, guaranteeing an exhilarating and fulfilling gameplay journey.

- **Guidance and Choice Hints:**

Hint System:

Our game includes a hint system that provides players with guidance when they encounter challenges. Players can access hints that range from subtle nudges to explicit instructions from Echo's handy partner, helping them overcome obstacles and progress through the game effectively.

Adaptive Difficulty:

The game features adaptive difficulty that dynamically progresses based on the player's performance throughout the levels. This ensures that the gameplay remains engaging and balanced, catering to players of varying abilities without becoming overwhelming or

• Advanced Game Design Features:

Event Listeners and Predefined Paths:

Event Listeners:

In our game, event listeners play a crucial role in enhancing gameplay interactivity. These listeners are programmed to detect specific actions or triggers within the game environment. For example, in Level two, "the river of streaming stories," event listeners are utilized to detect when players successfully organize and clean up segments of the polluted river. This trigger dynamic changes in the game world, such as the gradual restoration of the river's flow and the appearance of new challenges or rewards.

Predefined Paths:

Another key feature in our game design is the use of predefined paths to guide players through the various levels and challenges. These paths offer a structured framework for players to follow while still allowing for exploration and discovery within each level. For instance, in Level three, "the cloud forest," predefined paths lead players through dense foliage and across treacherous terrain as they navigate the battlegrounds against intruders. These paths help maintain a sense of progression while ensuring that players encounter key objectives and encounters along the way.

By integrating event listeners and predefined paths, our game provides players with a dynamic and immersive experience, where their actions directly influence the game world and propel the narrative forward. These features enhance gameplay interactivity, keeping players engaged and invested in the journey to manage, defend, and recycle data in ChatGPT land.

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