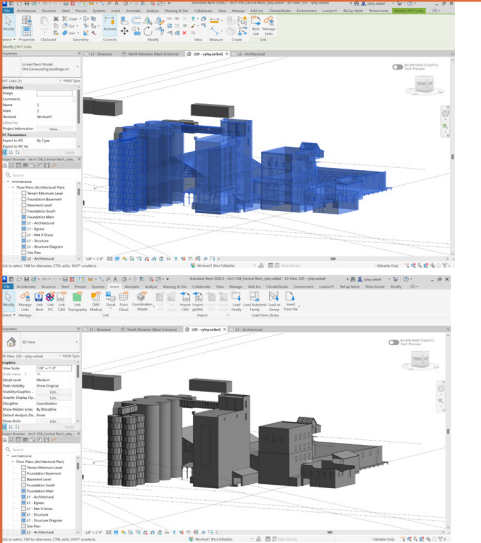


ASSIGN 2

02 LINKING SOFTWARE | RHINO INSIDE

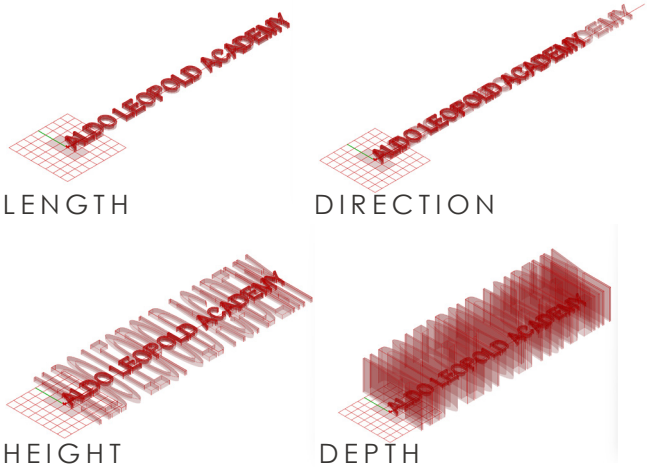
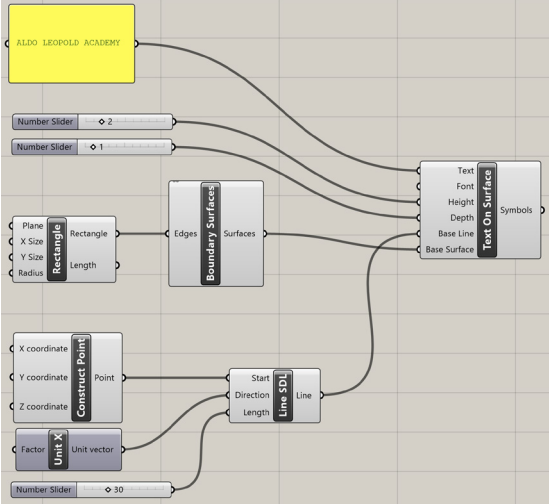
IMPORT 3DM



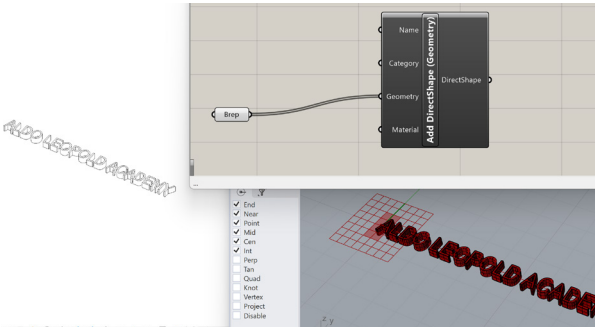
The import 3DM is the first way I experimented with inserting a rhino project into revit. This is a great process for pre-existing designs. I used this process to put my adjacent buildings into my central revit project. The buildings were already existing I just needed a way to get them in.

The rhino Inside allows for flexibility and back and forth control. Push and pull, there is more possibility through this process. More room for parametric designs or iterations. I see lots of possibility in this process. Even in something as simple as exploring iteration of the Sign I want to put on the facade, It was much easier to write this simple script with addition, then to trace out each shape in revit.

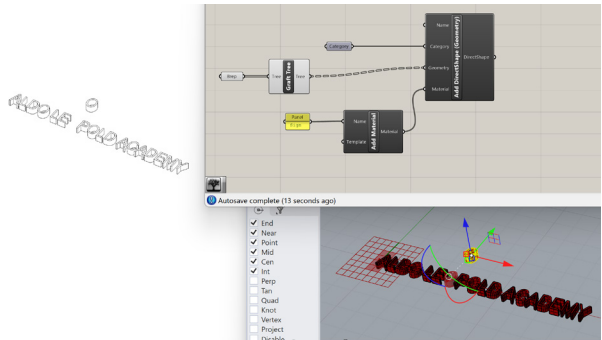
PARAMETRIC WORDS



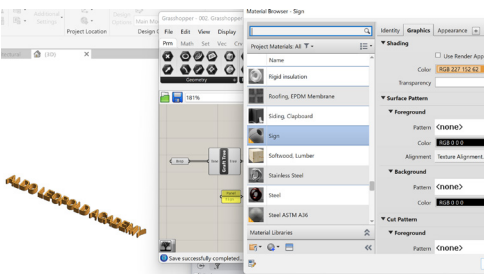
Bake the Final choosing of the parametric words script from grasshopper. Use this baked extrusion to be the input for a new script that will send it to revit.



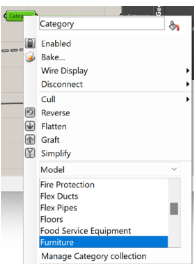
Move into Revit



Allow Movement of Individuals



With material categorization in grasshopper it is easily toggled in revit



Categorize type in grasshopper with "category" right click

MODEL CREATION IN GRASSHOPPER/ REVIT

Text Input and Sliders: Text panel provides the text string, while two number sliders control the text height and depth (extrusion thickness). These make the text size adjustable.

Base Surface Setup: A Rectangle component defines the area where the text will sit, and the Boundary Surfaces component converts that rectangle into a surface. Changing the X and Y size values updates the text base.

Baseline Creation: A Construct Point and Line SDL component generate a start point and line for text placement. The Unit X vector defines the direction, and a length slider controls how far the text spreads along that line.

Text on Surface: The Text on Surface component takes all these inputs, text string, font, height, depth, baseline, and surface, and projects or extrudes the text parametrically onto the surface.

In essence, this setup is parametric because changing any of the number sliders (for text size, surface dimensions, or line length) instantly updates the text geometry.

DATA EXCHANGE WITH REVIT

This script sends the baked 3D sign geometry from Rhino to Revit using Rhino.Inside. The Brep input brings in the geometry, which is then grafted so each piece/letter is treated separately. The Add Material component creates a "Sign" material, while the Category defines its Revit family type (like Generic Models). Finally, Add DirectShape imports the geometry into Revit with the assigned material and category. It stays parametric because any updates to the original Grasshopper model can be re-baked and instantly pushed to Revit.

My first script creates and parametrically controls the sign geometry; the second one transfers that geometry into Revit, complete with category and material definitions, through the Add DirectShape workflow.