

Problem Statement

I want to create a two dimensional wave movement so that two game objects move along the y axis at the same time.

Formula

$$\frac{\partial^2 y}{\partial x^2} = \frac{1}{v^2} \frac{\partial^2 y}{\partial t^2}$$

Solution

Here is the UnityScript that uses the above formula:

```
var Speed = 1;
var Amplitude = 1;
var TargetPos : Vector3;

function Update ()
{
    transform.position.y = Mathf.Sin((Mathf.Sqrt((TargetPos.x-transform.position.x)*(TargetPos.x-
transform.position.x) + (TargetPos.z-transform.position.z)*(TargetPos.z
transform.position.z)))*Speed) * Amplitude;
}
```

Notes

While it does move the two game objects down the y axis, it doesn't do so in a manner I wanted it to and I truly couldn't find a way solution to that problem unfortunately. Converting a formula into a unity code proved to be very difficult so to assist me with doing it, I used the below links which is also where I found the correct code which I don't take credit for.

http://galileo.phys.virginia.edu/classes/152.mf1i.spring02/Waves2D_3D.html

<http://answers.unity3d.com/questions/266592/implement-the-equation-as-a-code.html>