Wild Life World Game Development, Design and Evaluation Optimization

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Abstract. VR is a kind of computer technology that combines virtual and reality gradually developed and mature in the 20th century. VR uses computers to create a three-dimensional multi-sensory and realistic virtual environment, which gives players immersive feelings during the game. Due to the disaster that many wild animals are facing the extinction of this species, Therefore, virtual reality technology is used to create a 3d stand-alone mobile game to warn and improve players' attention to the current situation of African wildlife. Therefore, this paper will introduce and analyze the concept, creation process and gameplay of the game wild life world developed in this study. In this study, we choose Unity as the game engine of wild life world, which can operate and operate the game more easily. In this study, Houdini is used to produce 3d modeling, and Houdini's rendering function can greatly improve the operation efficiency of the game. In order to enable players to have a more in-depth and immersive experience, this study also used dolby access to add panoramic sound effects to the game, and finally conducted game evaluation and optimization, so that players could summarize and evaluate the game experience.

Keywords: VR, Houdini, sound, evaluation, evaluation, optimization.

1. Introduction

Virtual Reality (VR) Virtual reality has rapidly swept the world, prompting the interaction of games to gradually integrate with the motion-sensing operation, which challenges the traditional interface design that relies on specific visual elements such as screens, menus and buttons for interaction. VR game is the most interactive video game at present, and its biggest feature is that it can bring players into a highly realistic virtual environment [1-2]. In recent years, a large number of new technologies have emerged, and people's lives have also changed dramatically with the emergence of these technologies. And these emerging technologies not only have an impact on People's Daily life, but also play a role in promoting other fields. With the emergence of these technologies, the development of art has also gone to a higher level. Compared with traditional art, modern art, with the addition of science and technology, has produced huge differences in its forms of expression, design, and even the interest of art itself. Especially in recent years, VR and AR technology has been continuously produced and further progress, and its combination with art has made great progress in the field of digital media.

This paper analyzes the design and production of digital games in the current VR environment, discusses how to improve the design and production of digital games with the help of relevant theories, and discusses specific strategies to adapt to changes and improve creative ability from the perspective of designers [3-5]. The game is based on the concept of animal protection, the game uses a lot of panoramic rendering sound and interesting 3d modeling, and the game's level design is also unique.

The chapters discussed in this study are divided into the following points: First, this study will introduce the background of the game; second, it will introduce the gameplay of the game, how the player controls the game, and give a detailed description of the gameplay of the game. This study will introduce and explain the design style of the game and the game scene; finally, this study will explain the design of the game level and the selection of characters in detail. In this study, after the development of the game, the evaluation and player experience were carried out, and then the game was modified and optimized to achieve better player satisfaction and game experience

2. Design and implementation

2.1. Backstory

Due to the destruction of the ecological environment by human activities, the wild animals living in the African savannah are facing a major threat of species extinction. In order to change this situation and make humans realize the terrible nature of species extinction and improve the protection of African wildlife, the Animal Protection Society sent wildlife protection personnel to the African savannah to investigate and protect wild animals. They need to help animals escape hunters and help wild animals that have been left alone return to the community.

2.2. Control

At the beginning of the game, the player controls the direction of advance by touching the screen, the player can have a pistol in his hand, there are three bullets in the pistol, the player has only three opportunities to attack the hunter, and the player can slide and control the speed according to the situation encountered during the game, and the buttons on the game page can also interact with wild animals

2.3. Scenes and special effects

The characters and scenes of the game are designed in an exotic fantasy style. In this study, dolby access is used to produce sound effects that match the African savannah. This module focuses on the optimization of user experience effects and game special effects rendering (Fig.1).

Fig. 1 Endangered wildlife on the African savannah.

2.4. Game scene

In order to enable players to quickly integrate into the game scene, the game scene is surrounded by empty areas with a lot of vegetation, and players can use weeds to hide themselves well to prevent hunters from attacking them [4]. The main color of the game scene is loess. In addition, the game adds some elements such as muddy swamp, lush oasis and mysterious tropical rainforest. There are also some small wild animals such as jumping rabbits, and there is a medical clinic in the game center, and players need to bring injured wild animals for medical treatment, which can increase the authenticity of the game and give players a good interactive experience in the vr environment (Fig.2) [6].

Fig. 2 African savanna models, the color is mainly earthy yellow, the house design is remote.

2.5. Characters

The main character of the game is a wildlife conservationist, named by the player, and the player protects the wildlife by controlling the character from the sketchfab store, which is a 3d model called Girl explorer created by EvgeshQa [2, 7].

At the beginning of the game, the player can see the status and actions of the character, the character's clothing is a lightweight adventure suit, the character's backpack will store the necessary food such as bread, water, flashlight and camping tools, in the night, the character can observe the surrounding situation at any time according to the tools and flashlights (Fig.3). In terms of the selection of game characters, it is selected and designed according to the game design style. The shape of wild protectors is very similar to that of explorers, which can better reflect the adventure in the journey.

Fig 3. The Protector model.

2.6. Enemy

hunter belongs to the role of the attacker, hunter from sketchfab mall, is made by imm hunter, hunter will appear behind the player or wild animals at any time, the spear in the hunter hand is made of copper and iron, used to stab animals (Fig.4) [3,8]. When the enemy appears, a red light will appear, the enemy will hunt the player with a spear in hand, the sound of rubble will appear, the enemy will attack the player from behind, in order to make the player have a better game experience, the hunter will issue a scary sound effect [9]. The image of the hunter is the designer's reference to the tall and fierce image in the movie, giving the player a deterrent that can better reflect the excitement of the game and the danger of the hunter.

Fig. 4 The model of a hunter.

The end of the game is an oasis, the oasis above the population of single wild animals, after reaching the end of the loess color tribal style will become sunny white clouds, and wild animals will give players hugs and kisses to thank players for their efforts to win. At the end of the game, the song will be played, the song is selected by the player, the wild animal will lead the player to their own home, the scene of each wild animal home is different, the design style is different, the player will

learn the status quo and danger faced by the wild animal, the player learns about the introduction of the wild animal, is the player and the wild animal interaction and understanding.

3. Evaluation and optimization

The designer evaluated the game Wildlife World and found that the game's graphics were fuzzy and the game was stuck during the game, so author used PUBG tool, an easy-to-use picture quality modification software that can be unlocked with a click to limit the frame rate. After use, the picture quality of the game is clear and bright [4, 10], and tauthor has also done tests on the picture quality of the game, and author adopts HD. The resolution of 1280x720 pixels or 1920x1080 pixels gave players a high rating in the visual experience, with some players reporting a low frequency of attackers and a lack of excitement in the game (Fig. 5).

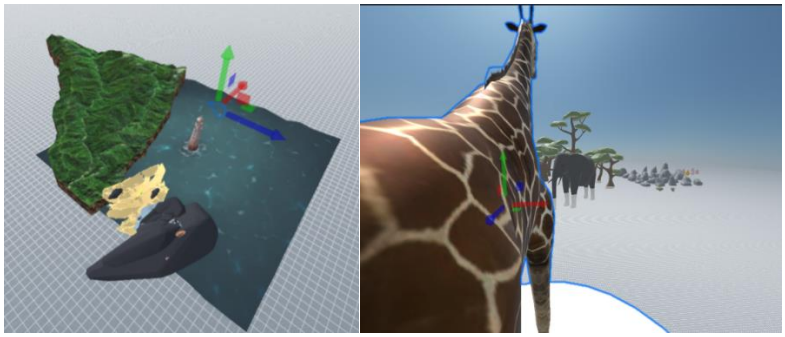

Fig. 5 Process detail diagram.

Table 1 The evaluation result.

Mark	Details	story content	creativity	resolution
1	10	5	7	3
2	9	7	6	6
3	9	9	8	9
4	7	5	9	5
5	5	9	9	8
6	9	2	4	4
7	7	7	7	7

Player reviews of the game are still good, and resolution and story content need to be improved and improved (Table 1). The reason is that although the plot of the game is well designed, there will always be faults in the links, so there will be some delays in the game links, which needs to be modified.

In the initial design, we set up a safe room where players could hide when being chased and attacked by enemies, and the safe room would provide some food and supplies (Fig.6). players can also keep an eye on the situation outside at any time, the safe house can stay for 15 to 25 minutes, once the limit time is exceeded, the safe house will disappear, there will be a safe house every 500 meters, the player can also be assessed through the satellite system in the future game, the player also reflects less interaction with the animal, the game team found in the game, only when the wild animal back To the population will interact and communicate, after the problem is found, when the player and the animal hide in a safe house, the player can understand the physical condition of the animal, feed and drink the animal, and also groom the animal, so that the player can have a better game experience

Fig. 6 Safe room.

The model is a safe room, with light effects, the necessary items in the room, and the overall color palette is warm to highlight some of the warmth in the game

Fig. 7 Enemy game design draft.

This is a model of the evil doctor from the Internet, the shackles on his feet are very vivid, and the expression on his face is very vivid (Fig.7). This is a model of evil Doctor from the Internet, with vivid shackles on his feet and vivid expressions on his face. This doctor will watch and shoot players and wild animals in the sky, aiming to find the genes of wild animals for experiments. The addition of these characters makes players more aware of the various dangers surrounding animals

4. Conclusion

This paper mainly describes the game design concept and process as well as the final evaluation and optimization. The characteristics of this experiment are to connect the endangered wild animals with the players in a practical way, so that the players can more truly experience the dangers faced by the animals. The game adopts 3D mode, which increases the sense of reality and experience of the game compared with 2D. After the game evaluation, it was found that some problems with picture quality and frame would affect players' game experience. These plans will be realized in the future. Throwing syringes in the air and catching animals for research can increase the difficulty of the game and enhance the experience of the game. Looking forward to the future, designer hope to continue to create this semi-finished game, improve the picture quality, clarity and fluency, produce more levels and elimination systems, and produce more villains and good characters, so that more and more players can participate in it

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