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Subject: distance between two objects c++

Posted by [reborn](#) on Thu, 08 Jul 2010 11:37:02 GMT

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Someone asked me about setting a conditional that checked whether the distance between two objects was lower than 40 metres. They asked me privately and for it in LUA, but I prefer this in the public domain, there could be others that have the same question or maybe someone else might have something useful to add...

Besides, they also said they would of posted the question in another forum that is public, so go figure? Fucking leachers!

I do not know how to write this in LUA, but here it is in C++:

//obj1 and obj2 are the Two GameObject's you're comparing.

```
float Dist;
Vector3 pos1, pos2;
pos1 = Commands->Get_Position(obj1);
pos2 = Commands->Get_Position(obj2);
Dist = Commands->Get_Distance(pos1, pos2);
if(Dist <= 40.0f){ // If the distance is less than 40 metres
// do something
}
else{ // Distance is greater than 40 metres
// do nothing?
}
```

or:

```
float Dist =
Commands->Get_Distance(Commands->Get_Position(obj1),Commands->Get_Position(obj2));
if(Dist <= 40.0f){ // If the distance is less than 40 metres
// do something
}
else{ // Distance is greater than 40 metres
// do nothing?
}
```

or:

```
if((Commands->Get_Distance(Commands->Get_Position(obj1),Commands->Get_Position(obj2)))
<= 40.0f){ // If the distance is less than 40 metres
// do something
}
```

All of the above should work (not tested), but each show you basically the same thing using less lines.

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Subject: Re: distance between two objects c++  
Posted by [Ephphatha](#) on Thu, 08 Jul 2010 14:41:02 GMT  
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For those interested in the math, the distance between two points is the magnitude of the vector from point A to point B.

Taking the first example, the distance between obj1 and obj2 would be calculated:

```
Vector3 pos1, pos2;  
pos1 = Commands->Get_Position(obj1);  
pos2 = Commands->Get_Position(obj2);
```

```
Vector3 gap = pos1 - pos2; //Doesn't matter which order the subtraction is in.  
float dist = gap.length(); //Where length() returns the magnitude of the vector (is this in the sdk?)
```

And the magnitude is calculated by taking the square root of the sum of the square of each element.

```
class Vector3  
{  
public:  
    float x, y, z;  
  
    float length()  
    {  
        return sqrt(x*x + y*y + z*z);  
    }  
}
```

So if there is no length() or equivalent function, you can still get the distance if you have access to each element of the vector.

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Subject: Re: distance between two objects c++  
Posted by [T0tNI](#) on Thu, 08 Jul 2010 16:07:53 GMT  
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Sounds good.

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Subject: Re: distance between two objects c++  
Posted by [reborn](#) on Thu, 08 Jul 2010 16:10:19 GMT  
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KaTaNa wrote on Thu, 08 July 2010 12:07It's sort of hard to explain what I'm looking for, I'm wondering how can you set ob1 and ob2 to be the gameobj's you want. Eg:  
How can I get obj1 to be the player that executed the command, and ob2 to be a defense or powerup or something that is bought from the command.

It's hard 2 explain this. Ob1 and Obj2 to me are undefined, so I don't know how it'll calculate the distance between a player and another object(in my case)

KaTaNa wrote on Thu, 08 July 2010 12:03Thank you for without consent posting it, Now I know I shouldn't ask you for help.

So you want help or not?

Actually, fuck you.

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Subject: Re: distance between two objects c++  
Posted by [renalpha](#) on Thu, 08 Jul 2010 16:26:26 GMT  
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How do you define obj1 and 2? on spawn or such?

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Subject: Re: distance between two objects c++  
Posted by [T0tNI](#) on Thu, 08 Jul 2010 16:50:52 GMT  
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[quote title=renalpha wrote on Fri, 09 July 2010 02:26]How do you define obj1 and 2?quote]

This.

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Subject: Re: distance between two objects c++  
Posted by [Sladewill](#) on Thu, 08 Jul 2010 16:53:20 GMT  
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Katana i suggest you say sorry to reborn, he is only trying to help you and everyone in this community. If you are looking for future assistance, he wont help.

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Subject: Re: distance between two objects c++  
Posted by [T0tNI](#) on Thu, 08 Jul 2010 16:56:52 GMT  
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Can anyone offer some real support and stay on topic?

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Subject: Re: distance between two objects c++  
Posted by [Tupolev TU-95 Bear](#) on Thu, 08 Jul 2010 17:00:23 GMT  
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KaTaNa wrote on Thu, 08 July 2010 17:56Can anyone offer some real support and stay on topic?  
Actually, reborn has been nothing but a big help in the forums and this is his thanks?  
The only support is reborn.

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Subject: Re: distance between two objects c++  
Posted by [T0tNI](#) on Thu, 08 Jul 2010 17:05:49 GMT  
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Phase-transport wrote on Thu, 08 July 2010 12:00KaTaNa wrote on Thu, 08 July 2010 17:56Can anyone offer some real support and stay on topic?  
Actually, reborn has been nothing but a big help in the forums and this is his thanks?  
The only support is reborn.

I don't need to thank anyone here, it is out of his own free will at heart to help not on a condition of saying thanks or whatever. I kindly do ask someone please help with the issue so I can get it resolved and move on

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Subject: Re: distance between two objects c++  
Posted by [saberhawk](#) on Thu, 08 Jul 2010 18:38:36 GMT  
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KaTaNa wrote on Thu, 08 July 2010 13:05Phase-transport wrote on Thu, 08 July 2010 12:00KaTaNa wrote on Thu, 08 July 2010 17:56Can anyone offer some real support and stay on topic?  
Actually, reborn has been nothing but a big help in the forums and this is his thanks?  
The only support is reborn.

I don't need to thank anyone here, it is out of his own free will at heart to help not on a condition of saying thanks or whatever. I kindly do ask someone please help with the issue so I can get it resolved and move on

Sure, take a look at the source code available inside the scripts.dll package. I am positive that there are hundreds of examples of getting a GameObject\* via various means...

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Subject: Re: distance between two objects c++  
Posted by [Hypnos](#) on Fri, 09 Jul 2010 00:44:05 GMT  
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Way to be a prick about it, he was only trying to help...

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Subject: Re: distance between two objects c++  
Posted by [CarrierII](#) on Fri, 09 Jul 2010 05:26:36 GMT  
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Reborn! You asshole! How dare you help people by posting clear information in the public domain! We must conceal everything!

EVERYTHING!

For further interest still, the mathematical theorem used is Pythagoras' Theorem.

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Subject: Re: distance between two objects c++  
Posted by [cAmpa](#) on Fri, 09 Jul 2010 07:07:36 GMT  
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I say 30ban for reborn, for being helpful.

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Subject: Re: distance between two objects c++  
Posted by [saberhawk](#) on Fri, 09 Jul 2010 09:01:16 GMT  
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Also, a rather useful optimization when you don't need the exact length (like if you are comparing distances) is to use the squared length instead of the actual length. By doing so you can avoid the square root operation which is rather expensive.

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Subject: Re: distance between two objects c++  
Posted by [danpaul88](#) on Fri, 09 Jul 2010 09:16:54 GMT  
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Here's a novel idea, why not explain the context of your request. Are you trying to get the distance in a script, in which case you can use the GameObject pointers passed to the script as parameters, or are you using some sort of hooks or what?

Also, if your getting the distance between two game objects quite a lot in your code it might be worth adding a function to do it to improve your code readability. Personally I never understood

why something like this was NOT in scripts.dll....

```
float Get_Distance ( GameObject* obj1, GameObject* obj2 )
{
    // Gets distance between two objects
    return Commands->Get_Distance ( Commands->Get_Position ( obj1 ),
    Commands->Get_Position ( obj2 ) );
}
```

Might also be useful to have

```
float Get_Distance ( GameObject* obj, Vector3 pos )
{
    // Gets distance object and position
    return Commands->Get_Distance ( Commands->Get_Position ( obj ), pos );
}
```

To get the distance between a GameObject and an arbitrary position.

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Subject: Re: distance between two objects c++  
Posted by [Goztow](#) on Fri, 09 Jul 2010 19:29:51 GMT  
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Reborn, may I suggest you take out the private stuff out of your posts? I Understood the person who sent them to you prefers them to stay private and they aren't really needed for the code?

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Subject: Re: distance between two objects c++  
Posted by [Sladewill](#) on Fri, 09 Jul 2010 21:07:58 GMT  
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but reborn posting this code enables it to help other members which may be asking the same question.

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Subject: Re: distance between two objects c++  
Posted by [Omar007](#) on Fri, 09 Jul 2010 22:50:46 GMT  
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Goztow means he should've left the PM quote out

IDK why KaTaNa wouldnt want to ask it in public though

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