



Revit Butterfly V 0.1

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Introduction

Butterfly helps you to create astonishing diagrams with few mouse clicks! Butterfly creates 3D generic models out of the room elements in your project. You can then transfer any parameter from the room elements to 3D generic models and using the values of the parameters make 3D massing diagrams. These 3D diagrams can be useful when the spatial configuration of different spaces are important. You can also tag the 3D rooms in 3D views or create a color legend automatically for each color scheme.

How it works?

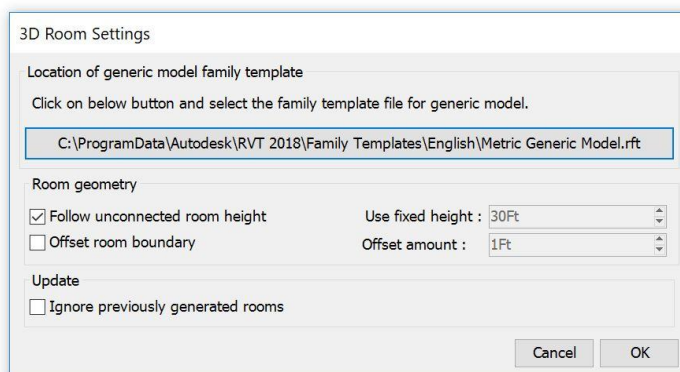
Butterfly creates 3D forms by taking the room boundaries into a generic model family and extrude them up to the room limit. Hence it needs to access the generic model family template. Before using butterfly you must setup the correct path to family template from the [settings](#) menu.

See the step by step using Butterfly app in this video : <https://youtu.be/oASx7hTgIN0>

Settings



Opens up the settings dialog where you can set the path to generic model family template and control some other functionalities.



Room geometry

Settings in this section control the geometry of the 3D from which represent the room element.

Follow unconnected height

When selected the extrusion will be the same height as the room unconnected height. You can disable this function to override the extrusion height using a [fixed value](#).

Fixed height

If [follow unconnected height](#) option is not selected this value determines the extrusion height for all rooms.

Offset room boundary

You can offset the room boundary before it is being extruded. Enable this function to enter the offset value in [offset amount](#).

Offset amount

Positive amount offsets the room boundary inward and negative amount offsets the boundary outward. When using offset room boundary option make sure that offset amount will not create self intersecting boundary.

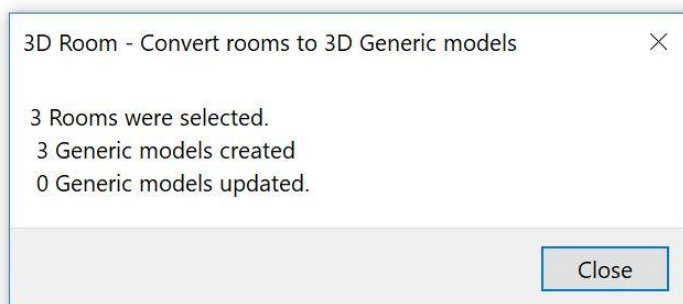
Ignore previously generated rooms

If enabled, app will ignore the rooms that have been already extruded.

Make 3D



Make 3D creates 3D generic models from the room boundaries. If the operation is completed successfully, a message box appears showing the number of 3D forms generated and number of 3D forms updated. It's strongly recommended to select limited number of rooms (maximum 50) and run the command since the process of generating 3D form may take long time for all the room elements in entire model.



The generic models which are being created with Butterfly are not visible in plans and section , To see the result switch to a 3D view and isolate the sub-category *Generic>RoomAsMass*

☐	Fire Alarm Devices						☐	By View
☐	Floors						☐	By View
☒	Generic Models						☐	By View
☐	Hidden Lines							
☒	RoomAsMass	Override...			Override...			
☐	Lighting Devices						☐	By View
☐	Lighting Fixtures						☐	By View

- Note 1: Make 3D will update the 3D forms for the rooms which their boundary has changed only if you uncheck “[Ignore previously generated rooms](#)” from the settings dialog.*
- Note 2: Make 3D will not delete the forms which their rooms are deleted. User must delete the forms manually.*

Parameter mapping

2D3D
a...1...
b...2...

Butterfly enable parameter mapping between the rooms and generic models meaning you can transfer any parameter from the room to the generic model. To map the parameters simply select them from the right column and enter an appropriate name in the right column.

Parameter Mapping

Choose a parameter from the drop down menu in the left column.
Rename the parameter in the right column.

Room parameter	Transferred name
Department	3dRoom_Department
Name	3dRoom_Name
Area	3dRoom_Area
*	

Cancel

Delete

OK

Once the mapping is done, you can see the newly added parameters in all generic models. The new parameters are instance parameter regardless of the original parameter type. Note that parameter mapping only create and assign the parameter, the parameter values must be transferred using [Transfer](#) command.

Transfer



Transfer the values of the mapped parameters. Before transferring the parameter values from the rooms to the 3D forms, you must create the parameters in generic model category using [parameter mapping](#). Once the parameter transfer is completed you can create schedules of 3D forms or Tag them in 3D views. Also you can color them using color scheme function.

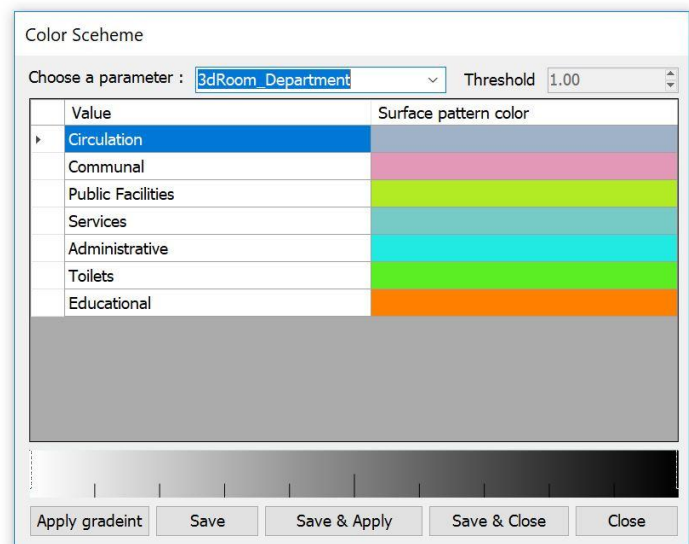
Scheme



After transferring the values of room parameter to the 3D forms you can generate colorful diagram using Scheme function. Note that you must have a 3D view open with generic model visible only to see the result. All you need to do is to select a parameter from the drop down menu and adjust the colors for each value. This works pretty much like the color scheme in native Revit view. Every time you choose a parameter, some random colors are being displayed for each value.

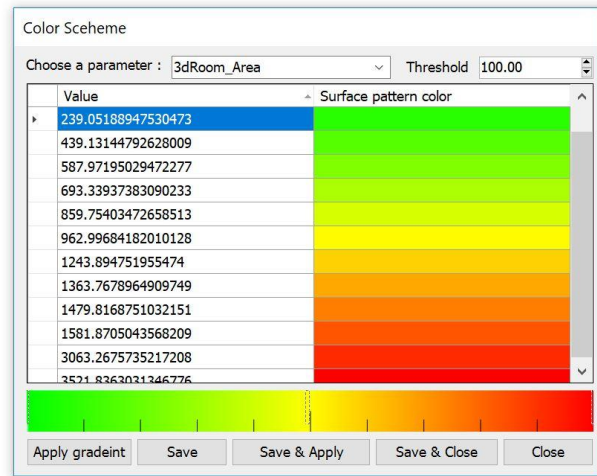
- To save the color palette for the specified parameter click on **Save** button.
- To apply the color scheme on the current view click on **Save & Apply** button.

If the value of selected parameter is numeric (Such as area, length, number, angle...) you can control the number of rows in the table by specifying a threshold. The values will be grouped by the threshold. For example choosing 50 as threshold will group all the values within -50 to +50, therefore the values 120, 90 and 100 will be grouped together.



Using gradient color

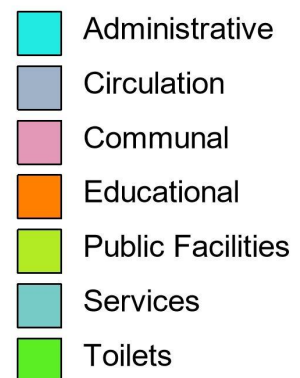
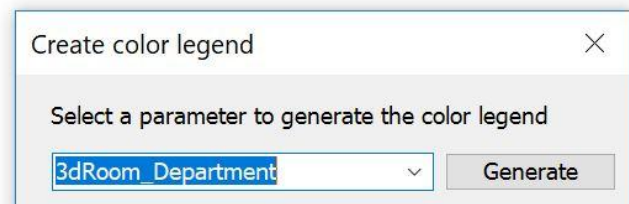
Color scheme dialog offers gradient color mapping. To use this function first sort the value column by clicking on the column header. When the values are sorted, write click on horizontal gradient tool below the table add colors to the specified location. You can remove the colors by dragging out the vertical strip from the gradient control. Once the gradient is setup click on *Apply gradient*. The colors inside the color scheme should now matched the colors of gradient. Simply click on *Save & Apply* to see the result in viewport.



Legend



Creating legend for the colored views are pretty simply. First make sure you have successfully created a colored view as explained in previous step ([Scheme](#)). To create a color legend for a colored view, first create an empty legend view and then click on *Legend* command and select the relevant parameter name and hit the *Generate* button. Butterfly App will then generate the color legend inside the legend view. If you don't open a legend view Butterfly app will open a new drafting view and generate the color legend. To update the color legend simply open the same view and use *Legend* command to regenerate the same color legend.



The End