

Asteroid VR/AR project Questions and Answers

1. What software would you guys recommend or have seen on previous AR/VR projects in the past(I'm fairly confident with Unity but I was just curious)?

Most people I have talked to like Unity but I have a few who have worked with Unreal engine. I suggest you work with what you are most comfortable with right now.

2. What vehicles and/or handheld items should I implement into the software?

You can make your ship look like the Orion vehicle if you like and the first tools will just be hands in gloves. We can build off other things as you get further along.

3. What are the main/basic physics components I should build in to the program? What should I add on top of the Rigidbody Unity component?

I think the gravity coming from the center of the asteroid will be the first obstacle. I don't think that will be easy with either Unity or Unreal engine.

4. What extra features and capabilities would you like to see built into the program either for functionality or convenience?

I think starting with one big rock as the asteroid and eventually moving to many rocks as a group will be a good starting point.

5. I'm working on a C# script right now for the revolution of an asteroid. Doing some research, I found that asteroids do rotate on an axis but it can look really erratic due to their weak gravity and shape. Do you recommend that I allow the user to change the axis of revolution and revolve it around that or do you know of a more mathematical way to calculate an asteroid's axis of revolution.

You are correct. I would expect their rotation to look very erratic. You may also find there will be different rotation modes as related to the shape and also different rotational modes and even ways that it could have been bumped. We also expect that the faster it rotates, the more solid we expect it to be (otherwise the little rocks would be flying off). However, just because another asteroid is rotating less doesn't mean that it is less solid (it might be a very solid rock just not rotating much).

Letting the user choose the rotation is a good idea. My suggestion is to start with one large rock and then look for ways to increase the number of rocks that are being held together by their own gravity and see how they behave as the number of rocks increase. At first you might make all the rocks the same size and then later make them different sizes. This will effect the center of gravity as the rock sizes distribute differently in the asteroid. It will also effect the way it rotates and how much it rotates before it starts losing rocks.