

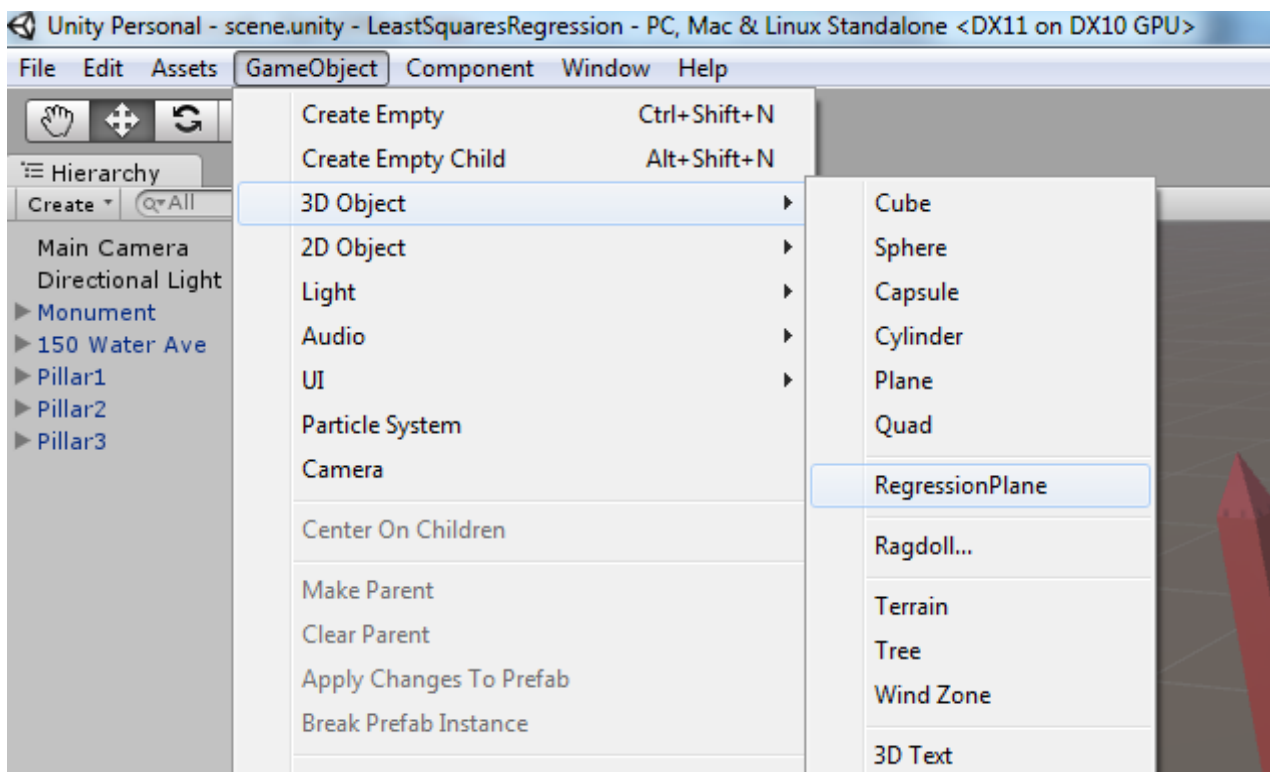
Least Squares Regression

With this Unity Editor extension , you can see the plane that best fits amongst a given list of objects' positions .

What you have to do ,is to add a 3D Object (***RegressionPlane***) and select the list of points in the Regression Plane component's '*Objects*' property.

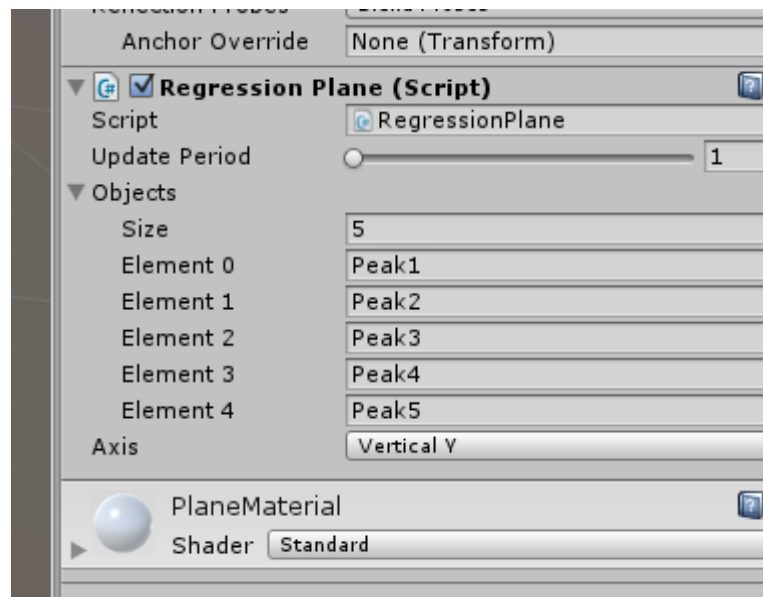
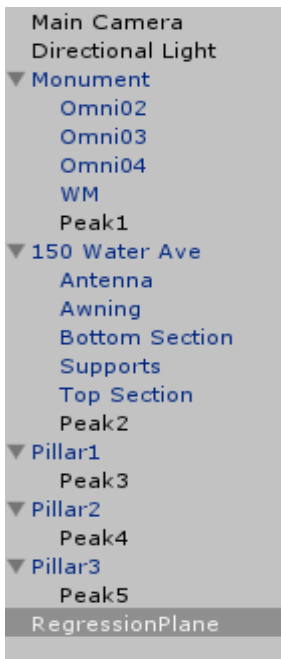
Step 1 :

Add a RegressionPlane game object :



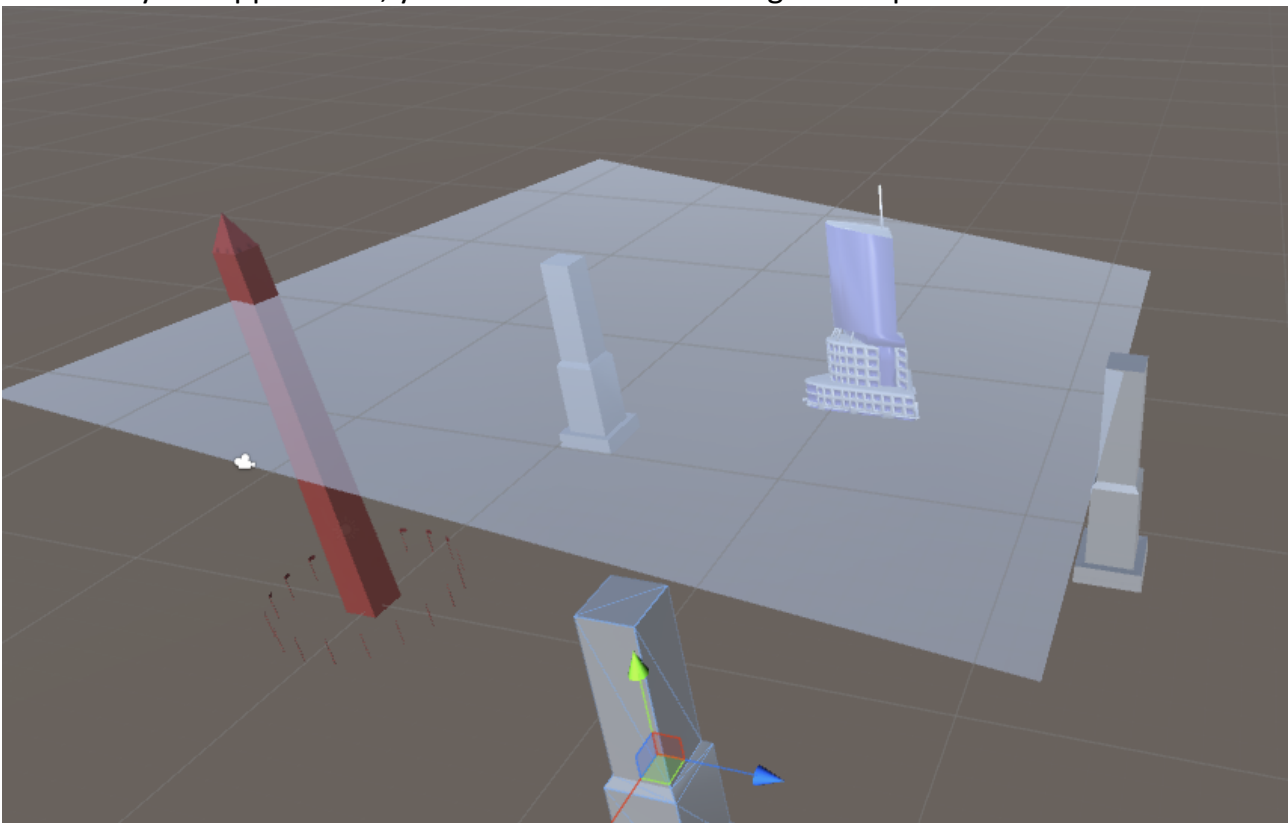
Step 2:

Select the game objects,whose positions are used as the list of 3d points in calculating the regression plane.



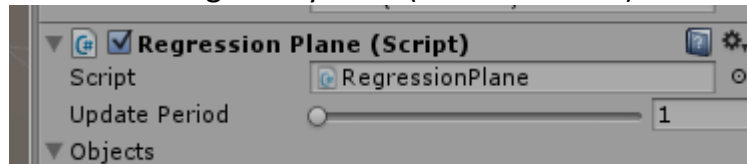
Step 3:

Play the application , you should now see the regression plane.



Step 4:

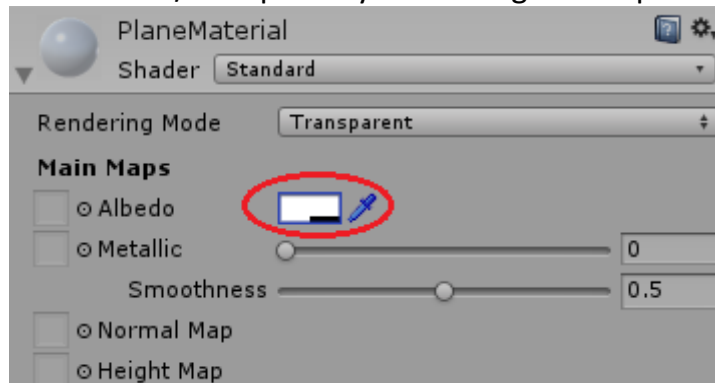
Move the objects around, add more object or remove objects. The regression plane updates in the ammount of time given by slider(default is 1sec):



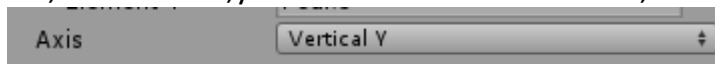
Its range is 1-5 sec(however in code ,it can be selected any other range).

Step 5:

Choose a different colour/transparency for the regression plane :



The default axis ,is the Y axis ,you can choose another axis ,in the below picture:



However , keep in mind that the selected *axis* makes sense only for an appropriate placement of the selected positions .

In the above example ,to better understand the use of this package , the peaks of the given buildings ,are the points for which the regression plane is calculated . So what we are looking for, is the plane that best fits amongst the heights of some buildings.

The use of the regression plane shouldn't be limited to spatial parameters , the X,Y,Z axis, in our case can be anything (X could be the time(the year) , Z could be the currency of some country in relation to *usd* , and Y could be the price of some product).

The regression plane is just a 3d generalization of the famous 2d regression line.