

Body Modeling Equipment

Due to the confidentiality of the project, I'm sorry that I can only publish some of the design sketches, but not the software and source code. The design of a human body modeling device is a part of this project. What I design is that when a player walks into the simulator, a lifting staircase will appear at this time, and the staircase will take the player to a suitable position. There are three cameras, which are ToF (Time-of-Flight) Camera, Infrared Camera and Color Camera. The cameras running orbit and the vertical slide rail (height adjustable) calculate the height to collect body shape data of the player according to the algorithm. The data of the player's mannequin is obtained by three cameras at different heights and angles. The player has a camera controller, which can control the movement of the camera at will. Besides, there are staff members in the room who can provide technical guidance to prevent accidents. The sketches are shown in Figure 1 and Figure 2, and the actual scene pictures are shown in Figure 3 and Figure 4.

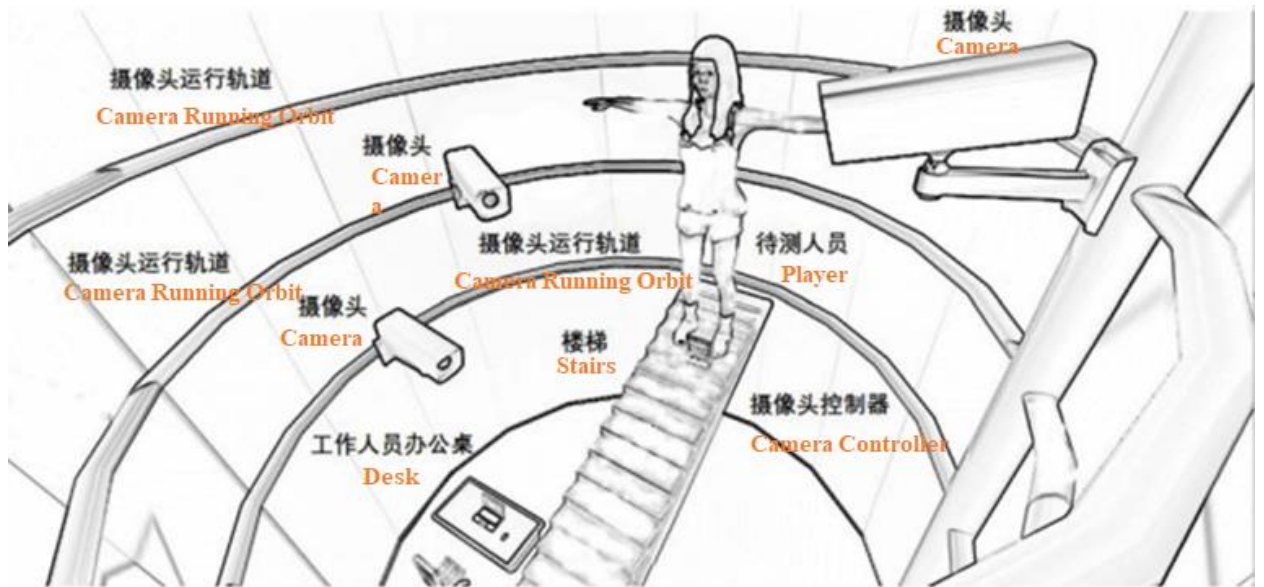


Figure 1



Figure 2

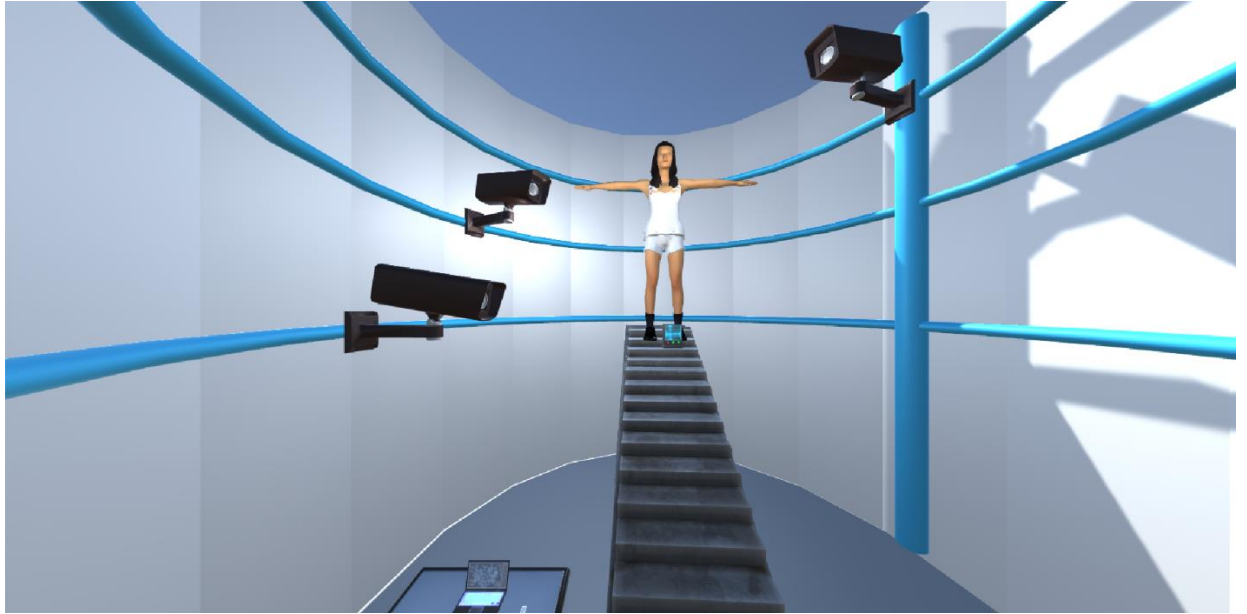


Figure 3



Figure 4

In this project, the scene is built in unity 3d, and the mannequin is modeled in Maya. All the collected player data are stored in database by a wireless transmission device. The camera automatically runs to collect the body data of the players, so as to automatically build the body model of the players in the model generating device, the modeling effect of human

physical model such as online shopping can be realized. Therefore, this part of the project has been successfully patented. In my opinion, good games can not only bring us simple happiness, but also inspire our real life. The Chinese version of the patent certificate is shown in Figure 5, and the English version is shown in Figure 6.



Figure 5

Certificate No. 12001934



CERTIFICATE OF UTILITY MODEL PATENT

Utility Model Name: Body Modeling Equipment Based on Maya
Inventor: Xiuli Sui, Xinxian Wang and Jingjing Chen
Patent Number: ZL 2019 2 2255379.1
Application Date: December 16, 2019
Patentee: Tianjin Sino-German University of Applied Sciences
Address: No. 2, Yashen Road, Haihe Education Garden, Jinnan District, Tianjin City, 300350
Authorization Announcement Date: November 27, 2020
Authorization Announcement No.: CN 212032212 U

On the basis of a preliminary examination conducted by the State Intellectual Property Office(SIPO),this utility model is found to have satisfied the requirement as laid down in the Chinese Patent Law.The patent right for utility model is hereby granted and recorded on the Patent Register and this certificate is awarded accordingly. This patent right shall take effect as of the announcement date of patent grant.This patent right shall be valid for 10 years, counted from the date of filling.

In this certificate, the legal status of this patent right at registration is recorded and such matters as transfer, pledge, invalidation, termination, restoration of this patent right or change of the patentee's name, nationality or address shall be carried in the Patent Register.



Director
Changyu Shen

Changyu Shen (Signature)

November 27, 2020
(Seal of State Intellectual Proper)

Figure 6