Star Wars Game

CSCI5460 Virtual Reality

Team Member

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Virtual-scene Description

Our project mainly consists of two parts. The first part is the docking of Shenzhou 11 and Tiangong 2 which has been done in our mini-project. The models of rockets, spacecraft and the earth were built by the popular software Blender. In addition, we chose Unity to implement the animations. E.g. the launch of the rocket, spacecraft moving along the equator and the docking between rocket and spacecraft which is the most complicated part in mini-project. The models built before are as follows.

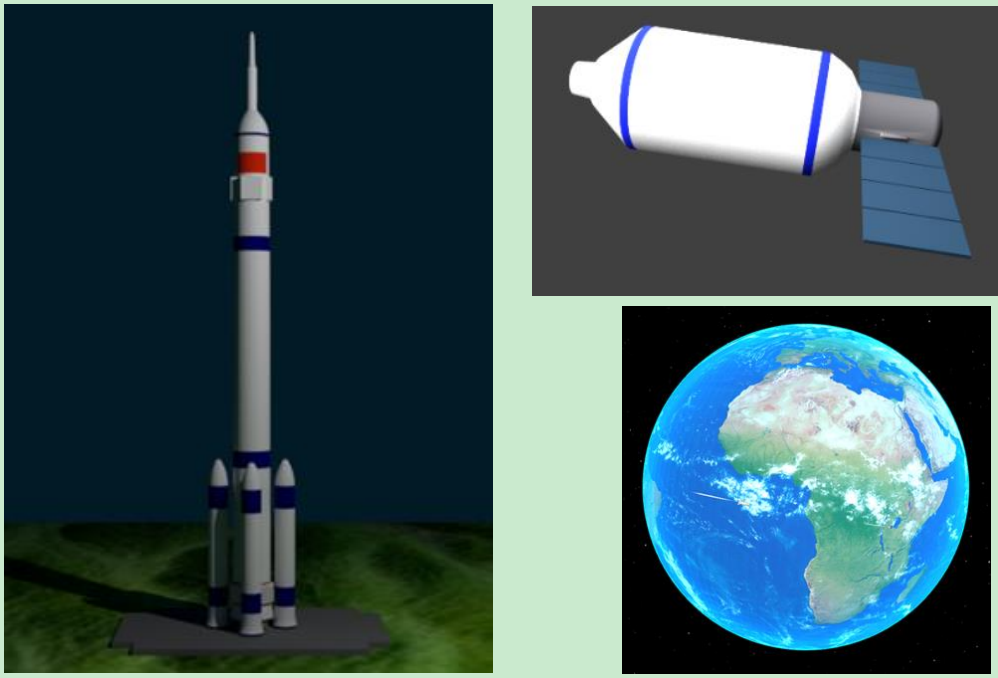

Figure 1. Models built in Mini-project

We extend our mini-project to a game named ***Star War*** which is the second part of our project. After the Shenzhou 11 and Tiangong 2 space crafts launched, other spacecraft follows our spaceship. A series of amazing things happen then. The emergence of some unknown spaceships pose a threat to our spacecraft in which some meaningful experiments are expected to be conducted. To ensure the normal operation of our spacecraft, it is urgent to take measures to protect it.

Unknown spacecraft is equipped with flying saucers while our spacecrafts are armed with advanced weapons like shotguns. Attacking and evading need to be controlled by one user through keyboard or mouse, including adding weapons, changing directions and speeding up and down. In the war, users must be extremely careful as the flying saucers are lethal to our spacecraft. In other words, when the flying saucers bump the spacecraft, the spacecraft would break down and game comes over. Undoubtedly, after a period of fighting, one spacecraft will beat others and win the field. The animations in the game are also realized by using Unity.

User Manual (Control and Special Effects in Unity3D)

Seven perspectives are created to show the panoramic view in the mini-project before, which are controlled by clicking keyboard from 1 to 7. All animations are also manipulated by users through controlling keyboard, including the launch of the rocket, spacecraft moving along the equator and the docking between rocket and spacecraft.

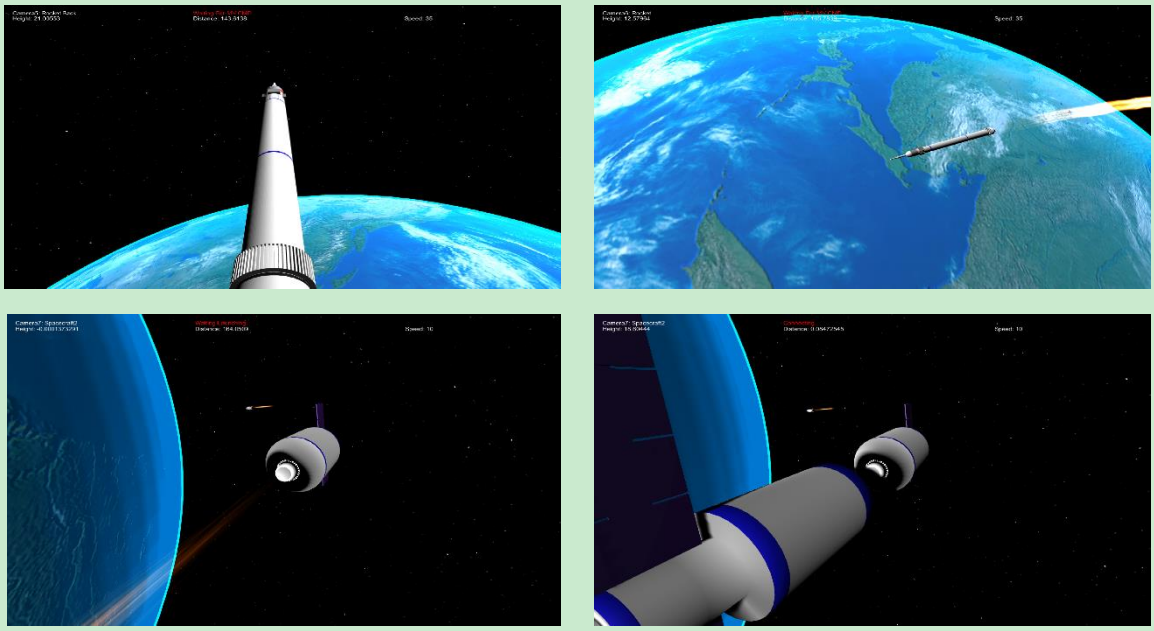

Figure 2. Animations in Mini-project

In the final project, the 8th perspective is added to help users enter the game view. Users would play Star War game when in this view. The user behalf the role of Shenzhou 11 and Tiangong 2, which is equipped two shotguns. Afterwards, unknown spacecraft send a series of flying saucers to move towards Shenzhou 11 and attack it. In our parameter setting, if the flying strikes the spacecraft, then the spacecraft would die. Therefore, the duty of players is not only to shoot the flying saucers with shotguns, but also to evade the attacking of saucers by changing direction and moving away from them. In addition, when users fire at the flying saucers accurately, they would disappear, but the following flying saucers would move near and continue attacking.

Screenshots are captured as follows to demonstrate the whole process of the game. Figure 3 show the overview of our project and the user view in game is illustrated in Figure 4 where we can clearly see that the spacecraft is armed with two state-of-the-art shotguns. Gradually, increasing number of

flying saucers come (Figure 5.), which means that a war begins. From Figure 6 to Figure 15 display the process of the game. Lastly, we also add some pictures regarding the process of rendezvous and docking (RVD) as well as the view of enemy approaching from Figure 16 to Figure 22 for supplements.

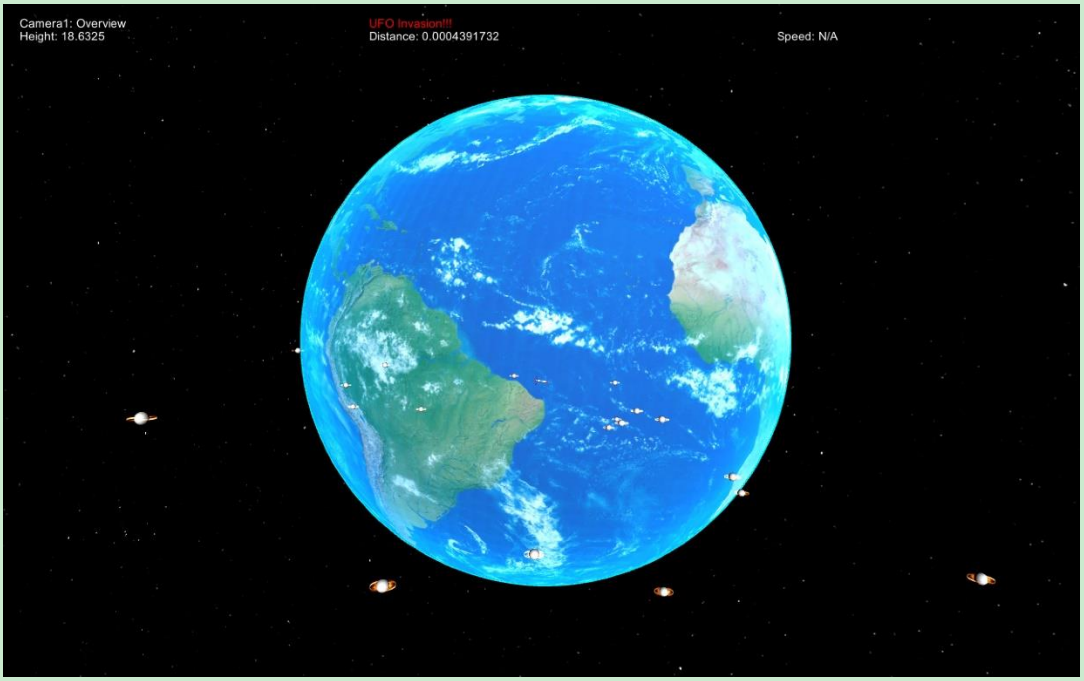

Figure 3. Overview

Figure 4. User View

Figure 5. Game Scene 1

Figure 6. Game Scene 2

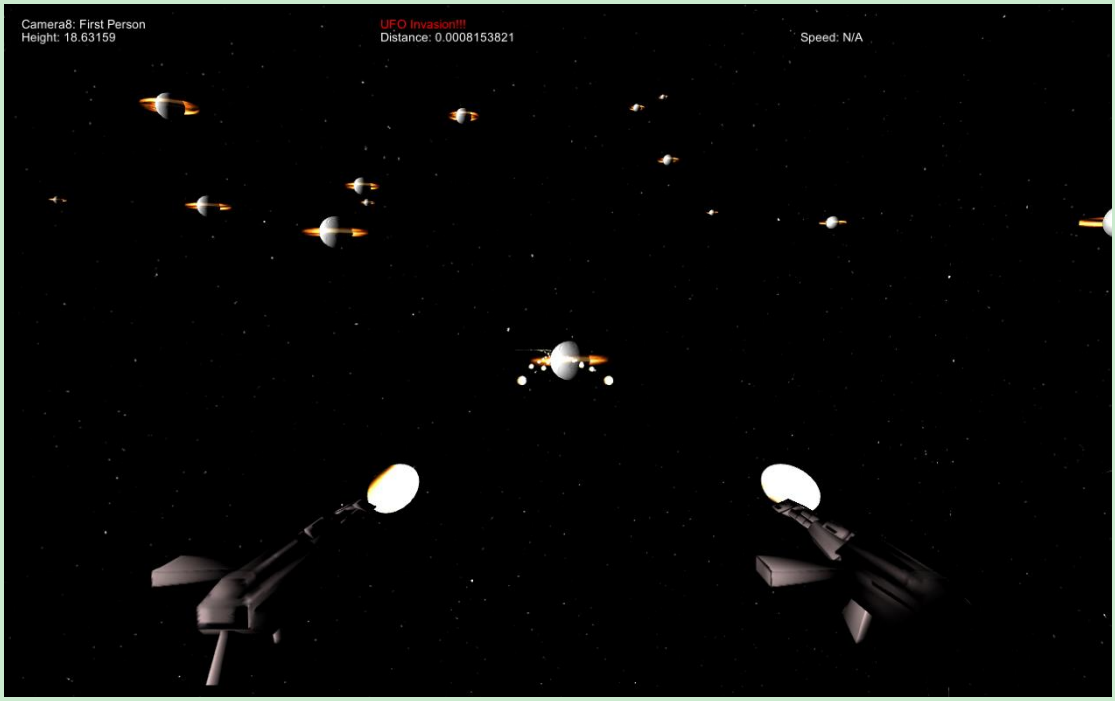

Figure 7. Game Scene 3

Figure 8. Game Scene 4

Figure 9. Game Scene 5

Figure 10. Game Scene 6

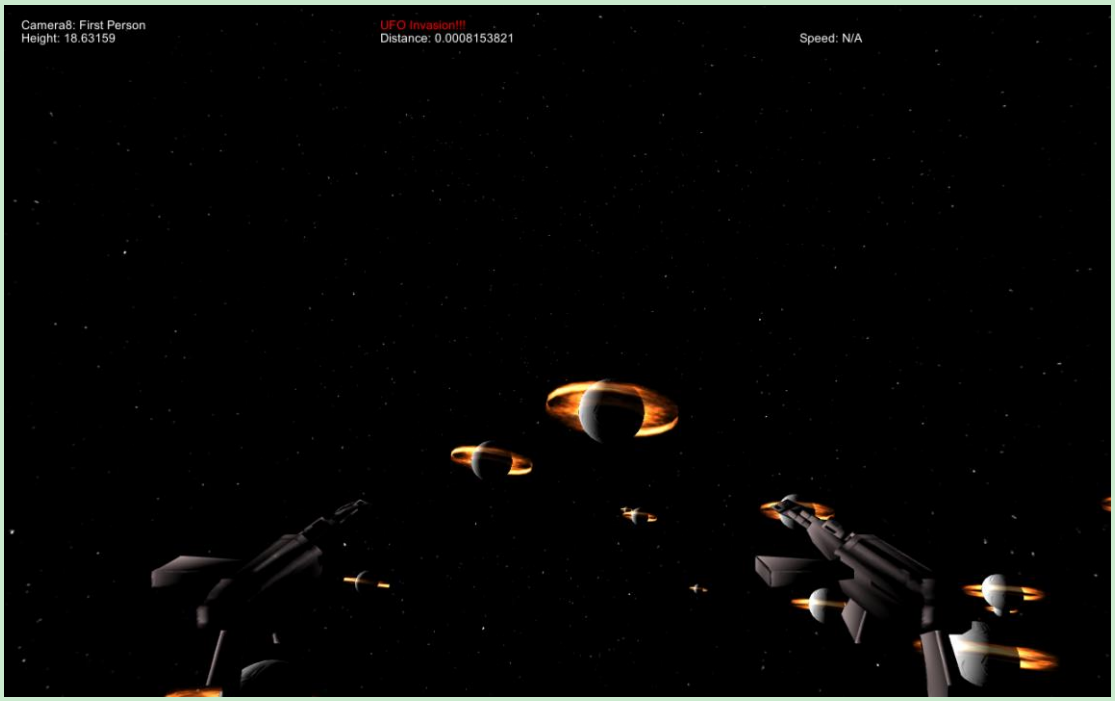

Figure 11. Game Scene 7

Figure 12. Game Scene 8

Figure 13. Game Scene 9

Figure 14. Game Scene 10

Figure 15. Game Scene 11

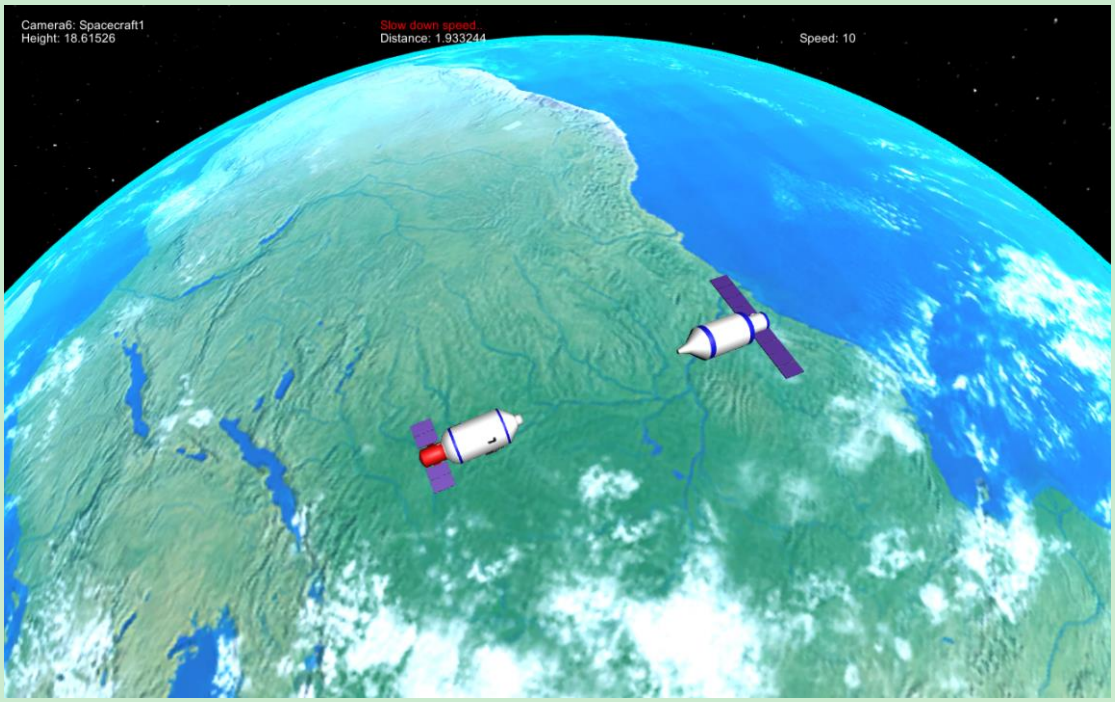

Figure 16. rendezvous and docking (RVD)

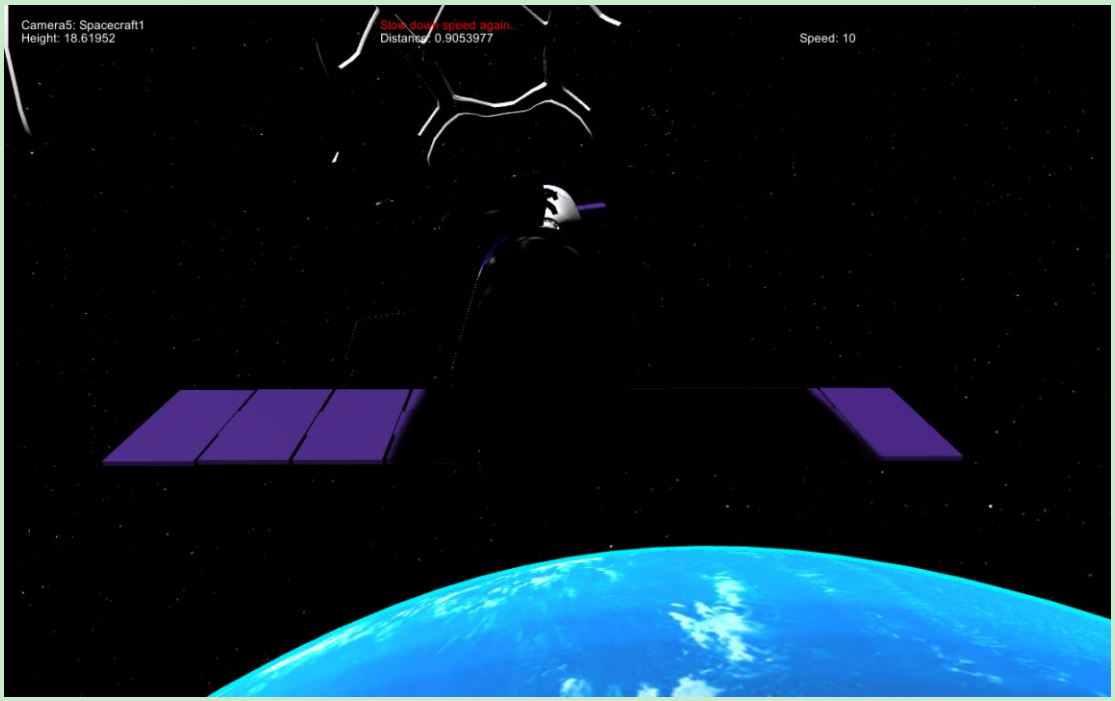

Figure 17. rendezvous and docking (RVD)

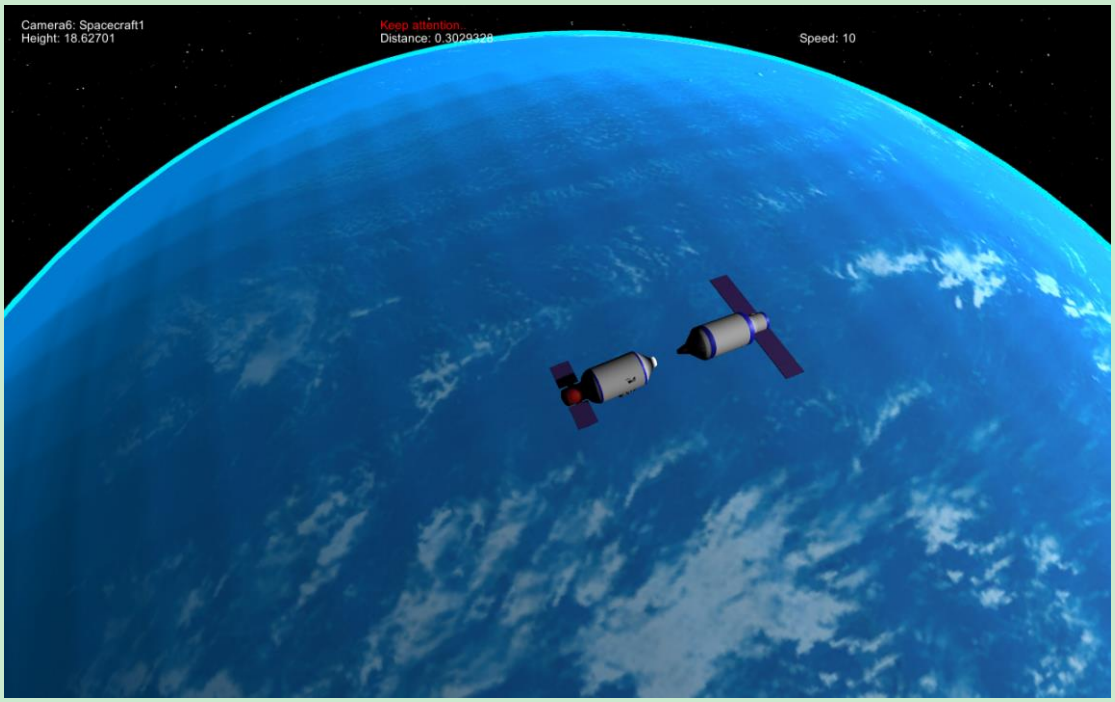

Figure 18. rendezvous and docking (RVD)

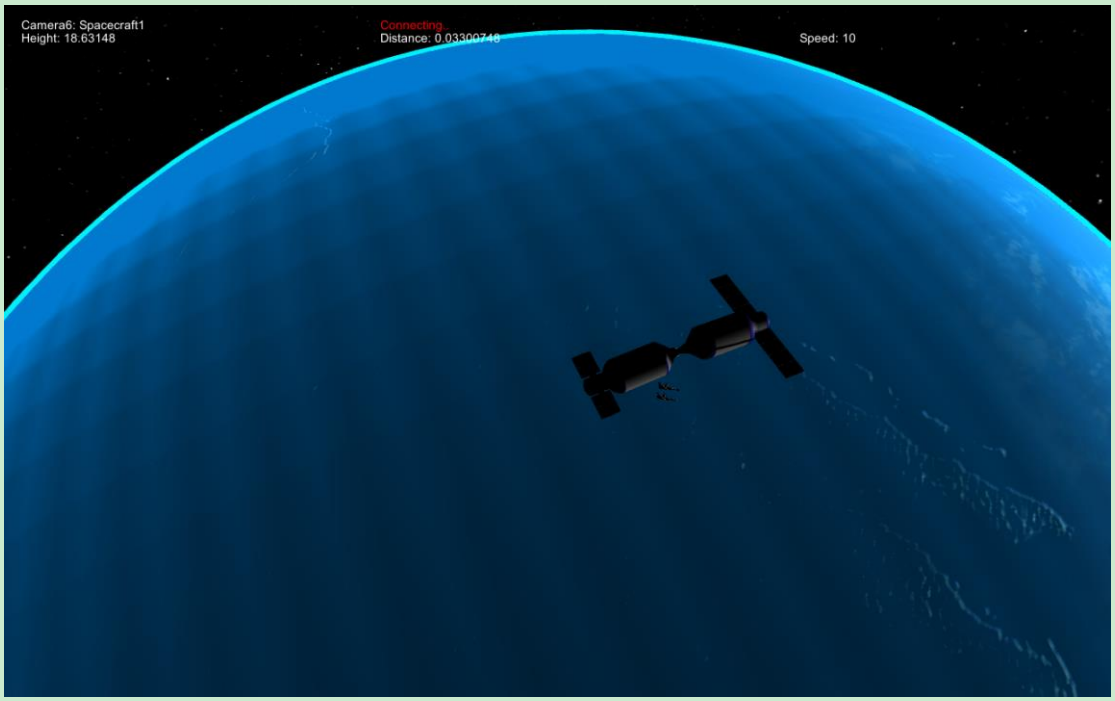

Figure 19. rendezvous and docking (RVD)

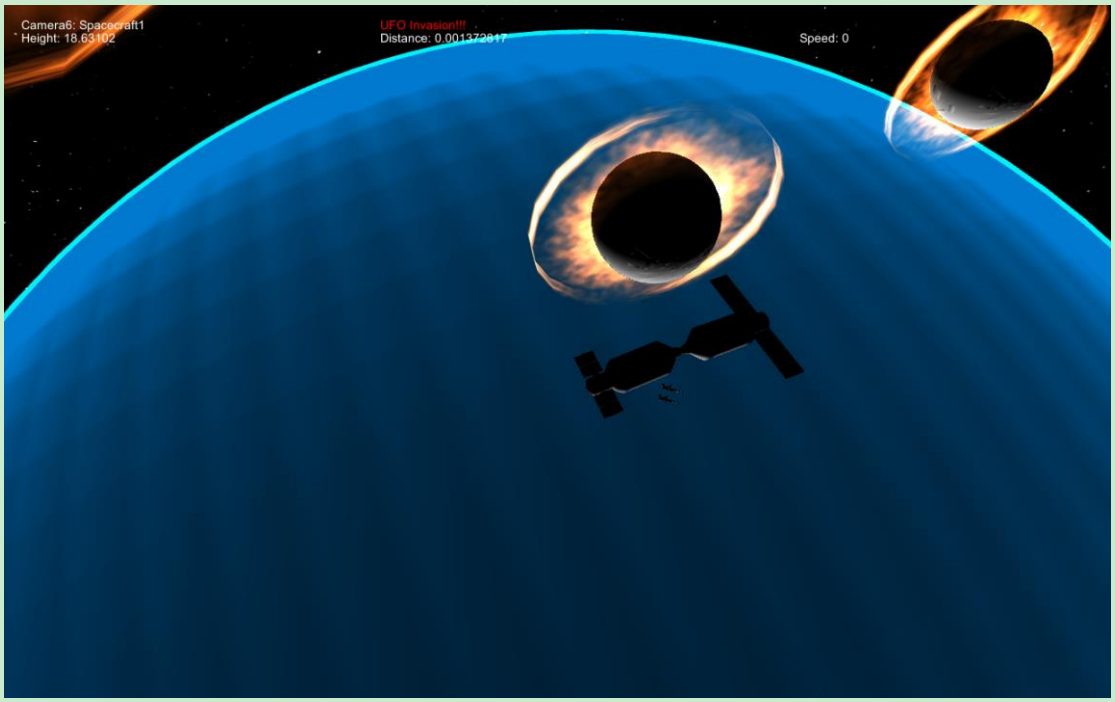

Figure 20. Spaceship & Enemy

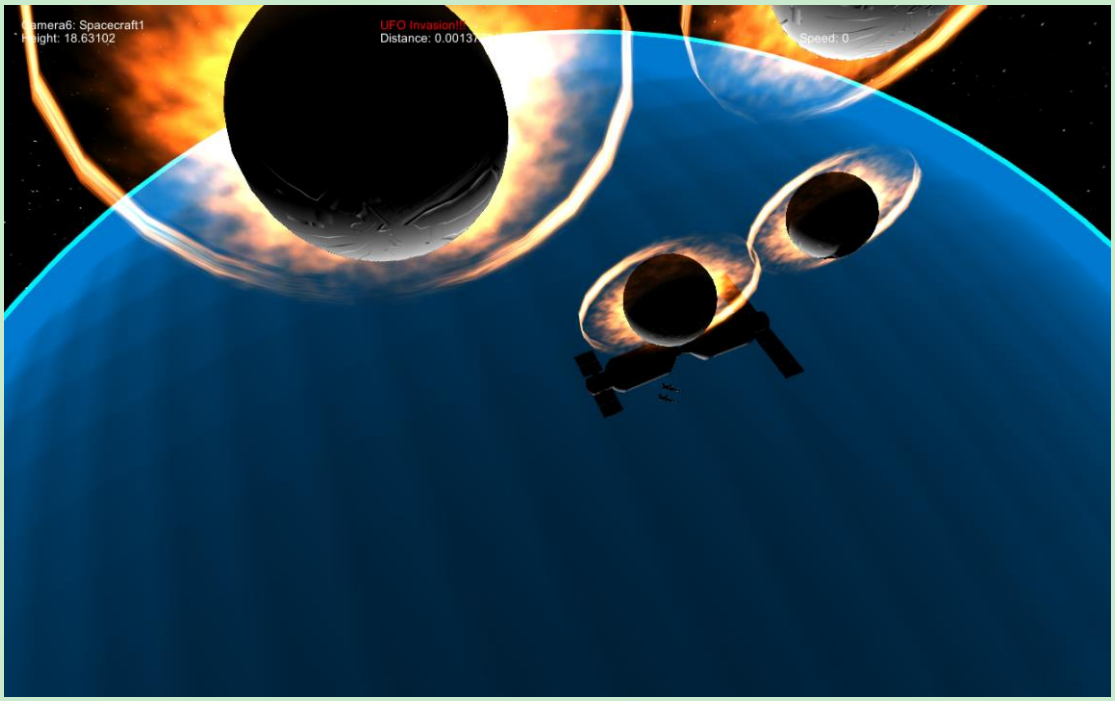

Figure 21. Enemy Approaching

Figure 22. Enemy Approaching