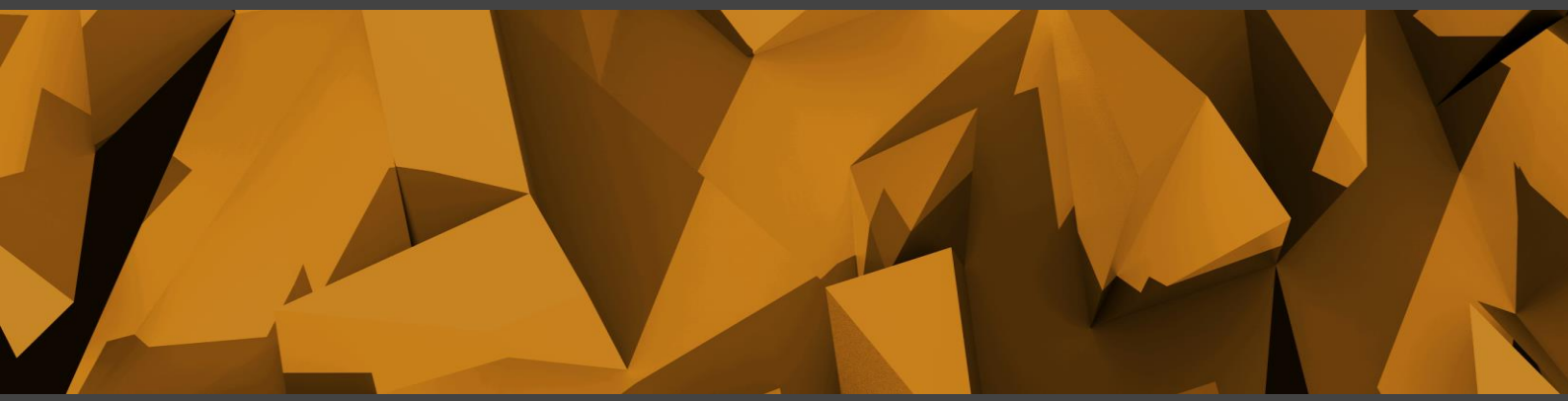
# MeshBrush - Release Notes



## Index

# V1.1

- Fixed a NullReferenceException error when deselecting the gameobject on top of which you were painting meshes.
- Added a "Combine painted meshes" button in the inspector to merge all painted meshes for further performance optimization.
- Added a "Delay" parameter in the inspector to allow painting meshes continuously while holding down the paint button.
- Added the possibility to customize your keyboard shortcuts (per script instance) via the "Customize Keyboard Shortcuts" foldout menu in the inspector.

# V1.15

- Added important slope influence values for more control over the painted meshes rotation.
- Added two toggles: one to optionally flip the Y-Axis on painted meshes; one to either keep your painted meshes upright/tangent to their underlying surface.

# V1.2

- Generally increased the editor's performance.
- Slopes management gets its own group foldout in the inspector.
- New group string in the inspector for visual help to the user.
- Slope filter added.
- Slope reference vector sampling mode added.
- Updated documentation.
- Runtime API script + example script.

# V1.3

- You can now delete painted meshes inside the circle brush.
    - Default deletion key is L.
- Holder object grouping functionality.
- Drastically improved the editor's performance thanks to the new paint buffer.
    - Applies to the deletion too.
- Added option to randomize the number of meshes to paint.
- Added a save functionality to store combined meshes for later re-usage.
    - E.g. via prefabs.
- Updated documentation again (got rid of the ugly .txt file).
- Fixed numerous bugs and stability issues.

# V1.4

- Fixed various small bugs.
- Fixed compiler errors on Android and Web Player.
- Prefab connections are now maintained when painting.
- Added the precision placement mode.
- Added the area combine functionality.
    - It's now possible to combine painted meshes only within the brush area.
- New documentation (getting better and better...).

# V1.5

- Reorganized UI (much, much cleaner and better now).
- Complete remake of the Set of meshes to paint interface.
    - Now with pleasant look and useful list functions, instead of a simple default array.

- Added MeshBrush Templates (saving/loading functionality).
- Added a favourites list for favourite templates.
- Added global painting mode.
- Layer based painting.
- Updated docs.

Fixes:

- Prefab connections are now maintained in all possible scenarios and setups.
- Rigid file paths in code fixed.
    - The root MeshBrush folder can now be moved around freely inside your project.

# V1.6

- Fixed a rare object leak in the paint buffer where saving and restarting the editor in the right moment would not entirely clear the paint buffer (thus leaving some buffered objects in the scene)
- Fixed the hard-coded paths for the template favourites list file and some UI icons.
    - It is now possible to move the root MeshBrush folder freely around inside the project and subfolders
- Definitively fixed the prefab connection problem: those connections are now maintained in all cases and scenarios where you'd paint prefabs
- Added the new Overlap Filter

# V1.7

- More (small) bugfixes and simplified code.
- MeshBrush templates management and data structure simplified (now much more organized and easier to maintain).
- Added many (necessary) undo stack entries for various MeshBrush related actions.

- Added a completely reworked and new Modern UI with drag 'n' drop functionality and dynamically resizable preview icons of the meshes in the set.
- Added the “Constant mesh density” toggle in the inspector (it's now possible to use a mesh density value instead of an absolute number to define how many meshes to paint).

## V1.8

- Painting and sampling with mouse input is now possible.
    - Select Mouse0 as paint key in the inspector.
- Painting with a graphical tablet as input device is now possible.
    - Tested with Wacom Intuos.
- Align with paint stroke (directional alignment) functionality added.
- Fixed precision placement mode not being affected by the slope influence parameter.
- Added tris & mesh counter label in inspector (group related).
- Added scene view lock (toggle in the inspector) to avoid accidental (de)selection of objects when painting with mouse or tablet.
- Slight improvements in code base (more to come in V1.9 until complete revision in V2.0).

## V1.9

- Rewrote entire codebase.
    - New and better runtime API; seamless integration into builds is now possible.
    - Renamed many variables to more meaningful names.
    - Started sticking entirely to MSDN C# coding conventions.
    - More useful xml comments to enhance the VS intellisense experience with the MeshBrush API.
    - Switched to using SerializedProperty in the inspector code.

    - Decoupled and cleaned up redundancies and spaghetti code.
    - Better custom inspector with cleaner source code and well-defined order of functions.
- Created new test scene with Runtime Example script in it to show off the easy integration of MeshBrush V1.9 into runtime.
- Added the Randomize meshes paint function.
    - It's now possible to re-randomize already painted meshes inside the brush area.
        - Default key is J.
        - The properties to randomize can be (de)selected in the inspector; e.g. you can for instance randomize only the scale.
- Cleaned up and improved UI a lot.
    - Inspector now has ranged sliders to facilitate picking a random value for the specific fields.
    - Improved and extended tooltips (they are always accessible when hovering the cursor over the label).
- Added Random scale curve + variation fields to give even more control over the applied scale and its randomness.
- Completely rewritten template structure
    - Saved templates are now perfectly human-readable xml files with the correct .xml file extension
        - No worries for templates saved with previous MeshBrush versions; there is a Migration Utility in V1.9 that allows you to migrate old templates to the new format as good as possible.
            - Can be found under "GameObject/MeshBrush/Migrate selected templates".
    - Used 100% LINQ-to-xml API with XDocument for easy maintainability, readability and consistency.
    - Template Save and Load functions return the template's XDocument instance; good for programmers who need easy code extensibility.
- Reference vector sampling now features average reference vectors.
    - Keep the shift key pressed when sampling to sample from >1 reference normal vector.

- Precision placement mode can be kept active after the final placement of a mesh by keeping shift pressed during the last stage.
    - It's now possible to place multiple meshes precisely with the precision placement mode without having to exit and re-enter the mode via the inspector.
- Rewrote Documentation.pdf and separated the release notes into a separate pdf.
- Created new tutorial video series from scratch on new Glitched Polygons YT channel.
    - More organized tutorials split up based on topic and functionality.
- Created new asset store screenshots and contents (now up to date with the version specific UI and presentation).
    - More professional look.
    - No more obsolete inspectors inside the asset store screenshots.
- Until now, the MeshBrush component had to be unfolded to become active. Now, it's possible to freely collapse the entire inspector while still being able to paint meshes in the scene.

## Known issues:

- Random scale curve field does not update its preview inside the inspector after undoing changes.
    - This is strongly related to Unity itself, I'm sure of it. A bug report has already been filed (Case #934060) and *the issue seems to be already known*.
- Overlap filter is still a performance heavy feature that depends on the amount of painted meshes that it needs to compare to each other. Use with caution or exclusively in many small groups instead of one huge instance (which is better for organizational reasons too).
    - Will be improved in V2.0.