Subject: Renegade Coordinates
Posted by TechnoBulldog on Thu, 05 Aug 2010 19:36:37 GMT
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Could anyone help me with Renegade coordinates? I have no clue what they're doing lol. I know Algebra 1, so I know what some of it is, but most of it is completely unknown to me. I'm working with creating objects, and it would be nice to know how to spawn them in the correct place. What I have looks something like this:

```
Vector3 pos = Commands->Get_Position(Get_GameObj(ID));
pos.X = pos.X + 12 * cos(Commands->Get_Facing(Get_GameObj(ID))) * (PI / 180);
pos.Y = pos.Y + 7 * sin(Commands->Get_Facing(Get_GameObj(ID))) * (PI / 180);
pos.Z = pos.Z + 3;
```

From what I can tell, the position starts off at the player's position. Then it edits the X and Y (which I assume to be the ground plane) and sets the Z to three higher than the player. I haven't figured out what it's editing the X and Y to. I realize that this is probably just stuff from math classes I haven't taken yet, but I would really like to know what it's doing if anyone can explain. Pictures make it even easier lol.

By the way, if anyone can tell what the above code is doing, it isn't working for me lol. It's causing vehicles to spawn above me and kill me haha.

Subject: Re: Renegade Coordinates
Posted by cnc95fan on Thu, 05 Aug 2010 21:41:40 GMT
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I havn't a clue about any of this sort of stuff but I'm guessing where you have position z being equal to 3 or more that will spawn it 3 meters above (and since the characters are 2meters tall AFAIK you get killed)

Subject: Re: Renegade Coordinates
Posted by TechnoBulldog on Thu, 05 Aug 2010 21:59:23 GMT
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cnc95fan wrote on Thu, 05 August 2010 16:41I havn't a clue about any of this sort of stuff but I'm guessing where you have position z being equal to 3 or more that will spawn it 3 meters above (and since the characters are 2meters tall AFAIK you get killed)
Yeah, I figured that much out.

Subject: Re: Renegade Coordinates

Posted by a000clown on Thu, 05 Aug 2010 23:21:20 GMT

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```
Vector3 Position = Commands->Get_Position(obj); //Gets position of an object
float Facing = Commands->Get_Facing(obj); //Gets facing of an object
Position.X += static_cast<float>(1.5*cos(Facing*(PI/180))); //Sets the previous position to be directly in front of the object
Position.Y += static_cast<float>(1.5*sin(Facing*(PI/180))); //^
Position.X += 0,Position.Y += 0,Position.Z += 0; //Depending on what you're spawning, you may want to manually change the position, so the object doesn't do something stupid like spawn partially in the ground/terrain
                                                  //Simply replace 0 where necessary, with however mugh change you feel is needed
                                                  //X is horizontal, increase to move right, or use a nagative number to move left
                                                  //Y is vertical, increase to move forward, or use a nagative number to move backward
                                                  //Z is height, increase to move up, or use a nagative number to move down
GameObject *Buggy = Commands->Create_Object("CnC_Nod_Buggy",Position); //Spawn your new object with the newly set Position (note: it's been a long time, not sure if that's the correct preset for a buggy)
Commands->Set_Facing(Buggy,Facing); //Set the facing of this new object to match the facing of the original object
```

I noticed you're on the nite-serv IRC, if you need anymore help you can PM me there (I'm usually under the nick Mike)

Subject: Re: Renegade Coordinates

Posted by TechnoBulldog on Fri, 06 Aug 2010 12:58:23 GMT

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I think I have it working, but I would greatly appreciate to know what it was doing. Can anyone explain exactly what it's doing?

Anyways, thanks Mike for the help with that.

Subject: Re: Renegade Coordinates

Posted by BlueThen on Sat, 07 Aug 2010 15:43:39 GMT

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The one in your quote looks a little broken, TechnoBulldog.

From what I can tell, Commands->Get_Facing(obj) gets the angle of which an object is facing in degrees. (Commands->Get_Position(obj) is self explanatory).

In the equations

```
Position.X += static_cast<float>(1.5*cos(Facing*(PI/180)));
Position.Y += static_cast<float>(1.5*sin(Facing*(PI/180)));
```

we're pretty much taking Facing, and converting it to Radians (multiplying by PI/180). We convert it to Radians because cosine and sine are both built to handle values between 0 and 2*PI, or -PI and PI, whichever you prefer. Radians just take the range of values from 0-360 and maps it to 0-2PI.

Cosine and Sine both return values between -1 and 1, which makes it simple for us to change the distance at which our object is plotted. Multiplying 1.5 to these 2 values puts our objected 1.5 units from the center. Then, after finding out the coordinates where the position should be from the origin, we translate it by Position.X and Position.Y by adding this value to them.

So all what this does is take our coordinate Position and moves it 1.5 units towards an angle (Facing).

I said that the formula in your message looks broken because you have the * (PI / 180) outside of the trig functions, when they should be inside.

After getting this position, you can spawn your object and face it towards/away/perpendicular to the initial Position, all in a000clown's post.

Edit: I'm also on Nite-Serv. You can ask me for help on the math part, but I don't really know Renegade's API as much as Mike does.