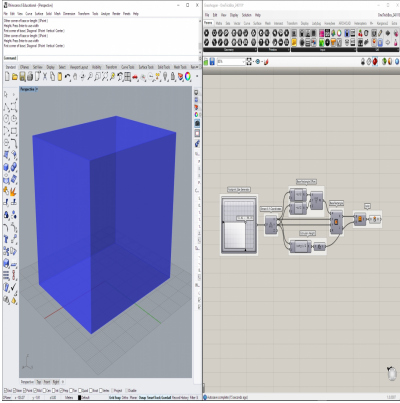




Rhino3D Grasshopper: MD Slider for Scalable Box

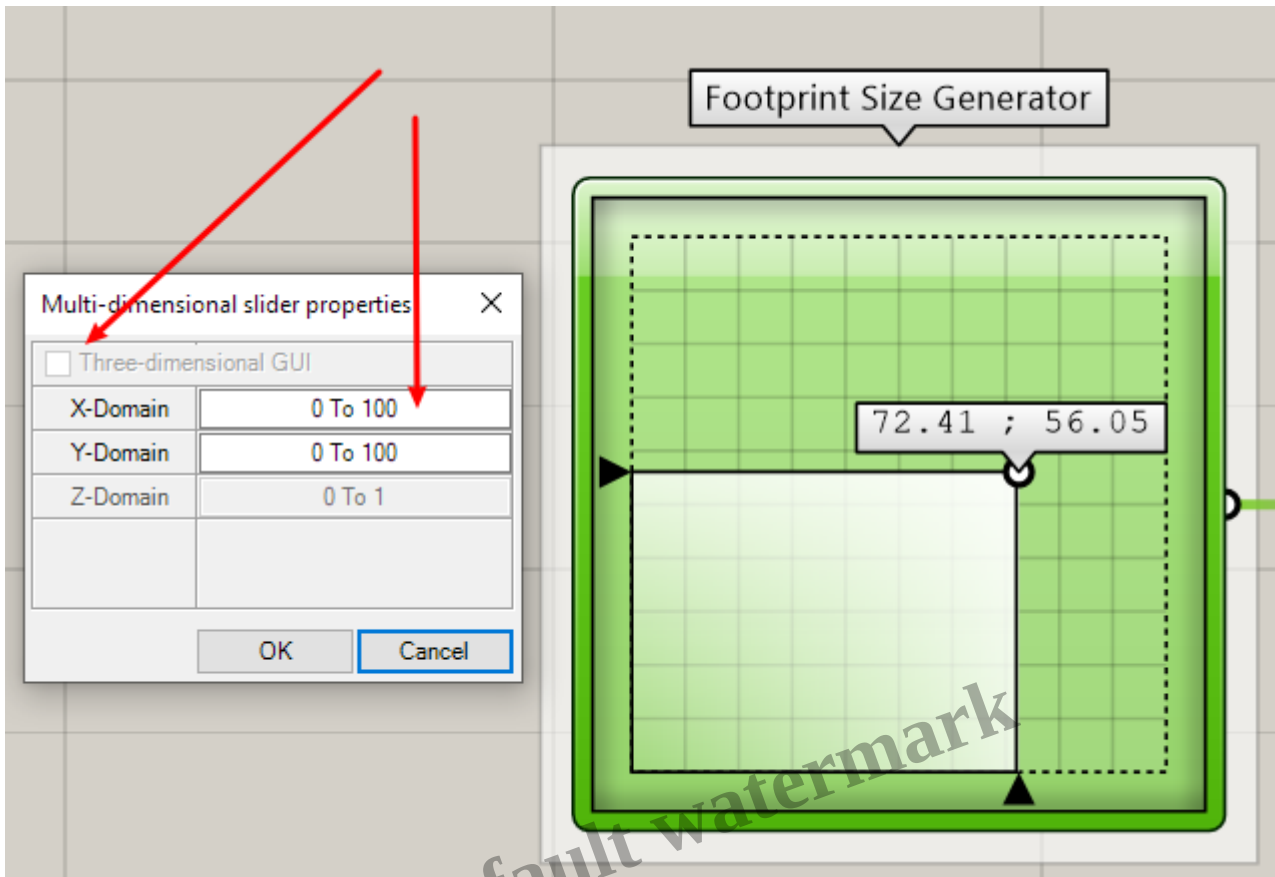
Description

In Rhino3D Grasshopper, I just discovered the *MD Slider* and wanted to utilize its 2-Dimension input for producing a scalable 3D-Box.

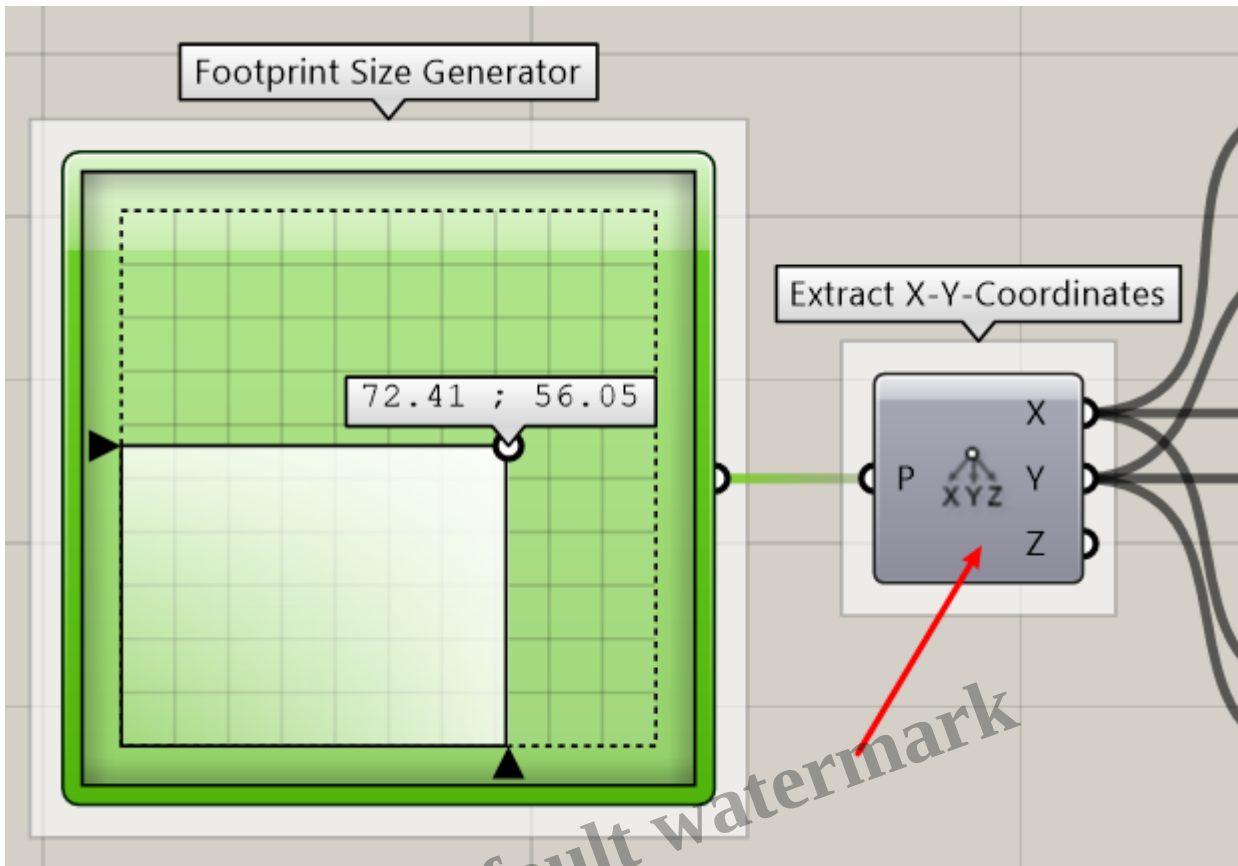
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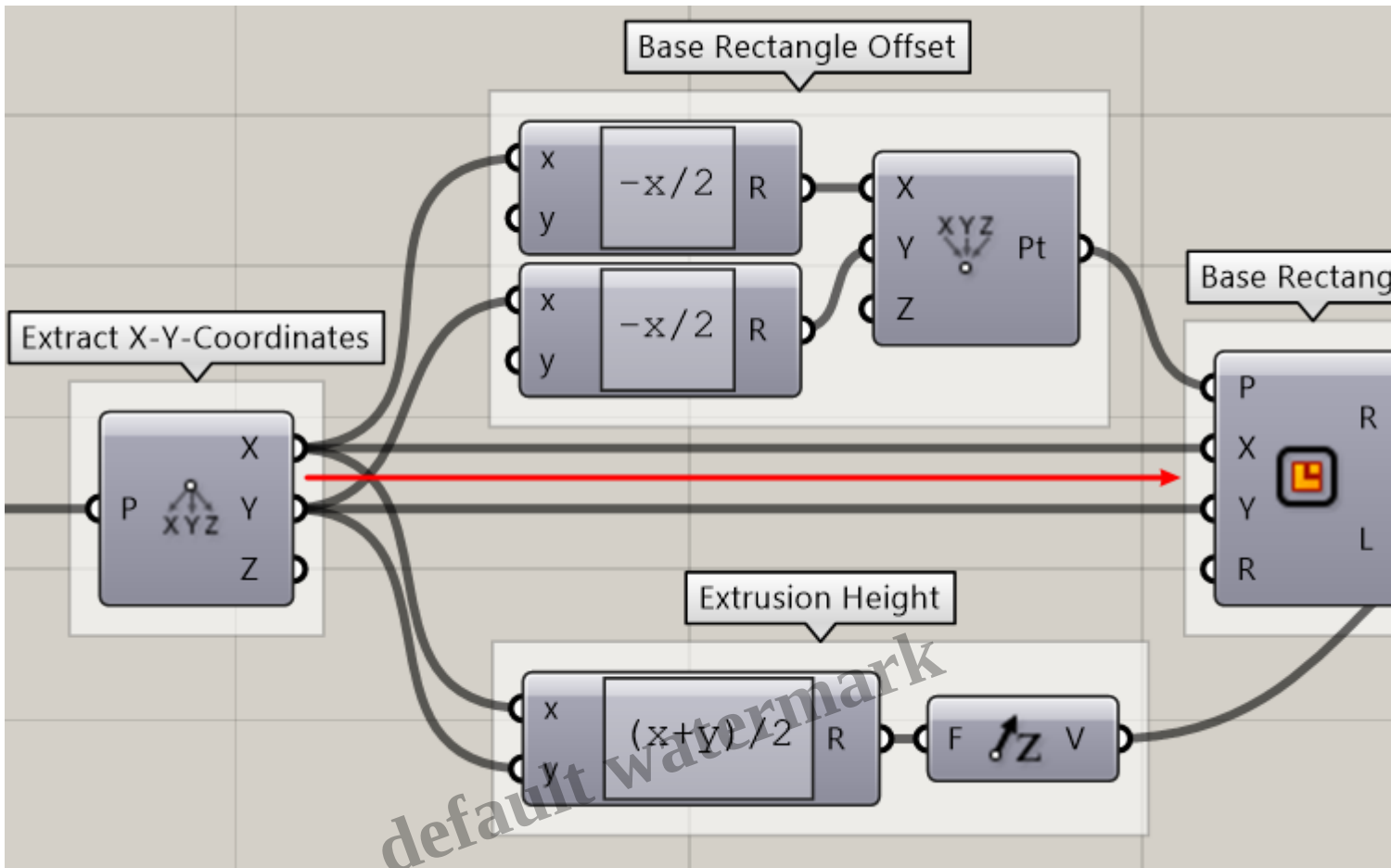
The *MD Slider* allows for setting up a domain in X- and Y-direction (just double-click the input parameter icon). Other than its name and the settings suggest a Z-domain can't be set:



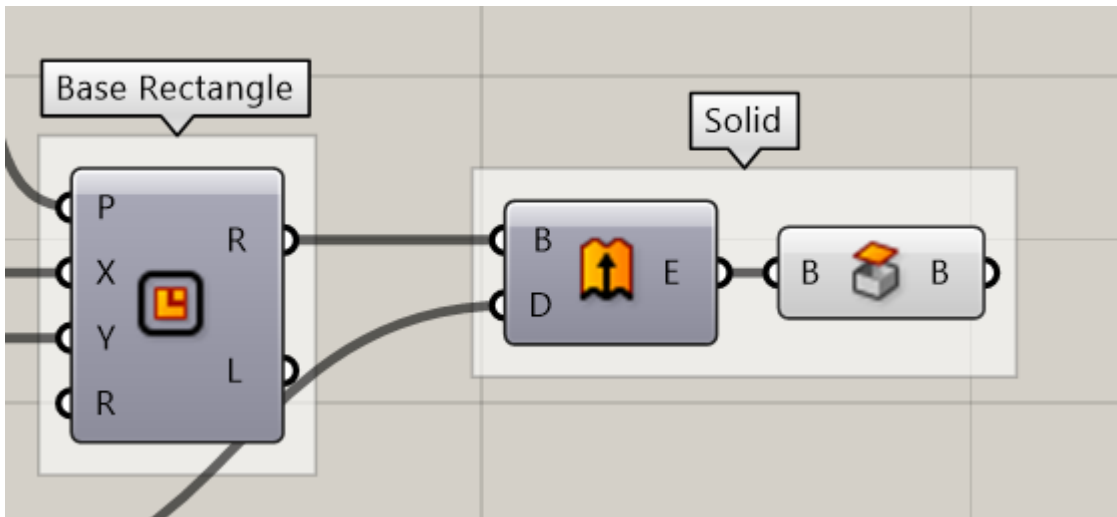
To produce a box I had to extract X and Y via *Deconstruct Point ...*



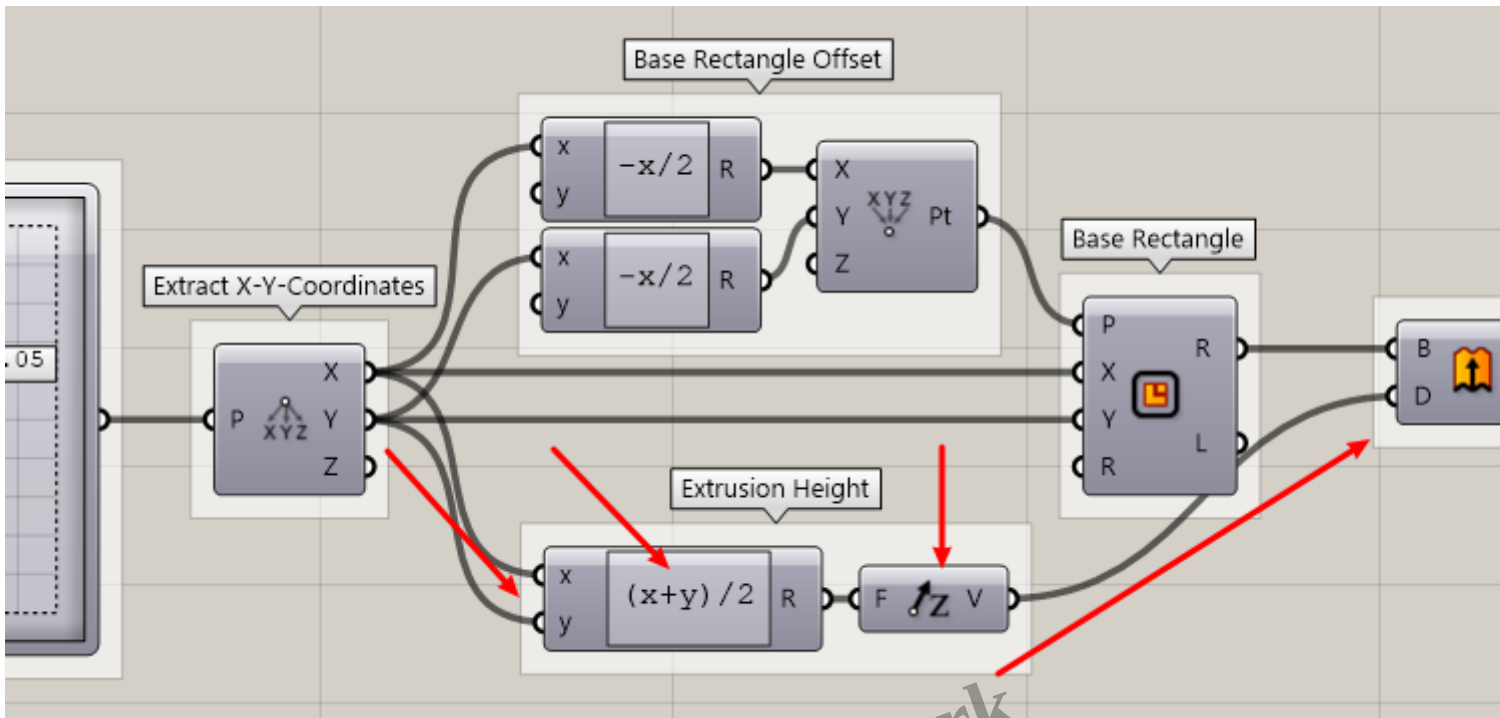
... and feed X- and Y- outputs into the corresponding inputs of a *Rectangle* component:



The rectangle turns 3D via *Extrude* and *Cap Holes*:



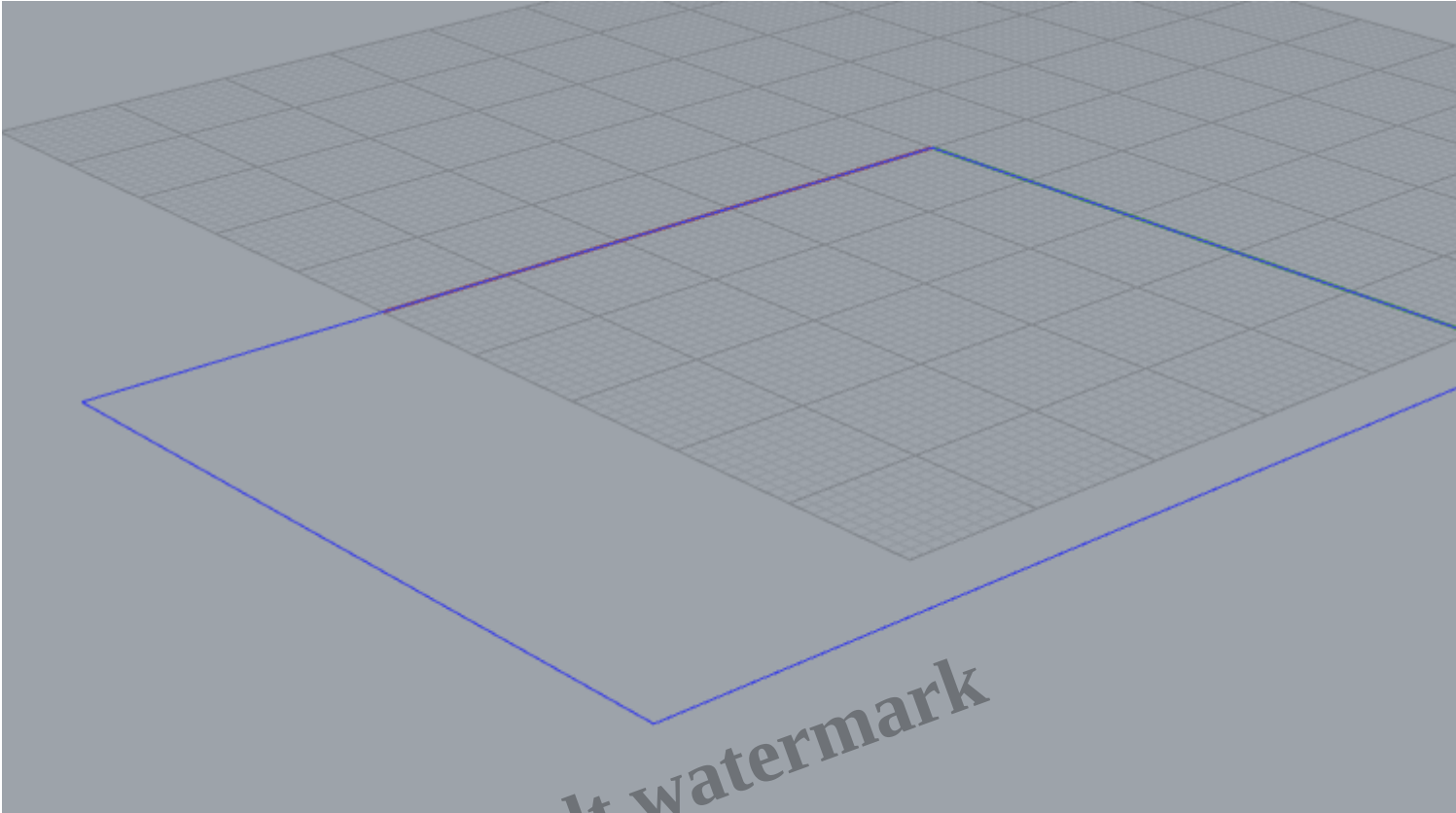
But of course, *Extrude* needs a *Direction* input. I used *Unit Z* (obviously) using half the sum of *MD Slider's X-* and *Y-* output as *Factor* input:



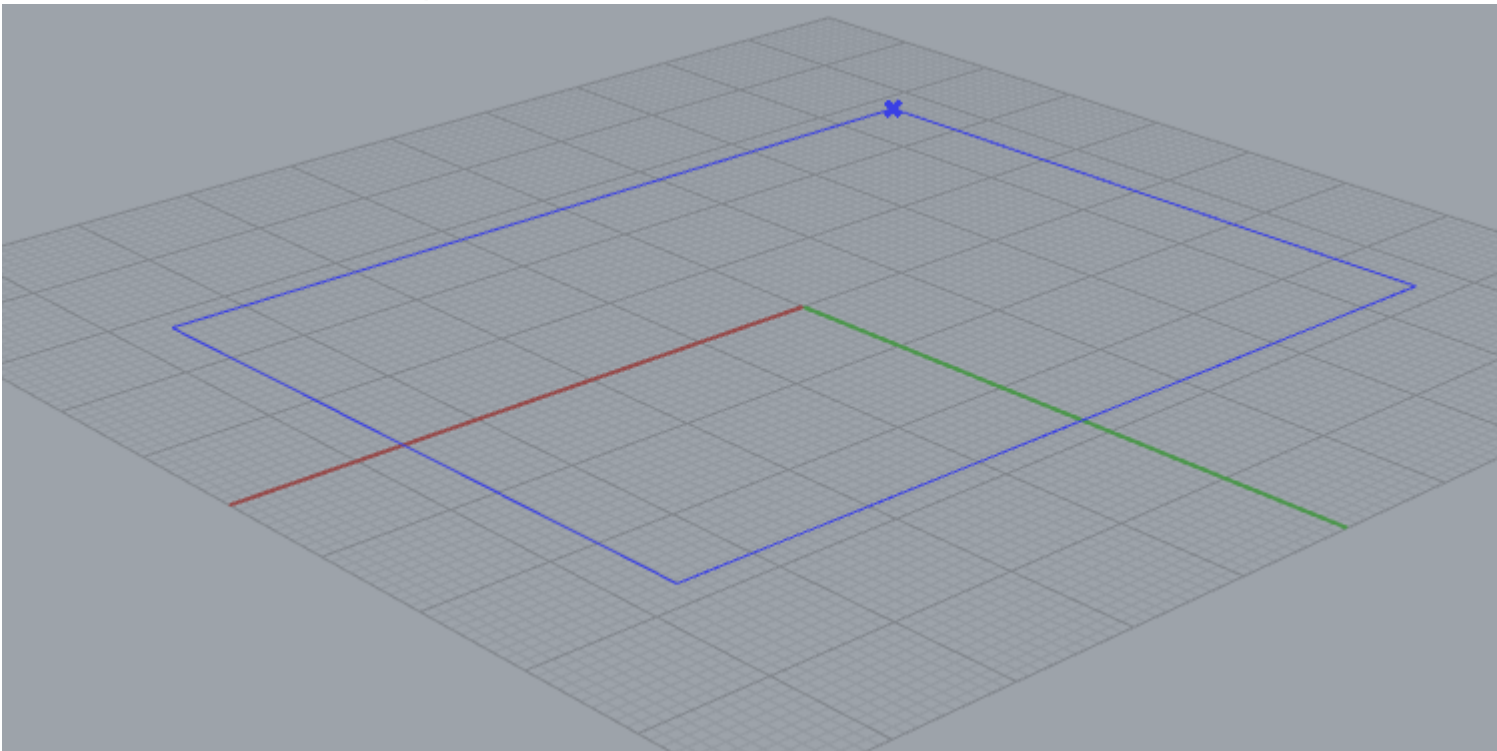
As you can see I made use of an *Expression* component which I find convenient often times.

Now basically everything is done. But I wanted to offset my base rectangle so it centers around point(0,0,0). *Rectangle's Plane* input is by default set to XY which is fine. But it offsets the rectangle from point(0,0,0) in positive X- and Y- direction.

To center the rectangle around point(0,0,0) I made use of the fact that *Rectangle's Plane* input allows for point coordinates. These define the rectangle's starting corner point. So all I had to do was to take *MD Slider's* X and Y outputs, offset them by half their value and feed these results into a *Construct Point* component. So starting from here ...



... I added my little offset definition.



That's it – moving the *MD Slider* now let's you scale the resulting box in all dimensions.

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Grasshopper-ARCHICAD-connection: See [here](#) for more information.

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Category

1. Rhino/Grasshopper

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1. Parametric Modeling

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