

Universal Customizer Guide - version 1.0.0

Installation:

The files UCInstall1.0.0.ms and UniversalCustomizer1.0.0.mse must be stored in the same folder.

Drag and drop the UCInstall1.0.0.ms file in your 3dsMax viewport, then on your main menu go to Customize > Customize User interface > Category: LivingAutomata > Action: UniversalCutomizer100, then you can drop the button in your tool bar.

If you are upgrading from trial version to full version just copy the UniversalCustomizer1.0.0.mse file in the same folder than the UniversalCustomizerTrial1.0.0.mse file, the script will update automatically.

To remove the script: Remove the button from your tool bar, then remove "C:\Users\\AppData\Local\Autodesk\3dsMax\\AppData\Local\Autodesk\3dsMax\

Note: the "AppData" folder is invisible by default, you may need to turn it as visible.

Description:

Universal Customizer allows you to deform any mesh by using parameters, it's useful to cutomize quickly repeated objects in your scene. You can configure any mesh your own way, in some way it converts any mesh into a primitive object, however this script doesn't change the mesh number of vertices, it only changes the existing vertices position.

You can create spinner controls, link them to selected groups of vertices and link them to an action type (Move, Scale, Rotate).

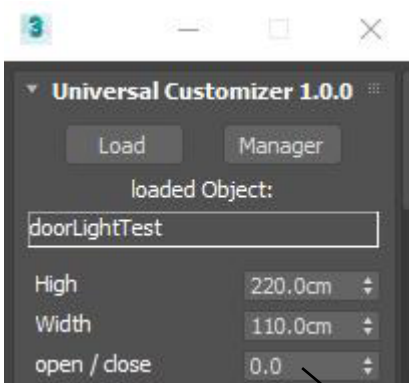
One control can manage multiple groups of vertices at the same time, a vertex can belong to multiple groups of vertices.

Note: It allows you to create complex combinations, however if you have the same vertices included in differents groups and these groups are linked to the same control you may have some unwanted results.

Once an object type is configured its data is stored in an external file (.ucf) and it's possible to edit it.

An object type is defined by its name (skipping the last copy numbers) and its number of vertices, the script works with editable_Mesh and editable_Poly objects.

Main Window:



Load:

Load the object you wish to cutomize by selecting it in the scene. The object need to be already configured before to load it and you need to have a loaded file (see manager window).

Manager:

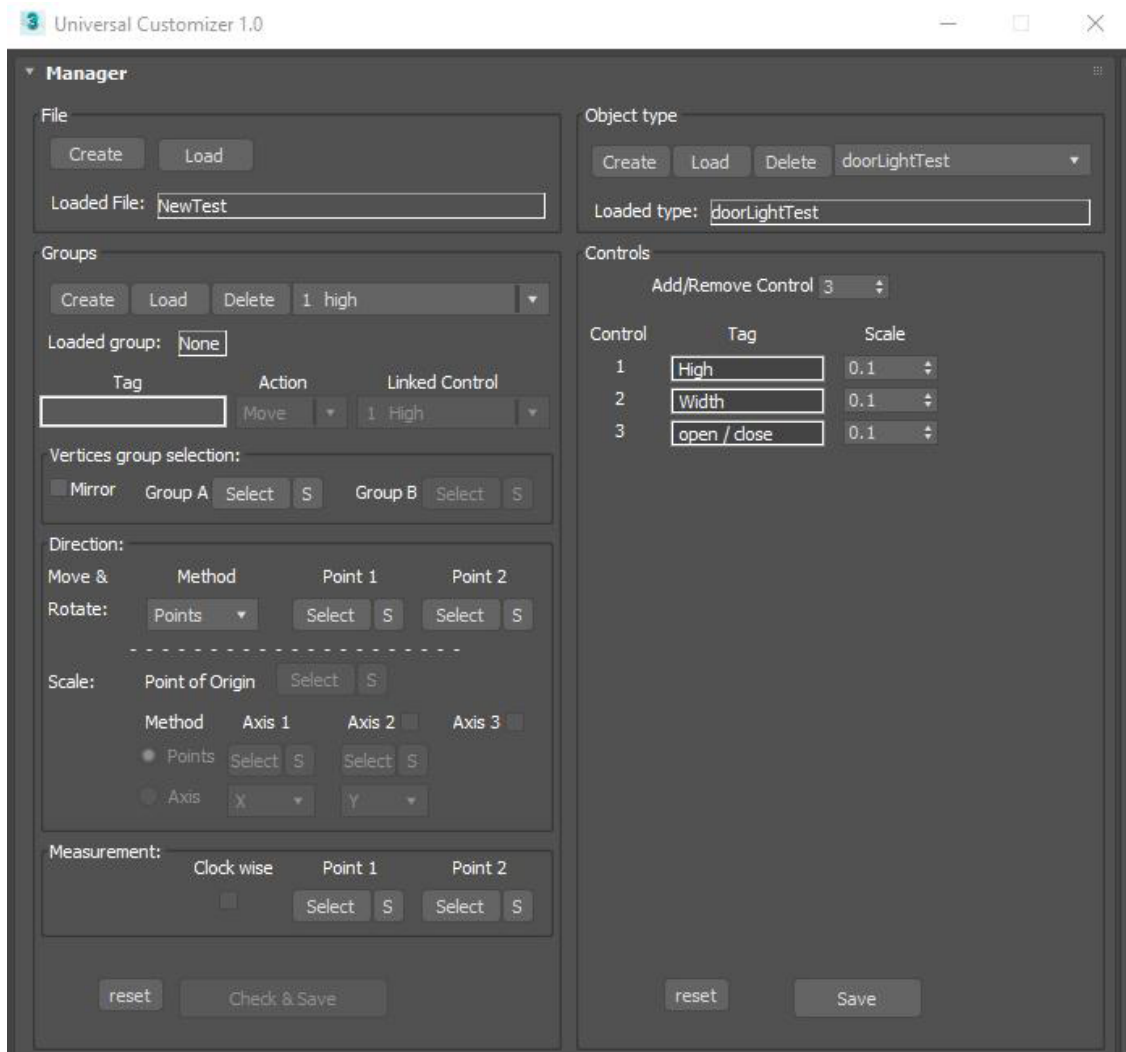
Open a window with an interface to configure your object.

Loaded Object:

The actual loaded object type

The controls you created for your object type

Manager Window:



File:

Create and load an external file (.ucf) where the object data are stored. You can locate your file anywhere in your hard drive.

Object type:

Create, load and delete object type from the loaded external file. You can add as many object type as you wish in a file, however the processes can be slower with a large number of object type.

Groups:

Before to use groups you need to create or load an object type
Create, load and delete the selected group of vertices

Loaded group:

The actual group you are working with.

Tag:

Optional, set the name of the loaded group, useful when you need to edit an existing group

Action:

Choose the type of action for the loaded group (Move, Scale, Rotate)

Linked control:

Select the control (previously established on the right side) you want to link to the loaded group. The same control can be used to multiple groups however if a control is assigned as a 'Rotate' action you won't be able to assign this control to another action type (Move or Scale)

Vertices group selection:

Select the vertices that will be handled by the selected control

Mirror:

Check this box if you need to move two groups in a symmetrical way (the width of a column for example) This option is available only with the 'Move' action.

Group A:

Establish the vertices belonging to the created group, first select the vertices in your 3d model and then press 'Select'. You can select the vertices with vertex, face or element subobject method.

Press the 'S' button to see the established vertices.

Group B:

Same as Group A, this option is available only when 'Mirror' option is checked. One vertex cannot belong to Group A and Group B at the same time.

Direction:

In this section you establish the axis in which the action will be performed, the method is different depending on the action type.

Move & Rotate:

Method:

Select 'Points' to establish the axis with two points (Point1 and Point2), Select X,Y,Z to establish the axis with the **local** object axes.

Point1, Point2:

Select the points that will define the axis, if you select multiple vertices the average position of these will be considered, if no vertices are selected the object origine will be considered as the point.

In case of 'Rotate' action and X,Y,Z method the 'Point1' will be needed.

Press the 'S' button to see the established vertices. Point1 and point2 cannot be the same.

Scale:

Point of origine:

Establish the point through which the axes will start, if you select multiple vertices the average position of these will be considered, if no vertices are selected the object origine will be considered as the point.

This point will also be the first point for the measurement value.

Press the 'S' button to see the established vertices.

Method:

Establish the axes by points or by local X,Y,Z axes

Axis1:

Define the first axis

Axis2:

Define the second axis with the Points or the Axis method. Check this box to activate the second dimension for the scale action. Axis1 and axis2 cannot be parallel.

In case of Points method: Press the 'S' button to see the established vertices. The point cannot be the same as the point of origine.

Axis3:

Define the third axis. Check this box to activate the third dimension for the scale action. This axis doesn't need to be defined, it is automatically defined by the two first axes.

Measurement:

Clock wise:

Establish the sense of rotation, only available with 'Rotation' action.

Point1, Point2:

Establish the two points used to do the measurement, if you select multiple vertices the average position of these will be considered, if no vertices are selected the object origine will be considered as the point.

The control value will be applied to these points. Press the 'S' button to see the established vertices.

Point1 and point 2 cannot be the same. In case of Scale action the Point of Origine is considered as the Point1.

Reset:

Reset the whole group data, no data will be saved.

Check & Save:

Once the configuration of the group is finished this option will check if there are no inconsistencies.

In case of inconsistencies a message with a description will appear. If there are no errors you will be able to save your data to the external file.

Controls:

Set the controls to the loaded object type

Add/Remove Control

Establish the number of control for the selected object type. The maximum number of control is 16

Tag:

Optional, establish the name of the control.

Scale:

Establish the value for each spinner step

Reset:

Reset the controls of the loaded object type.

Save:

Save the controls configuration for the loaded object type. This option is independent from the 'Check & Save' group option.

Graphics:

While you are configuring a group data some lines will appear in your 3d model:

The yellow line indicates the axis on which the action will be applied, in case of Scale Action you can have 1, 2 or 3 lines depending of your configuration.

The yellow square indicate the point of origine of the scale action.

The green lines indicate the two points in which the control value will be applied.

The vertices selected in group A appear with an orange circle.

The vertices selected in group B appear with a white circle.