
RDC 18
ROBLOX DEVELOPER CONFERENCE

What’s New with Plugins

Doug Banks

About Me

Doug Banks

CycloneUprising

About You

- How many have tried writing a plugin?
- How many have published a plugin?
- How many self-rate as “Expert” at writing plugins?

Overview

- Dock Widgets
- Plugin Actions
- What’s next

Dock Widgets

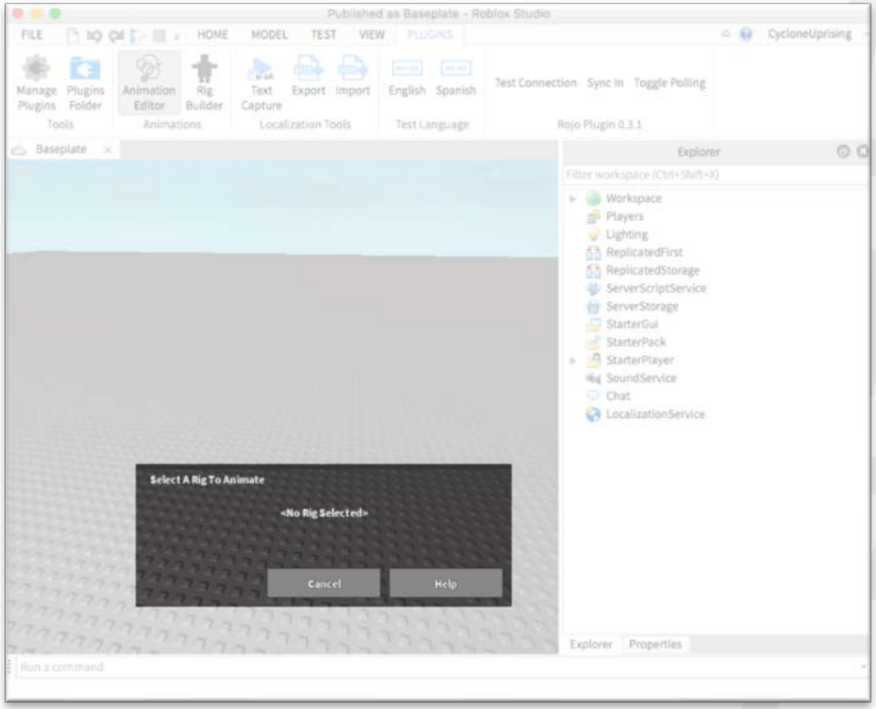
Dock Widgets

Plugins can now create GUI in docking widgets instead of in the 3d viewport.

Tired...

Plugin GUI in 3d viewport

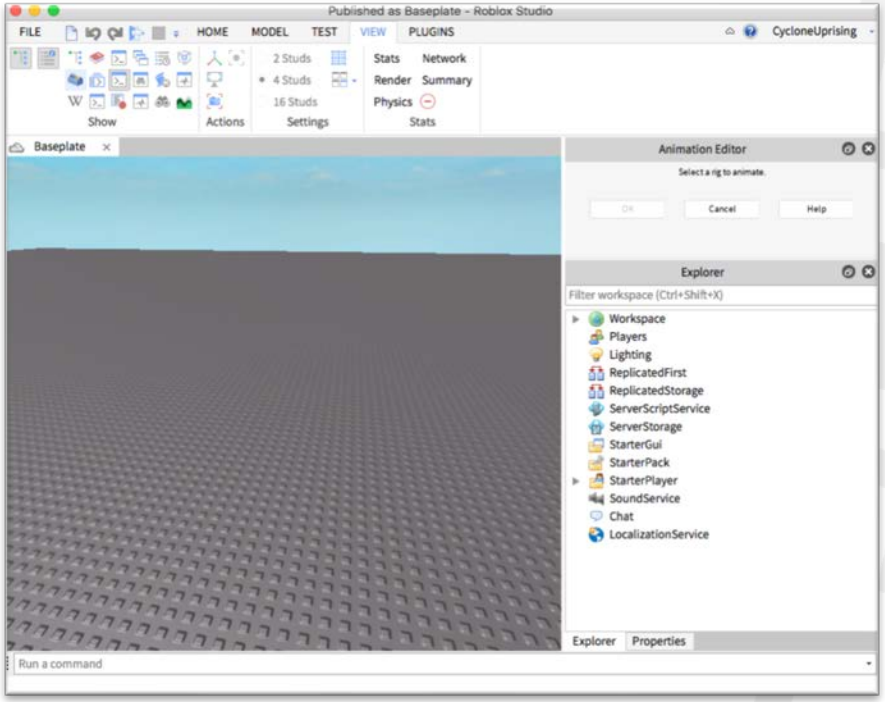
- Obscures view of 3d space.
- All plugins compete for GUI space, GUI elements would overlay each others.
- Inconsistent look & feel, compared to other Studio tools.



Wired!

Plugin Gui in dock widget

- Each plugin can have its own separate GUI.
- Uses handy, familiar dock widget paradigm to manage families of controls.
- Look & feel similar to native widgets.



Using a Dock Widget

Allocate a DockWidgetPluginGuiInfo with initialization details:

```
DockWidgetPluginGuiInfo.new(InitialDockStateinitDockState,
    bool initEnabled,
    bool overrideEnabledRestore,
    int floatXSize,
    intfloatYSize,
    int minWidth,
    int minHeight)
```

Using a Dock Widget

Create a new PluginGui using this descriptor:

```
PluginGui CreateDockWidgetPluginGui ( string pluginGuiId,
    DockWidgetPluginGuiInfo dockWidgetPluginGuiInfo)
```

Using a Dock Widget

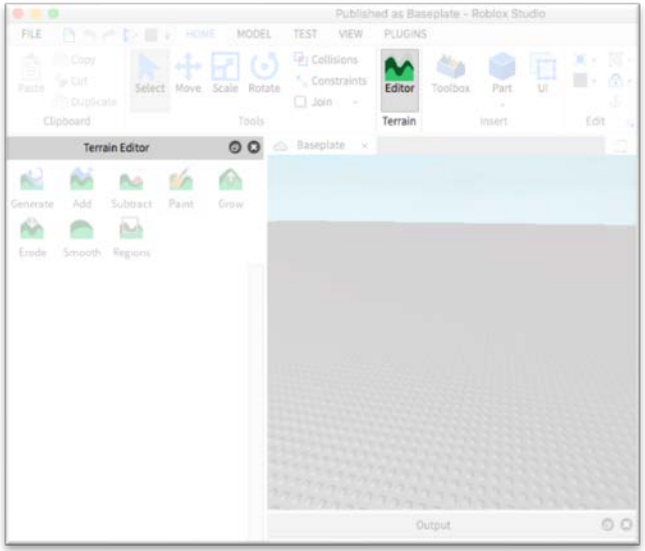
Populate dock widget with GUI elements (just like a Screen GUI):

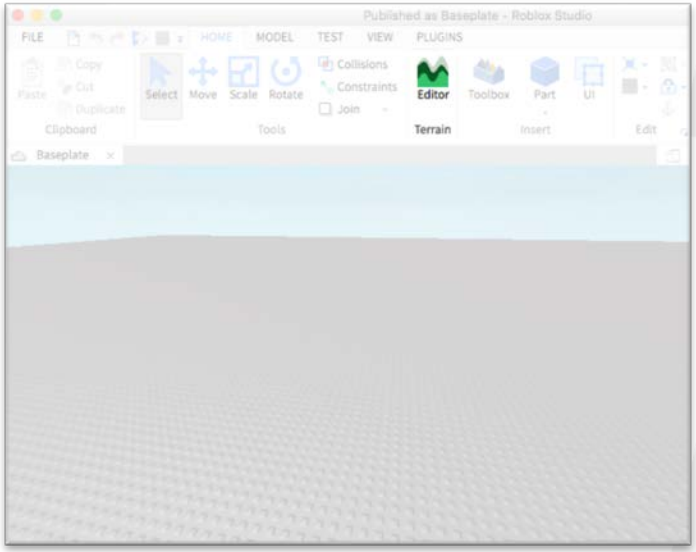
```
-- Put GUI elements into plugin gui.
local button = Instance.new("TextButton")
button.Text = "Hello"
button.Position = UDim2.new(0, 10, 0, 20)
button.Size = UDim2.new(0, 100, 0, 30)
button.Parent = pluginGui
button.MouseButton1Click:connect(function()
 print("Clicked!")
end)
```

Using a Dock Widget

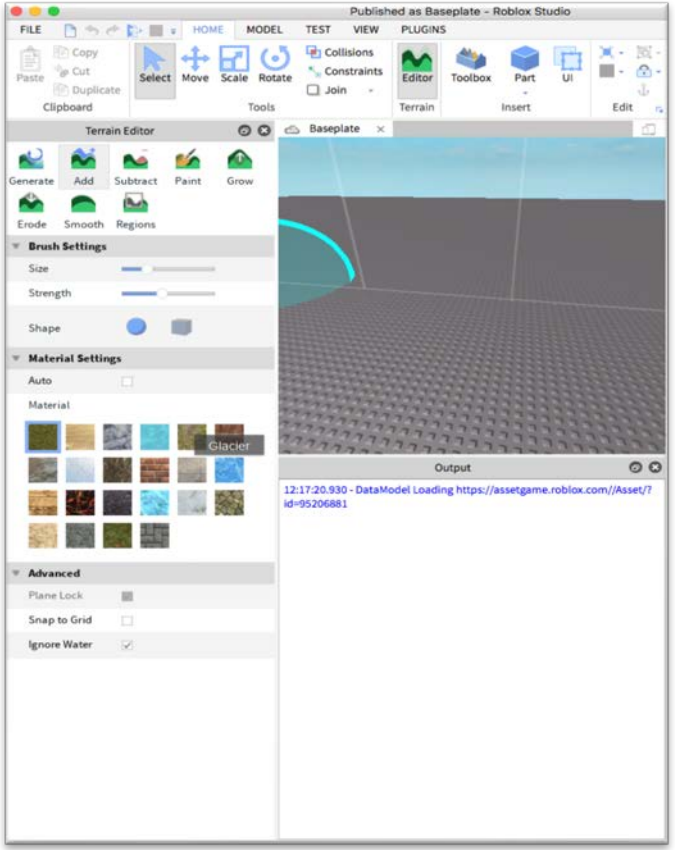
Add a toolbar & button to toggle dock widget on/off.

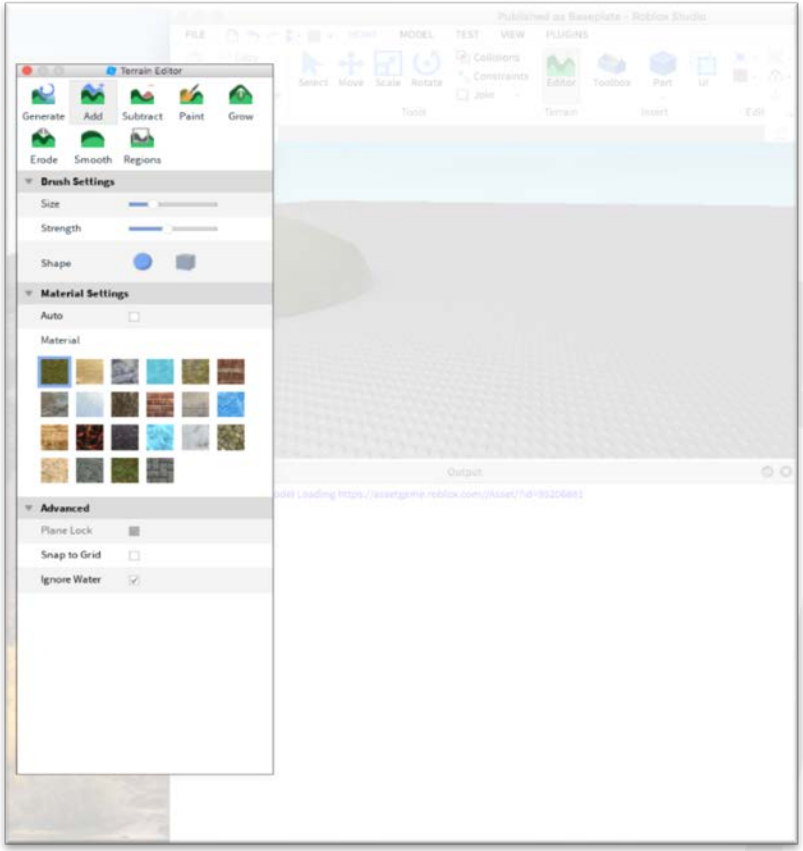
Listen to “Enabled” state of PluginGui, keep toolbar button in sync with this state. (User may close Dock Widget using native controls)





In Action

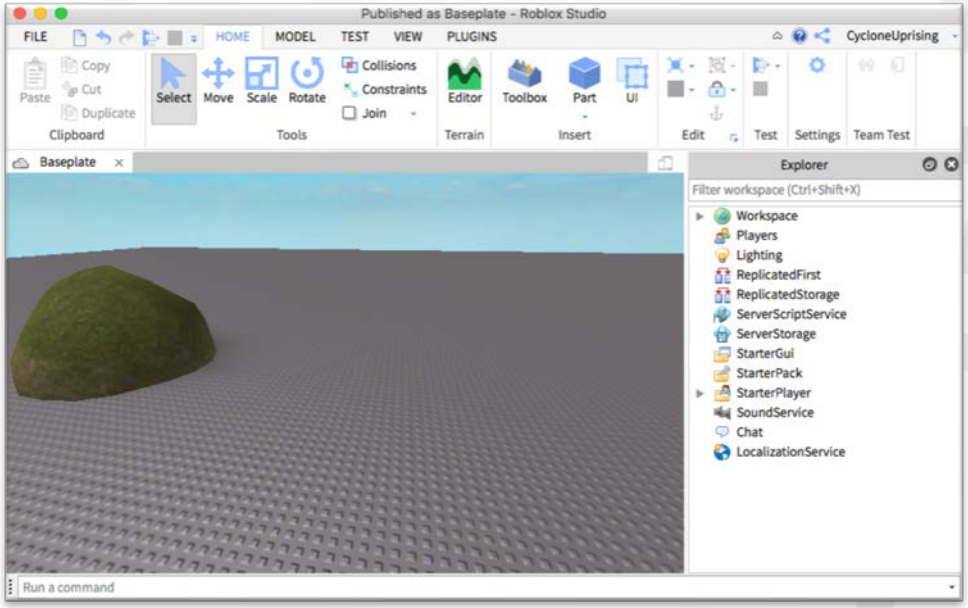

Published as Baseplate – Roblox Studio
FILE
HOME
MODEL
TEST
VIEW
PLUGINS
Paste
Copy
Cut
Duplicate
Clipboard
Select
Move
Scale
Rotate
Tools
Collisions
Constraints
Join
Editor
Terrain
Toolbox
Part
UI
Insert
Edit
Terrain Editor
Baseplate
Generate
Add
Subtract
Paint
Grow
Erode
Smooth
Regions
Brush Settings
Size
Strength
Shape
Material Settings
Auto
Material
Glacier
Advanced
Plane Lock
Snap to Grid
Ignore Water
Output
12:17:20.930 - DataModel Loading https://assetgame.roblox.com//Asset/?id=95206881


Terrain Editor
Generate
Add
Subtract
Paint
Grow
Erode
Smooth
Regions
Brush Settings
Size
Strength
Shape
Material Settings
Auto
Material
Advanced
Plane Lock
Snap to Grid
Ignore Water

Tips

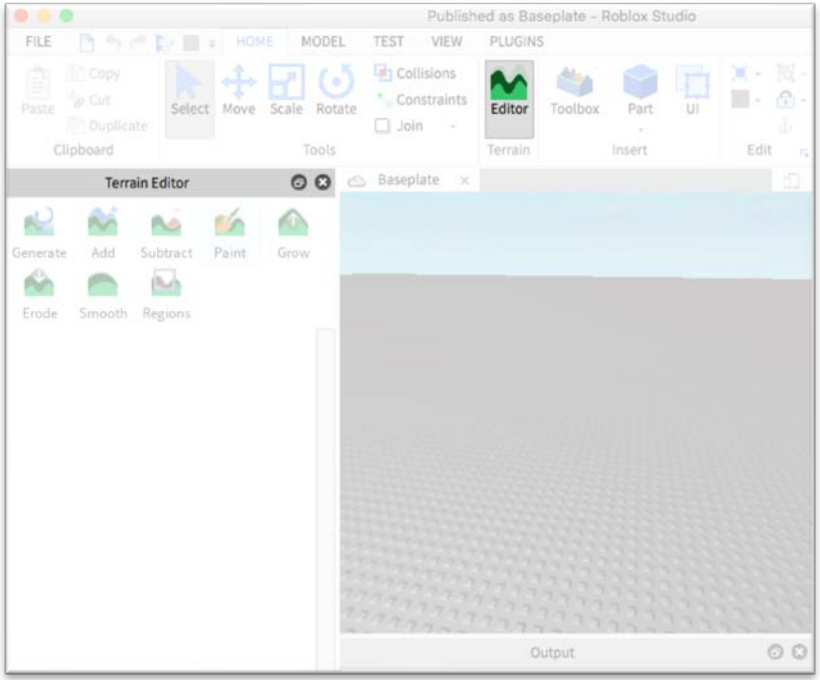
Design for a dock widget (think like the Explorer):

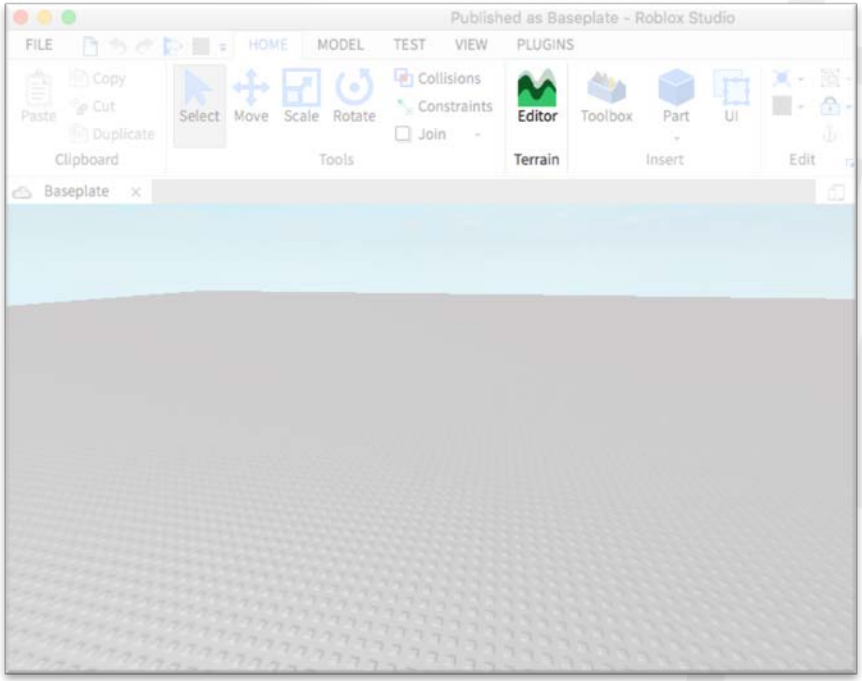
- User may leave it on all the time.
- Not a “mode”
- Will be restored when user closes then reopens



Tips

Proper connection with toolbar buttons to toggle on/off.

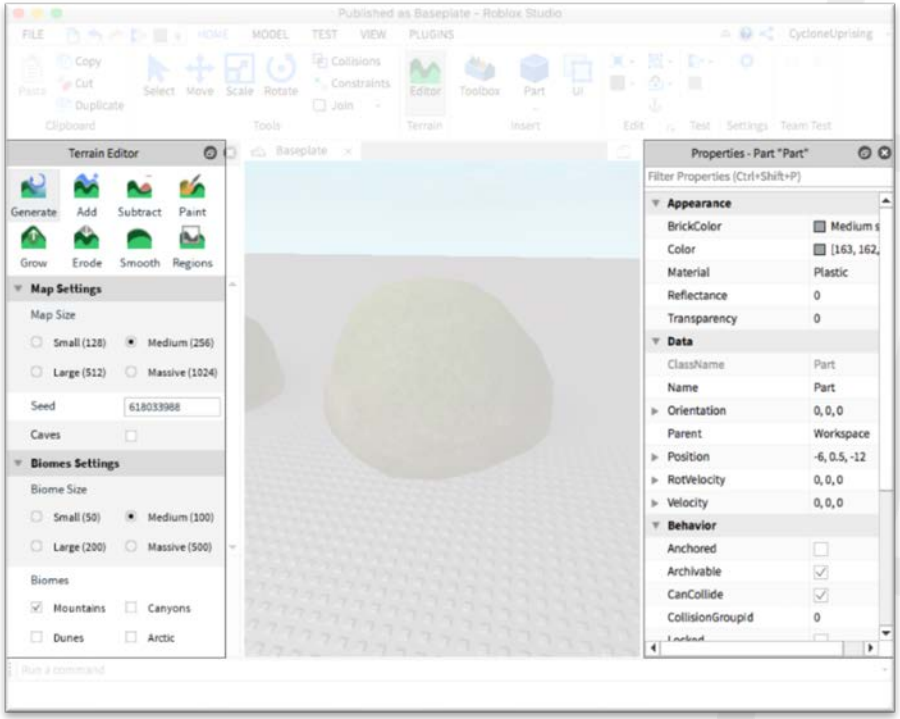




Tips

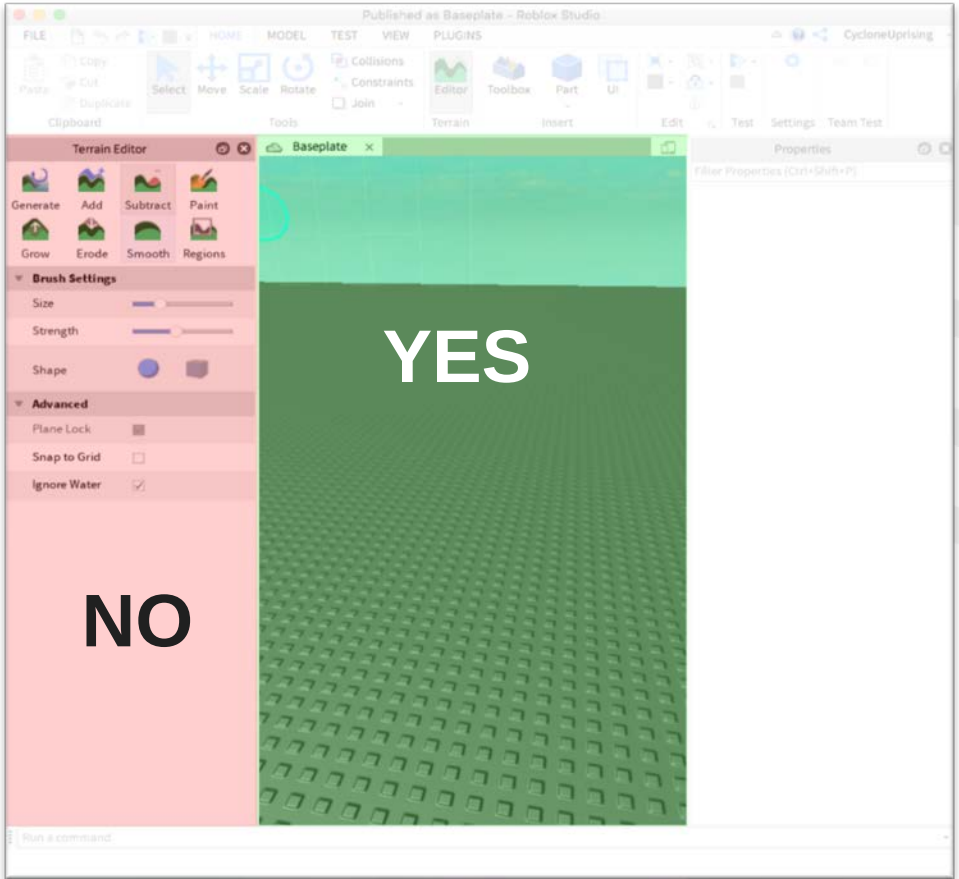
Use our shared github libraries for GUI elements:
https://github.com/Roblox/StudioWidgets

- Consistent look & feel.
- We will be updating these to properly handle Dark Theme.



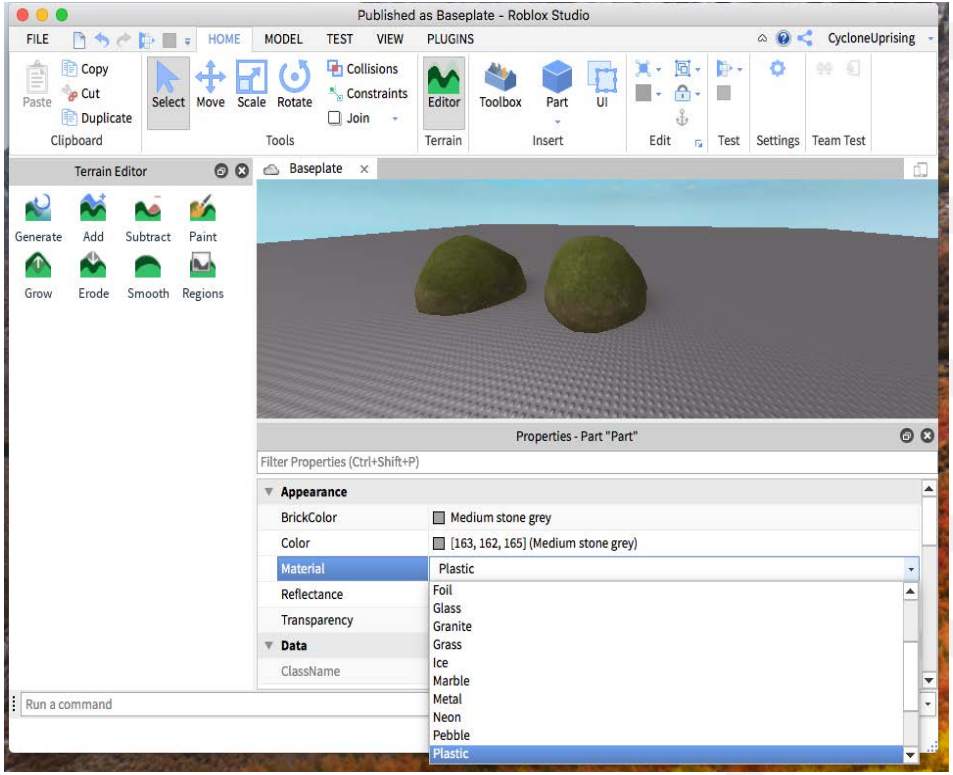
Limitations

UserInputService only deals with main 3d viewport.

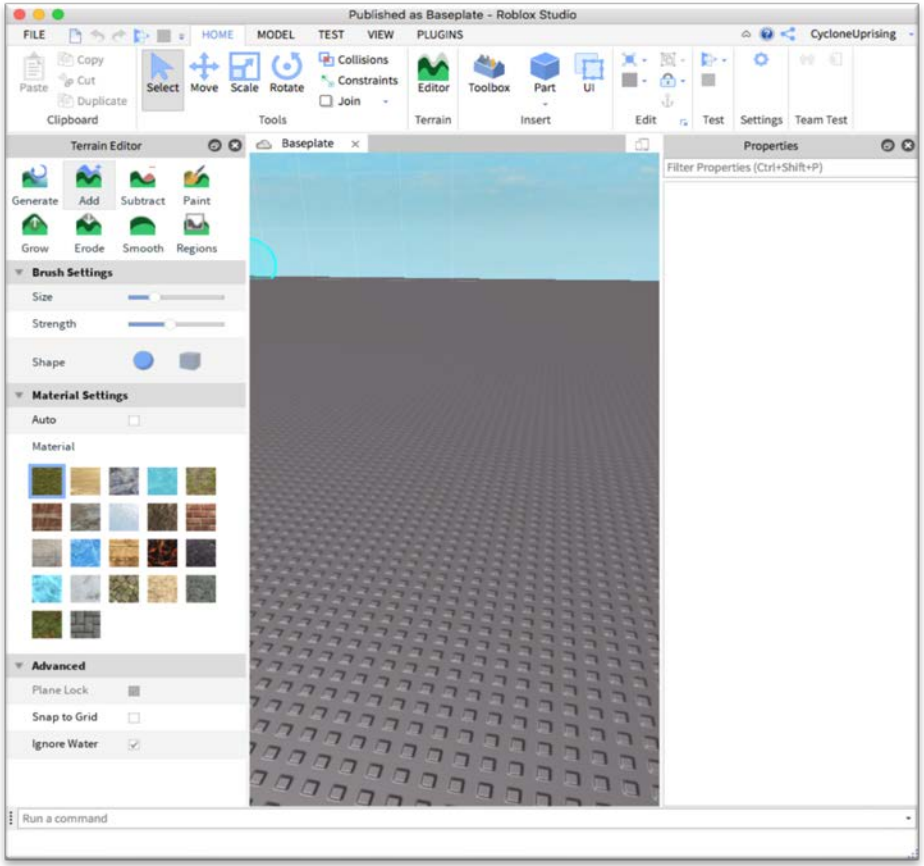


Limitations

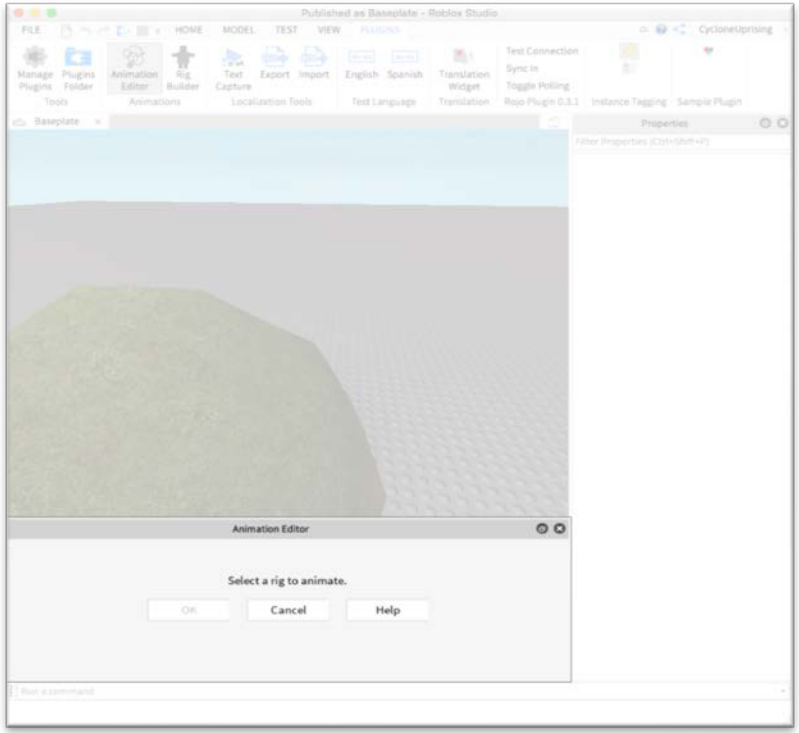
Can’t do “flyover” GUI elements (combo box, tooltips): anything that would go beyond borders of dock widget.



Example- New Terrain Tools



Example- Animation Editor



Plugin Actions

Plugin Actions

Plugins can create “Actions”, as understood and exposed by the keyboard and mouse shortcuts.

Old School…

Adding your own keyboard shortcuts in plugin code.

- May collide with shortcuts in other plugins.
- Users can’t see your mapping when viewing global list of keyboard shortcuts.
- Users can’t easily remap to preferred shortcut.
- If user maps a native action to this shortcut, the key presses may not ever get passed along to lua.
- Only works if 3d viewport has focus.
- Doesn’t work with PluginGui (no UserInputService)

So Cool!!

Create PluginAction which can be bound to keyboard shortcuts.

PluginAction ties in with native Shortcut support, so:

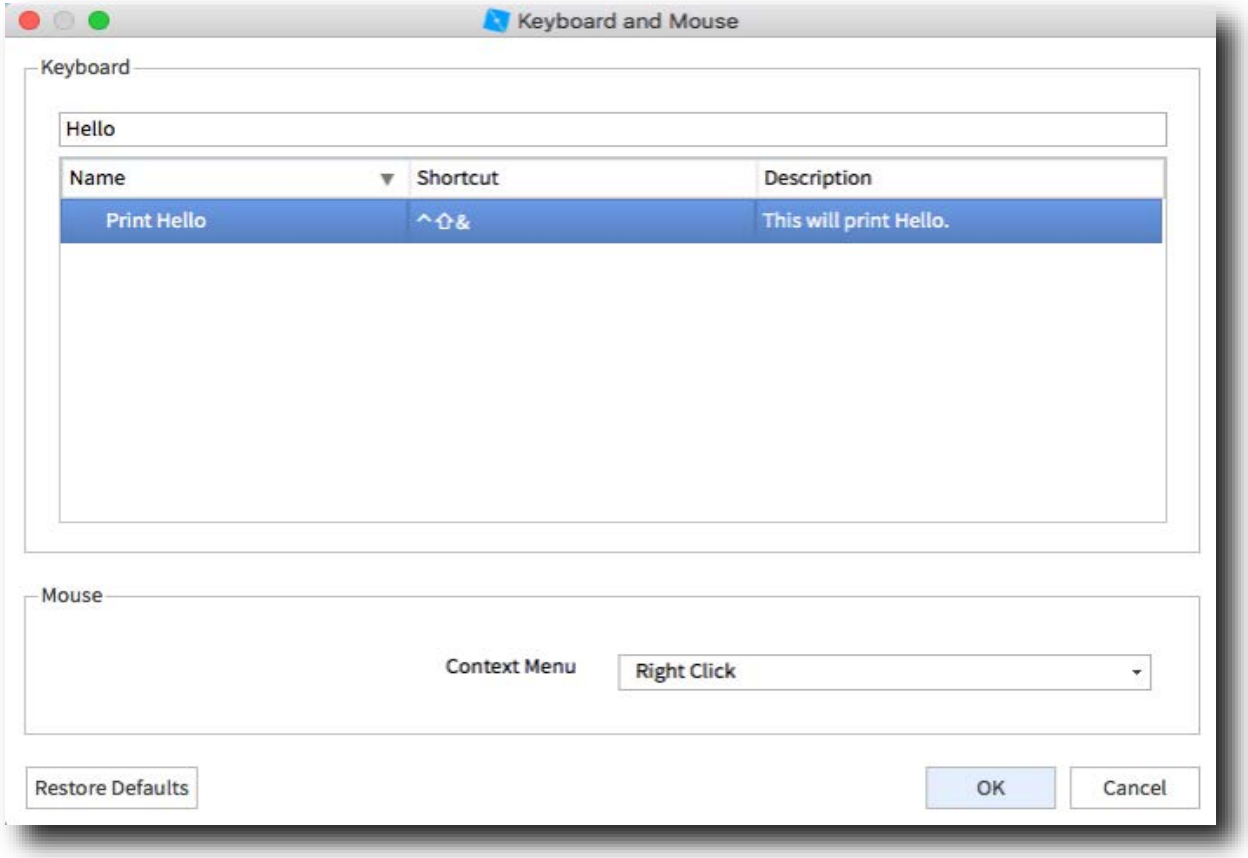
- No collisions.
- Exposed and customized along with all other actions.
- Keyboard shortcuts work as long as Studio app has focus.

Using Plugin Actions

```
local pluginAction = plugin:CreatePluginAction("printHello",
"Print Hello", "This will print Hello.")

pluginAction.Triggered:connect(function()
  print("Hello")
end)
```

Using Plugin Actions



Friendly reminder!

When adding a PluginAction, consider integrating with ChangeHistory service so users can Undo/Redo your action!

What’s Next

What’s next?

- Update to UserInputService so that key-related stuff works with PluginGuis.
- StudioTheme API:
  - Query font, color, weight, etc for backgrounds, borders, etc.
  - Event when theme changes.

All Done

Summary

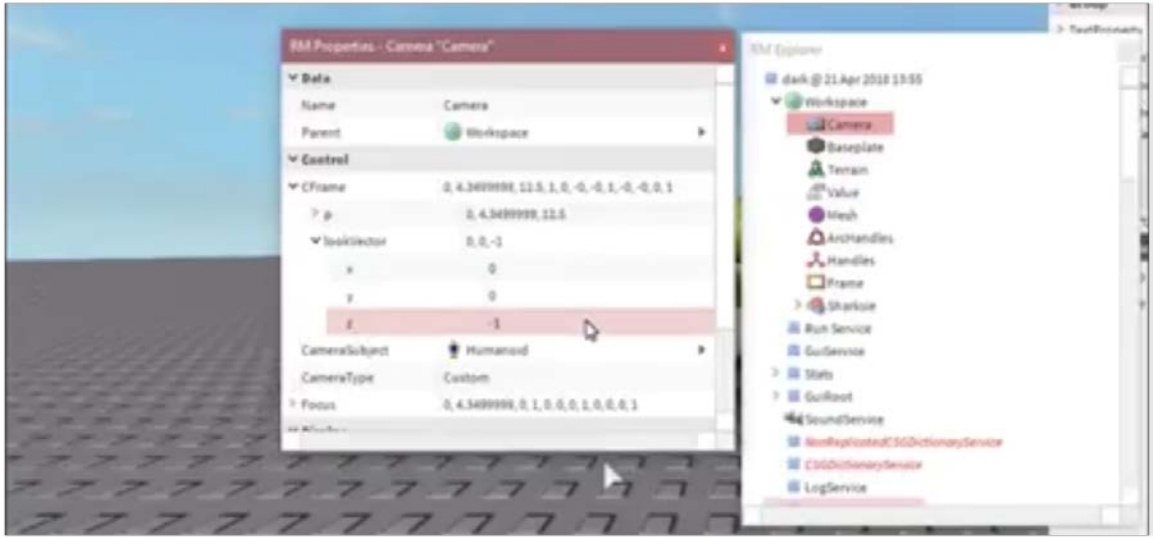
You can make your plugins look & feel like native Studio features:

- House the GUI in a Dock Widget.
- Use shared library of GUI elements to style-match Studio design & color themes.
- Use Plugin Actions to add shortcut support.
- Stay tuned for more!

Get Involved!

- Update your old plugins!
- Write some new plugins!
- Use and extend our library of “Studio Look & Feel” widgets on github! https://github.com/Roblox/StudioWidgets
- Dream big! Anything we can do, you can do better....

Re-implemented entire Explorer



Q & A