

An Analysis of the Combination of Anti-Anthropocentrism and VR Game Design

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Abstract. During the epidemic, the documentary film *The Year the Earth Changed* brought the topic of "anthropocentrism" back to the forefront of viewers' minds. It was discovered that many of the planet's negative changes were due to human appropriation of resources, and that in order to address this issue, humans needed to redefine their place and responsibility in ecosystem usage. this paper aims to illustrate a game that allows players to realise the importance of equality in an immersive gaming experience through the use of VR. The author used Unity to create the game, and Nomad and Houdini to assist in the 3D modelling work, with the intention of creating a new world that is more beautiful and fantastic without human intervention. The game creatively allows players to enjoy this mysterious new world while being entertained and to develop a deeper concept than the common notion of "environmentalism". This game creatively allows players to enjoy this mysterious new world while being entertained and generate a deeper feeling than the common concept of "environmental protection", which is that the earth is not better because of human beings, but human beings have been doing some immoral things that disturb other species. By experiencing the three levels in the VR game "New Earth", most players said that this immersive approach allows them to redefine the way humans and nature get along.

Keywords: Anthropocentrism, resources, redefine.

1. Introduction

Anthropocentrism is divided into "strong anthropocentrism" and "weak anthropocentrism" [1, 2, 3]. "Strong anthropocentrism is the view that humans are the highest-ranking species in nature, that all human needs are justified, and that people can satisfy their needs by destroying or exterminating species other than humans. This view sees the natural world as a supply station where human beings can be left to demand resources, and where human beings rely solely on their sensual needs to satisfy their own needs, without concern for the internal cycles of nature. Only human beings are intrinsically valuable, and other species have instrumental value only to the extent that they fulfil human needs. "If anthropocentrism believes that human needs should be limited, it recognizes the value of human beings while at the same time affirming the intrinsic value of other species [4, 5].

Humans in the long-term struggle with the natural world continue to win, and then distinguish themselves from animals and the natural world, resulting in a self-centred consciousness, and theoretically upgraded to the pursuit of value [1], as a traditional Western values, anthropocentrism has a long history, the earliest form appeared in Ancient Greece, in ancient Greece, in addition to the expression of the innate "human form" way of thinking, but also to the "human form" way of thinking, but also to the "human form" way of thinking, and to the "human form" way of thinking. In ancient Greece, in addition to manifesting the innate "humanoid" way of thinking, it also manifested itself in the consciousness of being at the centre of the world. The ancient Greek philosopher Protagoras said: "man is the measure of all things", Aristotle further explained this sentence, he said: "man is a rational animal, rationality for all human beings, the other things do not have something, by virtue of rationality and knowledge, man is able to perceive and understand the universe of all things".

The deconstruction of anthropocentrism suggests that only an ecological whole based on the harmony and unity of human beings and the ecosystem can safeguard the common interests of human beings and nature. In recent decades, environmental problems have been revealed, and human beings have begun to perceive that forcibly appropriating the resources of nature and other species will bring about serious ecological problems and ultimately lead to self-inflicted consequences. Therefore, in

the 1960s, many ecological organisations and green organisations in Europe responded to the issue, with anti-anthropocentrism being particularly thought-provoking and deep-rooted [6].

The ancient Chinese thinker Zhuang Zi [7] once proposed that people should treat animals in this way. Firstly, based on nature as a whole, animals and human beings have equal status. Second, treat animals without intervention, unless the intervention can eliminate the existing intervention, so that animals return to the state of nature. Thirdly, people should be encouraged to achieve self-improvement through learning about animals.

In contrast to anthropocentrism, there is also "biocentric Eco socialism", which stresses that the liberation of human beings can never be separated from the liberation of nature, and there are three principles for this theory: first, maximise the ecological diversity and explore the potential of living things. Second, to minimise the suffering of living creatures. Third, to maximise the potential of human beings as self-aware creatures.

The study of this topic can effectively enable readers to understand what anthropocentrism is, and understand the negative impacts of anthropocentrism, and finally, through the understanding of the details of the game, deeply appreciate the human plundering of resources has actually affected daily life, and then take the initiative to change some of the usual habits of life.

2. Game Design and Methodology

2.1. Inspiration

The design of this game is inspired by the biological changes of the Earth during the prevalence of COVID-19 and the mass closure of cities around the world. During this period, the documentary film "The Year the Earth Changed" was widely acclaimed, which recorded that when human beings pressed the pause button, the earth quietly underwent positive changes, the air was fresher, who knows cleaner, and the animals flourished at a speed that human beings had never seen before.

The purpose of this game is to show players the harmony and completeness of the ecosystem when no one interferes with the Earth through the VR game, so that players can be more immersed in the scene and think about the current behaviour of human beings as the strongest in biological evolution, and the behaviour of using ecological hegemony to seize and use the resources of other organisms is selfish and immoral, and is very likely to suffer the consequences in the end.

2.2. Story Design

"New Earth" is a game where the player chases different species while unlocking new species and following instructions to complete new missions. Players will be given three missions to unlock three scenarios and species.

Mission 1: Players wake up in a giant cannibal flower, the screen will display "100 years later", fireflies will lead players to the first quest location "sea turtle colony", because of frequent human recreational activities in the sea, occupying the beach, resulting in the sea turtles have to migrate to the rare freshwater area to breed and live. The turtles have to migrate to the rare freshwater area to breed and live. The player's task is to bring the turtles back to the sea.

Mission 2: By completing the previous mission, the player will unlock a new creature (the Floating Jellyfish). By chasing the jellyfish, the player will travel to the second quest location, the Whalefall Zone, where most whale deaths occur without human intervention (whale blowouts are more likely to occur when humans are present because of ocean pollution), and use the "energy (building materials in the game)" generated by the whalefalls to build an underwater energy station for the creatures in the area. Use the "energy" generated by the whale fall to build an underwater energy station for the creatures in the area, in order to help the ocean return to its natural state.

Mission 3: A 5-second video of a falling meteor (caused by the malfunction or lack of power of a satellite launched in space after the end of humanity due to a long period of unmanned operation), (shown in Fig.1) will prompt the player to look for an electronic screen in the satellite wreckage,

which will show traces of human existence, and then the electronic screen will turn off due to a lack of power, and the player will see his own face on the screen and realise that he is a human being too.



Figure 1. Satellite crash debris (Photo/Picture credit: Original)

Stimulated by this, the player regains the memories he lost due to his long stay inside the cannibalistic flower and remembers that he was once a flower farmer who made his living by growing and selling flowers. Because of the staggering number of pesticides, herbicides, and fungicides used by the player in the process of growing flowers, these harmful substances have contaminated large areas of local water and soil. Not only that, but the players' health is also being eroded by their occupational exposure, with stooped bodies, withered faces and severe hair loss. This is because among these pesticides, glyphosate is carcinogenic, paraquat may cause Parkinson's disease, and long-term use may even kill flower farmers, in addition to the over-selling of flowers has led to the problem of over-packaging, as the plastic used for packaging is not recyclable.



Figure 2. Unpopulated freshwater areas



Figure 3. The cannibalistic flower that the protagonist passes by (Photo/Picture credit: Original)

After F has finished fertilizing the flowers, a giant cannibal flower, as shown in Fig.3, suddenly grows on his way home and swallows F. Fortunately, F is not eaten by the cannibal flower, but uses the condensate in the cannibal flower to escape the catastrophe of the extinction of the human race, and F becomes one of the few survivors of the earth, and when F wakes up from the cannibal flower, the earth has already passed over one hundred years, and F's appearance still remains! Stuck in the year was devoured, but his hands and feet due to a long time to stay in the cannibal flower body of the cause of the evolution of the cannibal flower stem form, learned that he was also a member of the destruction of the environment, human beings, the next protagonist will be lost, to help more animals to build a harmonious coexistence of the abode.

At the end of the game, a choice window will pop up on the interface, the player will be faced with two options, "Equality", "Predation", after choosing "Equality", the player will be fully restored to human form, and get a help backpack. By choosing "Equal", the player will be fully restored to human form, and will be given a help pack to assist the player in completing more tasks. After choosing "Pillage", the vines on the player's body will grow denser and denser, and eventually the player will be turned into a vine, and the game will end.

2.3. Character Design

As shown in Fig.4, the player will see three forms of the protagonist throughout the game, starting from the starting state, the player's body will be that of a vine man, and then every time a new level is unlocked, the player's body will evolve one step.

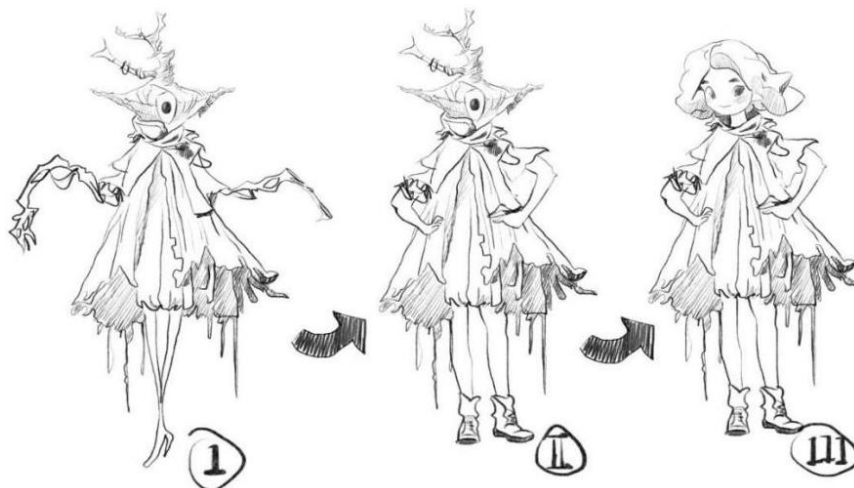


Figure 4. Character Evolution Chart (Photo/Picture credit: Original)

In order to reflect the fact that the player (protagonist) wakes up in a state of amnesia, and because of the long stay in the body of the cannibal flower, so the author of this paper will design the character as a form of a withered twig in the dark forest, with the body and limbs made up of twigs, and the clothes are designed to be worn out because they haven't been changed for a long time, so the protagonist in this way will not only allow the player to be more insistent on playing the game because of curiosity in unlocking the evolved body, but also more distinctive than the This will not only make the player unlock the evolved body out of curiosity and play the game more persistently, but will also be more distinctive than the humans in regular games, and more in line with the fantasy setting of the game.

2.4. Controls

As shown in Fig.5, the player needs to use the gamepad to control the up, down, left, right, left, right to move his position, and to perform commands such as jumping, or "confirming", "returning", etc.



Figure 5. Game pad (Photo/Picture credit: Original)

3. Scenery

Because the game is a fictional new world, it is hoped that a better and more fantastic world will be conveyed to the players through the game. So in order to fit the theme, some key scenes are made into fantastic and absurd appearance, such as floating in the sky or glowing jellyfish (as shown in Fig.6) (because people have only seen jellyfish swimming in the water, this game wants to break people's traditional cognition, expressing that the earth will be some absurd and beautiful changes after no one interferes with the game), floating on the surface of the whale fall supply station (the whale fall often occurs in the bottom of the sea, so the game puts the supply station on the sea, so that players can feel the shock of the whale fall). (whale falls often occur at the bottom of the sea, so in the game, the supply station will stand on the sea, so that players can feel the shock of the whale fall intuitively), the body of the big sea turtles with long grass as shown in Fig.7, and so on.



Figure 6. Illuminated jellyfish



Figure 7. Turtle with grass on its body (Photo/Picture credit: Original)

The game is based on unlocking new species to prompt and guide the completion of new tasks. Every time the player encounters a new species, the game interface will display the attributes of the species, and the player will judge the difficulty of chasing the species according to the attributes of the species and purchase goods in the game shop to assist the player in chasing the new species. For example, the player unlocked the jellyfish as shown in Fig.8, and through the attribute card, he found that jellyfish are very fast, and the player can buy the underwater accelerated shoes in advance in order to prevent losing him.

The interface is designed according to different species, such as the jellyfish in the picture, the author wants to show a jellyfish flying in the sky, so he used a picture that looks like both the deep sea and the starry sky to make the background. The author designed the jellyfish with a "jelly" texture to fit the original appearance of the jellyfish, but also gave the jellyfish blue and green lights to create a sense of mystery of the glowing jellyfish, hoping to attract the interest of the player.



Figure 8. Biological Attributes Interface (Photo/Picture credit: Original).

In addition, the interface will display the quests for the new level, and the player will follow the prompts to complete the quests.

4. Production Process

After the author conceived the storyline of the game, he first drew the sketches of the four key scenes, and then produced the scenes through Unity. After the scenes were produced, because the author couldn't find suitable models, he used Houdini and Nomad to model the animals and facilities, and the author often encountered the problem that there was no colour in the models he built and imported into Unity, and then imported into Unity, and this problem was solved. After that, the author tried to pour the model generated in Nomad into Procreate for colouring, and then imported it into Unity, this problem was solved, and the colouring through Procreate is more flexible and colourful, there are more brushes to choose from. For example, the cannibal flower scene in Fig.2, when making, only the ground material and the sky material, the plants are completed with Nomad modelling, which, the cannibal flower in the import of Unity is turned into a vegetal film, so the colours all completed in Procreate colouring.

In addition, the size of the model that was coloured in Procreate will become very big when imported into Unity, so the author needs to keep reducing the size after importing and move it to the right position to complete the whole scene.

5. Experiments & Results

For the setting of the game's storytelling style, the game's interactivity, the interface style, and the character design, the author of this paper did the following four different experiments in order to produce a game that is more acceptable to most people and achieve better results.

5.1. Storytelling style of the game

For the game's storytelling style, the author conducted a comparison experiment by making two simple small clips as shown in Fig.9, in the way of A direct narration & B montage narration (recollective narration), A: tell the story directly from the beginning, and B: start the game first, and then announce the storyline at the beginning when the game is almost finished, so that each of the five experimental subjects play clip A and clip B respectively, of which Three of the experimental subjects in the Fragment A group said that it was a bit boring and that they might give up the game if it sometimes took too long. four of the participants in Fragment B said that they wanted to see the end because they wanted to know the original story.

Based on the results of the experiment, the authors finally set the game's storytelling as a montage narrative, which is a non-linear narrative method that will bring more interest and greater impact to the player through the shift and contrast of perspectives [2], and the authors hope to reflect the most profound, comprehensive, and complete reality through limited fiction [8].



Figure 9. Percentage of favourite narratives (Photo/Picture credit: Original)

5.2. Game Mode

Due to the uncertainty of the difficulty of game design and the scale of the game, the authors compared the simple interactive game with video and the interactive game with video through questionnaires, as shown in Fig. 10, 80% of the questionnaire participants preferred the self-discovery type of the game, and they hated the didactic video. Therefore, the authors eventually set up many interactive game levels and a few videos in the game (to facilitate prompting players to complete the tasks in each level).

This approach not only enables the participants to realise the double transformation of player and spectator identities, allowing the players to interact with the story while chasing and completing tasks, but also profoundly embodies the deeper meanings behind the game through the reimagining of the otherworldly space [9, 10].

volunteer/popularity	Film	Game	doesn't matter
1			✓
2		✓	
3		✓	
4		✓	
5		✓	
6		✓	
7	✓		
8		✓	
9		✓	
10		✓	
11	✓		

Percentage of People's Preferred way of Being Educated

Figure 10. Favored mode of education

5.3. Game Interface Styles

Based on the storyline, the author created two different game interface styles, realistic style (similar to the game CSGO style) and fantasy style (similar to the game Bridge of Spirit style), and interviewed the players for these two styles, and the results of the interviews as shown in Fig. 11 were that about two-thirds of the players thought that the game's storyline was more compatible with the fantasy interface style. One-third of the male players preferred the realistic style, and a small number of players suggested that the wasteland style was a better match for the game's plot, but because the game is committed to building a better world, which is the opposite of the wasteland style with its sense of dilapidation, the final game interface style was positioned in the Fantasy style.

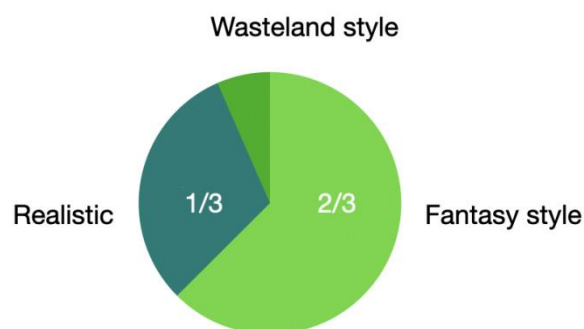


Figure 11. Percentage of people's favourite game interface styles

5.4. Character Design

The author set up two main characters, a flower farmer and the daughter of a chemical plant owner, who were told from a young age that everything should be done to make way for technological advancement and not to protect the environment. Through face-to-face interviews with 20 volunteers, twelve of them said that the role of the flower grower is more ironic and more connected to the plot of "devoured by cannibalistic flowers". Only seven people said that the chemical factory was more effective in polluting the environment. The authors ultimately chose to use the identity of the flower farmer due to its topicality.

Regarding the question of whether the characters need to evolve, the volunteers agreed that character evolution is more attractive and can better reflect the initial state of the protagonist's amnesia. They said that each step of character evolution should not be too thorough, otherwise the players will have a sense of strangeness.

5.5. Game Effect

In order to verify the effect of the game, the end of the game increased the player to choose their own options, As shown in Fig.12 through the experience of the game player options feedback, 60% of the players at the end of the game, realised that the relationship between human beings and other creatures should be equal, and only equality can be a harmonious coexistence, or else human beings will also eat their own bad consequences.

With the advancement of technology, it is believed that in the future, VR technology can bring a stronger sense of experience, and more non-dogmatic didactic games or films can be produced through VR technology to better achieve the effect of appealing to the public.

Game Result Test Form

volunteer/effect	Higher	Parity	doesn't matter
1		✓	
2		✓	
3		✓	
4	✓		
5	✓		
6		✓	
7	✓		
8		✓	
9	✓		
10		✓	

Figure 12. Game Result Test Form

6. Summary

Humans have utilised most of the resources available to them, and while reusing resources, they have also taken resources from other species in disguise. Nowadays, there have been a lot of problems caused by the misuse of resources frequently, and these negative problems can be interpreted as a warning for the Earth that, if we do not intervene and continue to misuse the resources, the situation of the Earth may really be as in the game, where no one survives. In this paper, we create a VR game to restore the changes of the Earth and species after the extinction of human beings with the help of references, hoping that players can jump out of the traditional term of environmental protection while playing the game, rethinking that the relationship between human beings and other organisms should be one of harmony and symbiosis instead of predation of the weak and strong, and then redefine the relationship to be able to respect the nature and all the organisms, and no longer wantonly seize the resources. After group experiments, we finally came up with the storyline and game scenarios that best fit the story line, hoping that more players will join in and really receive the impact of the game and do more positive things for the earth's resources. In the future, VR technology not only brings convenience to people, but also profoundly change the thinking of the people, the designers can use the technology to make more meaningful games in order to solve the existing problems, the real appeal to the players, rather than simply advocate and slogans.

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