1. What is ZSceneManager ?

NB: This document describes the basics of "*ZScene Manager*" plugin.
The features which has been added in next versions (1.1 -> 1.8) are explained in:
https://www.exoside.com/zscenemgrdata/WhatsNewInZSceneManager.pdf

ZSceneManager is a plugin for ZBrush.

It allows to :
- Group your SubTools using **standard grouping hierarchy**.
- Have your SubTools always accessible in a separate window, possibly placed in a secondary screen.
- **Work on multiple SubTools** all as one. (Sculpt, Move/Rotate/Scale, Paint...)
- Based on **multi-SubTools selection**, you can perform actions on multiple SubTools in a single click.
  Such actions includes :
  . Change visibility,
  . Enable/disable polypainting,
  . Delete, merge, duplicate and rename SubTools
  . Incremental renaming
  . GoZ : transfer only some selected SubTools in another 3D application.
  . TransposeMaster : Do a TPoseMesh only with some selected SubTools
  . 'Merge for sculpt' : **sculpt, paint, move, rotate, scale or pose on multiple SubTools all as one**.
  . Export only some selected SubTools in obj or fbx files.
- The «**ZBrush / User Commands**» section allows to apply any ZBrush « button/command » on multiple SubTools in a single click.
- You can also store and use « **Visibility Configs** ».
  A "visibility config" stores the visibility state of all your SubTools. You will be able to quickly switch between different visibility configurations of your Tools.

Here are 2 screenshots of the plugin:
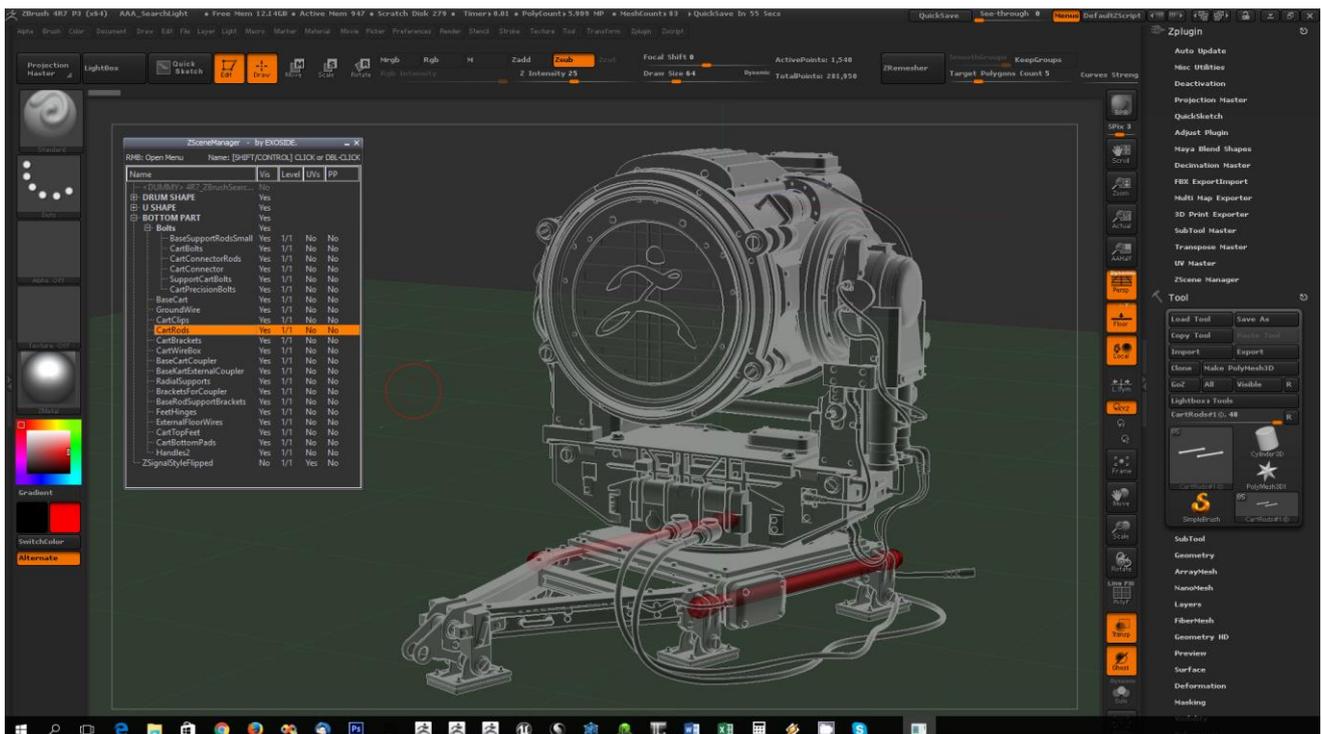
The ZSceneManager plugin window !
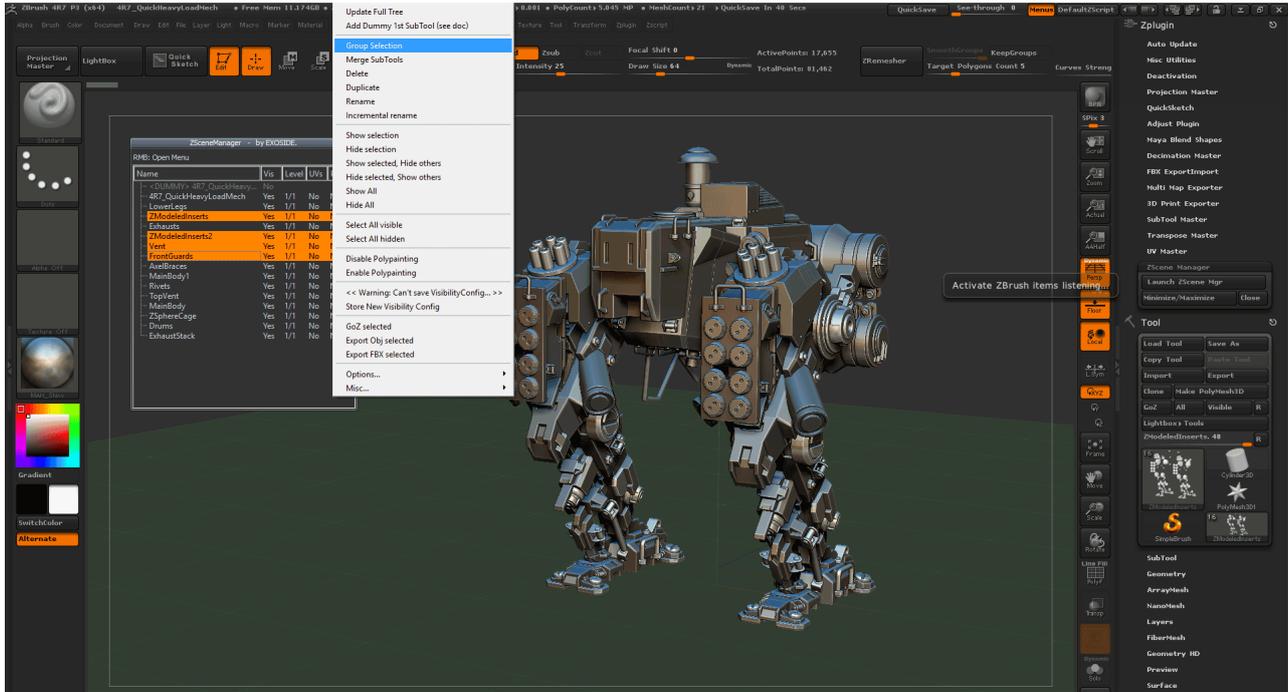
The ZScene Manager window with 4 SubTools selected and the Right-Click drop down menu open.

ZScene Manager is available on **Windows** and **MacOSX** (10.7 or newer).

ZScene Manager is compatible with **ZBrush 4R4, 4R5, 4R6, 4R7 (32 and 64 bits) and 4R8**.

There are 2 versions of ZSceneManager :

- A « FREE » version: which is limited in terms of features, and which is for non-commercial usage only. You can download it for free here :
  http://exoside.com/zscenemgr/zscenemgr-download/

- A « PRO » version: You can buy the pro version here:
  www.exoside.com/zscenemgr-buy

  A comparison of Pro vs Free features is available in Appendix A.

2. How to install and activate ZSceneManager?

If you have a "FREE" version, you just need to install the plugin, no activation is required. Just choose "Use Free Version" at the first start of ZSceneManager.
For the "PRO" Version, you need to install and then activate the plugin.

There is a tutorial about installation and activation here :
http://exoside.com/zscenemgr/zscenemgr-video-tutorials/

2.1 - INSTALLATION :

- Unzip the downloaded archive.
- copy the archive content:
- in « YourZBrushFolder »/ZStartup/ZPlugs
- And in « YourZBrushFolder »/ZStartup/ZPlugs64   (ZBrush 4R7 only)
  « YourZBrushFolder » is the folder containing ZBrush.exe and ZBrush64.exe.

After copy, you must have something like this:
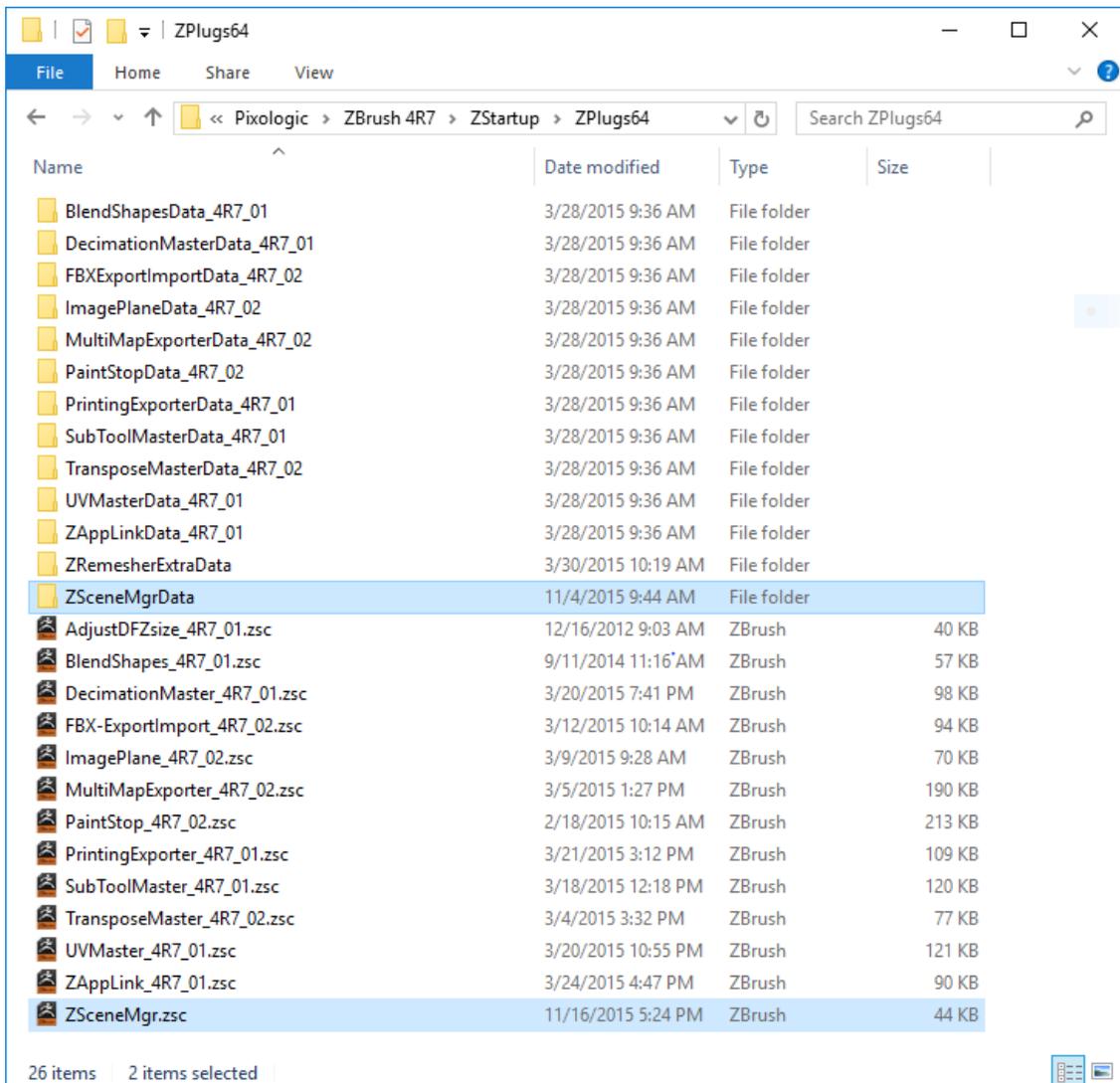
- Run ZBrush : you will find a new subpalette « ZSceneMgr » in Zplugin menu.

- To run ZSceneManager :
  - either press 'J'
  - or open ZPlugin menu > ZSceneMgr palette > and click on "Launch ZScene Mgr" button.

2.2 - ACTIVATION

By default ZSceneManager runs in 'FREE' version (limited features).
If you have purchased a PRO license, you will have to activate your 'PRO' license:
- Right-Click in ZSceneManager's window > the menu opens…
- Enter "Misc" SubMenu
- Click on "Activate PRO License"

It will open the activation web page in your web browser.
You need to fill the required fields:
- your email
- your license number
- A text to identify your computer. You are free to choose the name you want.
Then click on "ACTIVATE NOW!" in the web page.
A new page opens and gives you the activation code.
Drap and drop the Activation Code item or copy/paste it in "ZScene Manager License Activation" window.

Your pro license is now activated! You can use ZSceneManager!

2.3 – Offline ACTIVATION:

If you want to activate ZSceneManager on a computer without internet access, you will need to follow this process: (From ZSceneManager 1.7 only)
ZBrush is installed on Computer (A) which has no internet access.
Your will need a compute (B) with internet access.
- On Computer (A) (without internet):
  Open ZSceneManager's menu (Right Click) > Go in 'Misc' sub-menu > Click on 'Activate PRO License'
- The "ZScene Manager License Activation" window opens. You MUST let it open!
- Your default Web Browser opens a new page with an url like this one:
  http://exoside.com/ZSceneMgr-
  LicenseActivation/?computerIds=xxxxxxxxxx&productId=xxxxxxxxx&productVer=1&crc=xxxxxxxxx
- You need to copy the whole url in a web browser on the Computer (B)
- …. Fulfill the activation process on Computer (B)… (see section 2.2 above)
- In the Web browser (computer B), Click on "Download Activation Code". This will download and save a text file ("ZSceneMgrActivationCode.txt") which contains the activation code.
- Copy this file on Computer (A) (via USB key or whatever…)
- Drag and Drop this file in "ZScene Manager License Activation" window.
- ZScenemanager PRO is now activated!

3. Quick Start

As a Quick start, the better is to watch the videos available on this page:

http://exoside.com/zscenemgr/zscenemgr-video-tutorials/

4. ZScene Manager window

How to use ZSceneManager ?
The first thing to do, is to open the *ZSceneManager* window.

The quick way is to **press 'J'**. This is a hotkey assigned to opening/minimizing/maximizing ZSceneManager window.

You can also is:
-   Open the Zplugin menu
-   Open the ZSceneMgr subpalette.
-   Click on the button « Launch ZSceneMgr »
The "ZSceneMgr" window opens.

Then you can interact with ZSceneManager and ZBrush in 3 ways:
-   Within the hierarchy tree directly (select SubTools, move items by drag&drop…),
-   You can select multiple SubTools directly inside ZBrush canvas,
-   Or Using the **menu** which can be open by a RMB-Click or an Alt-LMB-Click in the window. (see next chapter).

Multi selections in ZBrush:
Instead of selecting SubTools in the ZSceneManager tree, you can select them directly inside ZBrush canvas:
-   **Alt-click** : If you use the standard Alt-Click to select your SubTool in ZBrush's canvas, it allows to do single SubTool selection.
-   **Alt-Shift-Click** : To do **multi-selection** directly within ZBrush's canvas, you must use **Alt-Shift-Click** This is a very useful and intuitive way for selecting multiple SubTools.
    You can choose between 3 modes ('**Add', 'Add and hide in ZBrush', 'Toggle'**) to define how you select SubTools when you do an Alt-Shift-Click.
    These mode are accessible in "Options" sub-menu.
    Depending on the following modes, when you do an Alt-Shift-Click, it will…
    . Add: select the clicked SubTool while keeping already selected SubTools selected.
    . Add and hide in ZBrush : select the clicked SubTool while keeping already selected SubTools selected and hide the clicked SubTool. It's a very practical way for selecting multiple SubTools (see quick start video)
    . Toggle : it will switch the selected state of the clicked SubTool.

Hierarchy tree window actions :
-   **Selection and multi-selection** :
    By **clicking** on SubTools, you will select them one by one.
    By holding **SHIFT** and **CONTROL** during the click you will be able to make multi-selection in a standard and usual way.

-   **Drag & drop** :
    You can **drag & drop** SubTools to move them in the grouping hierarchy.
    You can place SubTools before/after other SubTools but you will also be able move a SubTool or a group from one group to another group.

- **Renaming SubTools** :
  With a double click on one SubTool's name, you will be able to **rename** it.

- **Changing visibility** :
  By clicking on the « Yes » or « No » item in the « **Vis »** column, you can switch SubTools visibility.

- **Enable or Disable Polypainting**:
  By clicking on the « Yes » or « No » item in the « **PP »** column, you can enable or disable polypainting on each SubTool.

- **« Level »** and **« UVs »** columns are only there to give you informations. You cannot edit them.

NB : every action done in the hierarchy tree are performed on a single SubTool whereas action clicked via the RMB-click menu is performed on all selected SubTools.

About Groups visibility:
When a group is invisible (Vis="No"), all the groups and subtools contained in this group will be invisible in ZBrush even if they are set as visible (Vis="Yes").
In other words, a SubTool will be visible in ZBrush, if and only if it is set as Visible AND all the groups 'above' are visible too.

5. menu features

Update Full Tree
Add Dummy 1st SubTool (see doc)
Group Selection
Merge SubTools
Delete
Duplicate
Rename
Incremental rename
Show all selected
Hide all selected
Show selected, Hide others
Hide selected, Show others
Show All
Hide All
Invert All visibility
Select All visible
Select All hidden
Select By Name
Disable Polypainting
Enable Polypainting
<< Warning: Can't save VisibilityConfig... >>
Store New Visibility Config
ZBrush Commands ▶
User Commands ▶
Merge for Sculpt/Paint ...
TPoseMesh selected ...
GoZ selected
Export Obj selected
Export FBX selected
Options... ▶
Misc... ▶

The drop down menu.

- **« Update Full Tree »** : it fully updates the ZSceneMgr window grouping hierarchy from ZBrush.
  It's usefull if you done some actions through ZBrush UI which cannot be detected by ZSceneMgr window. (ex : select another Tool, « Split … » buttons…).
  In this case, you need to click on « Update Full Tree » to see the modifications in ZSceneMgr window.
  See "Synchronization" chapter for more explanations.

- **Add Dummy SubTool first.**
  It will add a SubTool with the star as polymesh and set it invisible. Why this ?
  When you save your Tool, ZBrush automatically renames the 1st SubTool with the new file name.
  This can be really annoying if you don't want to change your SubTool names.

Moreover, ZSceneMgr stores the grouping information in the SubTool names. As a consequence saving your Tool is a ZTL file can remove the 1st SubTool from its group!
The solution is to insert a SubTool which is invisible. This SubTool is only used to let ZBrush store the filename.

NB: if the option "Auto Add Dummy SubTool" is checked, a Dummy sub tool is automatically inserted when needed. This option is checked by default. It's strongly recommended to let it checked.
NB: if the option "Auto Add Dummy SubTool At Start" is checked, a Dummy sub tool is automatically inserted when ZSceneMgr starts.

It's **strongly advised** to have a dummy SubTool in your tool !

- **Group Selection**
  It places all selected SubTools in a new group.

- **Delete**
  It deletes all selected SubTools.

- **Merge SubTools**
  It merges all selected SubTools in a single SubTool.

- **Duplicate**
  It duplicates all selected SubTools or groups.

- **Rename**
  It asks for a new name, and affect this new name to all selected SubTools.

- **Incremental Rename**
  It asks for a new name, and affect this new name plus an incremented index to all selected SubTools.
  For example, if you have 4 SubTools selected and you ask an incremental rename with "button" in the input text.
  Your 4 SubTools will be renamed "button1", "button2", "button3" and "button4".

  Note that if you enter "button10", your 4 SubTools will be renamed "button10", "button11", "button12" and "button13".

- **Show/Hide Selection**
  It will show/hide all selected SubTools.

- **Show Selected, Hide Other**
  It will make visible the selected SubTools, you hide all other SubTool.

- **Hide Selected, Show Other**
  It will hide the selected SubTools, you make all other SubTools visible.

- **Invert all visibility**
  For all selected SubTools : Show all hidden ones and hide all visible ones.

- **Show/Hide All**

  It will show/hide all SubTools.

- **Select All Visible/Hidden**

  It will select all visible (hidden) SubTools.

- **Select By Name**

  It asks you a name to search and select all items matching with this name.

  For example:

  . "*body*" will select all items having 'body' in their name

  . "body*" will select all items having starting with 'body'.

- **Disable/Enable Polypainting**

  It will enable/disable polypainting on all selected SubTools.

- **Merge for Sculpt/Paint: ['M']**

  This feature Allows to sculpt, paint, move/scale/rotate multiple SubTools all as one!

  It creates and appends a new temporary SubTool with contains the merge of selected SubTools.

  ….Then you can work on this temporary SubTool….

  Once done, press 'M' ('*Transfer Sculpt/Paint to SubTools*') again to transfer your modifications to original SubTools. This will also remove the temporary 'merged' SubTool.

- **TPoseMesh**

  Allows to use TransposeMaster on selected SubTools.

- VISIBILITY CONFIGS -

A 'Visibility Config' stores the visibility states of all SubTools in your tool in a buffer.
This allows you to quickly switch between different visual configurations.

- **Store New Visibility Config**
  First you will be asked for the name of the new visibility config.
  Then it will save all the current visibility state of all your SubTools in this new Visibility Config.

  In the menu, under "Store New Visibility Config", you can see all your Visibility Configs.
  For all of these Visibility Configs you can do 4 actions:
- **Use :** It will set the current visibility of your SubTools as stored in this Visibility Config.
- **Rename:** It allows to rename a Visibility Config
- **Update :** It allows to update this Visibility Config using the current visibility states of your SubTools.
- **Remove:** It allows to delete this Visibility Config.

- GoZ and Export -

- **GoZ Selected**
  Do a GoZ with selected SubTools.

- **Export Obj Selected**
  Export all selected SubTools in a obj file.
  This command is based on "3D Printing Exporter". So it needs this plugin installed.

- **Export FBX Selected**
  Export all selected SubTools in a fbx file.
  This command is based on "FBX plugin". So it needs this plugin installed.

- Misc -

- **Misc Sub Menu > Remove All Groups (Restore Names)**
  It will remove all groups.
  As a consequence, it will remove all grouping informations in the SubTool names in ZBrush SubTool palette.

- **Close/Expand all groups :** close or expand all groups in the selection.

- ZBrush Commands / User Commands -

These 2 sub menus allows to call ZBrush commands on all selected SubTools.

For example, you can start with 10 SubTools selected and, in one click:

- do a ZRemesher on all of them
- or, Go to the lowest SubDiv level on all of them
- or, do an 'undo' on all of them
- …..

'ZBrush commands' contains a list of **pre-defined** usefull commands !
You cannot edit this list!

'User Commands' contains your own **user-defined** list of commands.
There are to ways to edit this list:

1 – click on "Edit UserCommands file": (this way gives full control on this feature)
The text file containing your commands will open. Every '*UserCommands*' are defined in this file.
Each new line is a new user defined command :
Except:
- lines starting with // which are comments
- and lines starting with SEPARATOR, which adds a separator in the menu

Each new command line has this syntax:
NameInTheMenu=ZScriptToExecuteOnEachSelectedSubTool

You can add simple actions:
Fix Mesh=[IPress, "Tool:Geometry:Fix Mesh"]

You can add a sequence of action:
Mask Inverse AO=[IPress, "Tool:Masking:Mask Ambient Occlusion"] [IPress, "Tool:Masking:Inverse"]
(This new action will create a –reversed AO mask on all selected SubTools!)

Well, you can add any ZScript you want…

NB1: The ZScript actions added in this file must be actions works strictly on 1 SubTool (merge, duplicate,…
are not allowed here!)

NB2 : You cannot add actions/buttons which are added by plugins (UVMaster, FBX plugin, … buttons not
allowed here!)

You can add, remove or edit lines….
Once done, you need to do a "Update Full Tree"

2 – Via the UI: (the quick way)
Click "Add UserCommand"
Then in ZBrush, Control-Alt-Click on the button you want to add in your UserCommands.

- The Options -
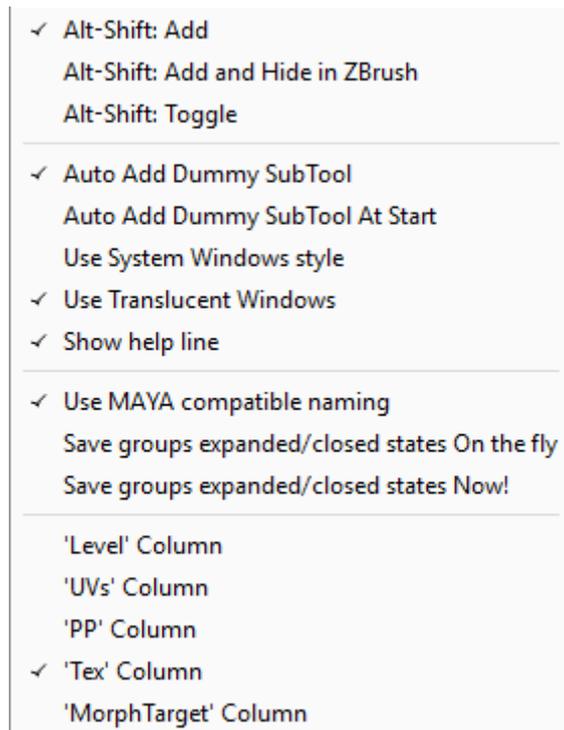
- Alt-Shift : xxx:
  It defines how the selection is modified when you do Alt-Shift click in ZBrush canvas:
  'Add' is the default value.
  You can use 'Add and hide in ZBrush' to easily select a bunch of SubTool to create groups when you start from a Tool without groups.
- *"Auto Add Dummy SubTool"* : automatically add a dummy SubTool when needed. Basically a Dummy SubTool is added when the first SubTool is placed in one group.
  It's highly recommended to let it enabled.
- *"Auto Add Dummy SubTool At Start"*: automatically adds a Dummy SubTool (if not only added) when the window opens.
- "*Use System Windows Style*": use a System framed window instead of the custom one. On some system (very few Windows 7) it can make the window moving more smoothly.
- "*Use translucent window*" : make ZSceneManager window transparent so that you can ZBrush through it.
- "*Show Help line*": Show the help text line above the tree in ZSceneManager's window.
- "*Use Maya Compatible Naming*" : If checked, SubTool names will use only characters compatible with Maya.
  It's recommended to let it checked.
- *"Save Groups expanded/closed On the fly":* If checked it will automatically register the states "expanded/closed" of groups in your ZTool. If unchecked you will have to click on "*Save Groups expanded/closed Now".*
- Columns : define which columns are displayed in ZSceneManager's window.

6. Hot keys

You can use hotkeys to execute most ZSceneManager's actions:
Here are the customizable actions and the default assigned hotkeys :

```
default hotkeys:
. 'J' :      Open/minimize/maximize ZSceneManager window.
. ALT-'U':  Update Full Tree
. ALT-'G':  Group
. 'M':       Merge for Sculpt / Transfer Sculpt to SubTools
. ALT-'V':  Switch Visibility
. ALT-'D':  Duplicate
. ALT-'M':  Merge
. ALT-'R':  Remove/delete
. ALT-'N':  Rename
. ALT-'T':  TPoseMesh Selected / TPose->SubTool
```

You can define your own hotkeys by assigning hotkeys to related button in ZBrush palette:
Zplugin menu > ZSceneManager palette > hotkeys subpalette.
(Using standard CONTRLOL-ALT-Click to change hotkeys on ZBrush buttons)

7. Tips and tricks!

As ZSceneManager is 'only' a plugin for ZBrush, it's limited by what ZBrush's SDK allows to do.
We put a lot of effort to make the features integration as seamless as possible.

- **Synchronization:**
  On one side we have ZBrush with it's SubTool palette and on the other side there is the ZSceneManager outliner window. **These 2 « sides » must be synchronized**. ZSceneManager does it quite always automatically :

  You have to keep in mind that :
  - **Every** actions done in ZSceneManager, is directly applied on ZBrush side.
  - **Most** actions done in ZBrush UI, are automatically updated on ZSceneManager side (ex : select a SubTool)
  - **Few** actions done in ZBrush UI are **NOT** detected by ZSceneManager automatically (for technical reasons) (ex : select another Tool, split buttons…).
  After having done such actions, you need to use **« Update Full Tree »** (on top of right-click menu).

- **Multi-SubTools selection:**
  Even if ZSceneManager has multi-selection capabilities, it's only a plugin, it doesn't provide a real multi-selection in ZBrush. For example, even if you select 3 SubTools in ZSceneManager's window, the brushes will only work on 1 SubTool in ZBrush canvas.
  The multi-selection is only used for ZSceneManager actions available in its prop-down menu.

- **Grouping information storage :**
  For technical reasons, the SubTools hierarchy and the group names are stored in ZBrush SubTool's names.
  So, the hierarchy itself is naturally saved in ztl or zpr files.
  The drawback is that the SubTool names are modified in ZBrush's SubTool palette.

  NB: You can restore SubTools names by using "Remove All Groups (Restore Names)" in "Misc" sub-menu.

  NB2: As ZSceneManager is using '#' and '@' as special characters to encode grouping hierarchy in SubTools names, you cannot use these 2 characters for renaming your SubTools.

- **Visibility Config storage :**
  The Visibility configs datas are stored in an extra file with the same same as your Tool and in the same disk folder.
  If your Tool in '*YourFolder/YourTool.ztl*' then the Visibility configs are stored in ''*YourFolder/YourTool.ztdata*'
  So if you want to copy your tool file to another location, copy both the *ztl* and the *ztdata* files!

Appendix A : Pro vs Free

The "FREEVersion" contains all features except:
- "GoZ selected"
- "Export Obj Selected"
- "Export FBX Selected"

The "FREE Version" has the following limitations:
- It works only with your first 25 SubTools.
  If you have less than 25 SubTools, you will not see this limitation.
  If you have more than 25 SubTools, you will be able to work with the 1st 25 SubTools only. The other SubTools will not be editable, neither selectable.

- You can only store 2 Visibility Configs.

- "*Merge for Sculpt*" is limited to 4 SubTools.

- "*TPoseMesh*" is limited to 4 SubTools.

- You can't add/edit your own User Commands.

- You can't choose which columns are displayed. (in Options sub menu)

- You can't use ZSceneManager FREE for commercial projects.