off axis studios

Polyworks Low Poly Packs
User Guide

Version 5.2

The following pages explain the usage of the packs and their components.

You can always find the most updated support documentation at:
https://offaxisstudios.com/docs/

Thank you for your purchase and your support!

This is a generic user guide for all of our Polyworks Low Poly Packs.

All packs function the same, but their contents vary.
For example; the Free Pack contains a limited amount of extras, and the Boardgame Pack has no need for a water effects system.

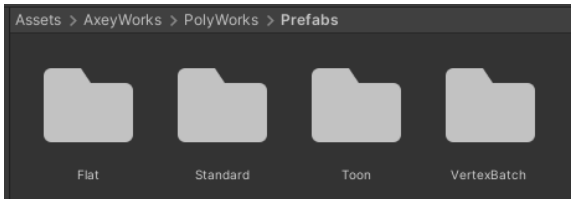
A. Included Components

1. Folder Structure & Files

Within the pack folder there are several items (both core to the packs, and as helpers):

a. The “**Demos**” folder contains demonstration scenes like the ones shown in the individual packs marketing images on the store.
b. The “**Effects**” folder contains effects such as the leaves particle system.
c. The “**Meshes**” folder contains all of the base meshes and materials for a pack. For the most part, you won’t need to use anything from within here, unless you want to duplicate materials from the existing ones for customisation.
d. The “**Prefabs**” folder contains subfolders for each shader type (Flat, Standard, Toon, VertexBatch).
e. The “**Scripts**” folder contains some smaller ‘helper’ effect scripts such as flickering lights, floating sway and rotation for the demo scenes and your own use.
f. The “**Shaders**” folder contains the custom shaders used in the pack in their open graph form. If you are modifying these it is strongly recommended to make copies to do so.
g. The “**Texture Decals**” folder (for packs that contain them) has a selection of images for use as decals, such as graffiti, art, grass, etc.

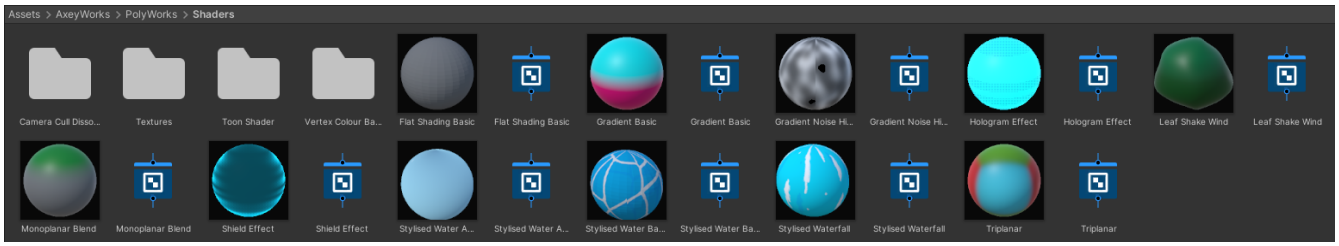
The “**Prefabs**” folder will contain something similar to the below:



Each of these contains the same set of prefabs for the models in the packs, but with their different shader types.

a. “**Flat**” includes items setup with a flat shading shader, perfect for soft stylised scenes.
b. “**Standard**” includes items setup with the standard Unity URP shader.
c. “**Toon**” includes items setup with a basic toon (cell shaded style) and outlines shader for hyper stylised projects. This shader needs to be tweaked for your preference of rim light, shadow, etc.
d. “**BatchVertex**” includes items setup with a shader and script that uses a single material, but with different colour values driven by script for the different submeshes and is coloured by vert. It is designed to be a trade-off between GPU and CPU performance wise, equivalent to the use of a texture atlas, but more flexible, with no need to edit the atlas in an external program.

The “**Shaders**” folder will contain something similar to the below:



Please note that some packs do not include all additional shaders and effects.

The list of included shaders are below:

a. “**Camera Cull Dissolve**” comes in a subtractive and additive form. It allows for a shader to be applied to objects that references a camera, and dissolves the surface based on proximity. Allowing for additive “lit when near” effects as well as subtractive “see-through when near” effects. It includes a script that tracks the culling object (such as a player) and the shader graph, with two demo materials (one additive, one subtractive).

b. “**Textures**” includes a flow map, a voronoi and smear texture for use in the shaders.

c. “**Toon Shader**” is an all purpose “cel shaded” looking shader supporting a tint, shadow, rim light and maps. It’s default values support spherical display and will need to be tweaked on a per-style or per-object basis.

d. “**Vertex Colour Batch**” is a shader designed to be used specifically with this pack and the way that each object has separate sets of materials. It includes a script to attach to an object along with the included material. It will sample the current colour and apply it to the object via vertex info. This allows the use of a single material across any batches (or all) objects you want to use this for - giving you similarly performant objects to a traditional texture atlas, but with a lot more flexibility and no need for editing textures and being concerned about what other object may use a particular colour swatch in the atlas.

e. “**Flat Shading Basic**” is a flat shading shader for the soft flat classic “low poly” faceted look.

f. “**Gradient Basic**” is a gradient shader allowing two colours to be used on the surface and a mix amount and position to be chosen, allowing for some interesting visual effects.

g. “**Gradient Noise Highlight**” is a gradient shader that uses an inner and outer colour based around a centre location, allowing for interesting “highlight” type effects.

h. “**Hologram Effect**” is a shimmering/rolling noise textured shader with transparency to give the effect of a hologram.

i. “**Shield Effect**” is similar to the hologram effect with a glow/highlight applied to intersecting points on the surface.

j. “**Leaf Shake Wind**” moves the object surface with a simulated wind, ideal for giving foliage and the like a subtle sway.

k. “**Monoplanar Blend**” allows for the blending of two colours and maps based (top and bottom) on a blend position, similar to a gradient effect but more controlled and supporting world position. This allows objects to be colour blended into scenes and textures based on their height in the world, or individually.

l. “**Triplanar**” is similar to the monoplanar blend shader, except that it supports all three axes, so that blending can occur on any face. This allows for scenery blending similar to the monoplanar, as well as stylistic face colouring.

m. “**Stylised Water Advanced**” is a stylised water shader that supports water depth based colouring, refraction, foam on surface and edge, perspective camera, emissions, alpha, chop, flat shading (faceting), overlay of textures, tinting of overlay textures, metallic and smoothness. There are a lot of individual values to tweak that all interact together allowing for powerful artistic water, but is more challenging to use due to its many interacting parts.

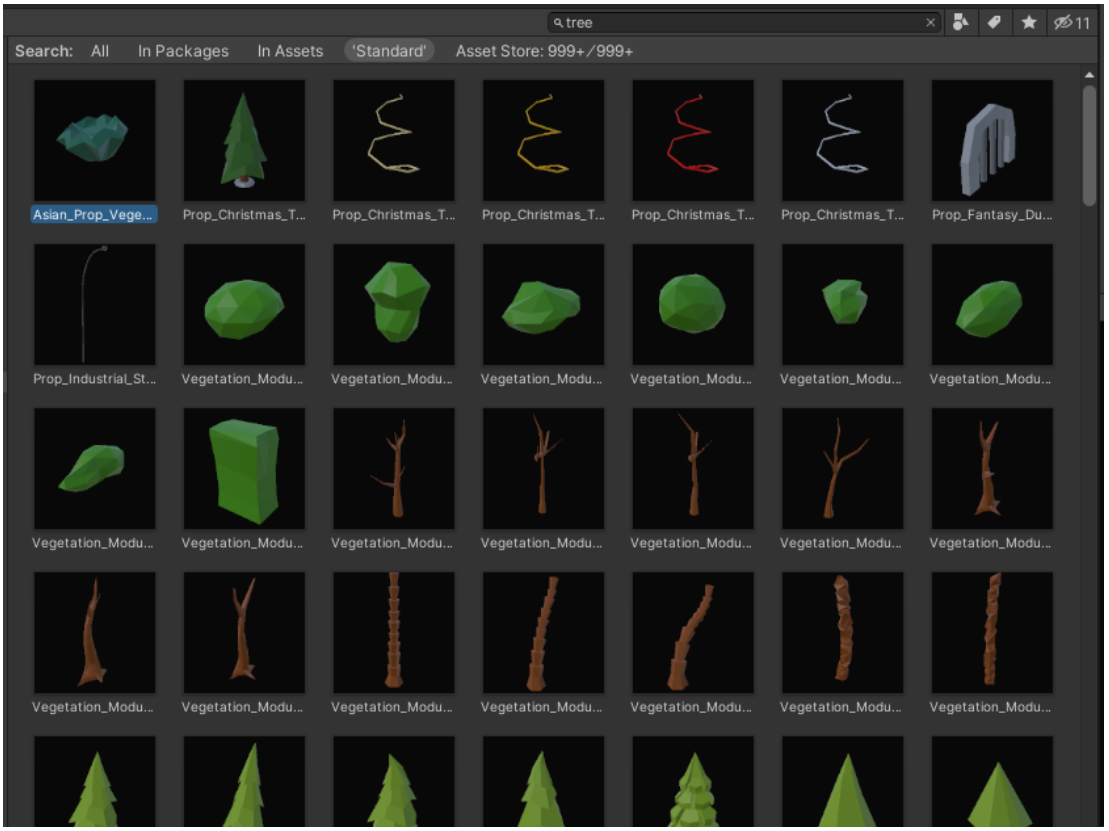
n. “**Stylised Water Basic**” is a different version of the stylised water shader with more limited features. It uses a flowmap for the water flow in place of value driven noise. Supports flow speed and strength, foam overlay texture (above and below) colour tinted based on depth, foam distance, chop, opacity / alpha, perspective camera, flat shading and emission. It can still produce powerful artistic impact, but has less values to tweak and balance.

o. “**Stylised Waterfall**” is a shader for use with planes etc. that rolls a noise driven texture twice over a surface with a light and dark colour to produce a stylised waterfall look. The water speed can be adjusted and the foam texture can be changed. It supports tiling and offset for the texture, a light and dark tint for the foam as well as a strength for the noise waiver.

B. Usage

The usage of the pack is quite simple; navigate to the prefab folder with the shader you want to use (standard being the default everyday use shader), and drag and drop the model into your scene, positioning and combining it as needed.
Combining pieces and recolouring them is the key to getting some great props into your scenes, as you will see in the demo scenes. You can think of the pack as something similar to a model kitbashing kit, or a plastic building blocks kit.

All prefabs are sorted into categories or packs to attempt to best sort them for use. Each prefab is also named in a way that includes keywords for searching (the recommended way to surf through the thousands of models).
If you can't find what you're after by browsing, or you want to search via a keyword, you can use the project search within Unity to return results and find what you are after, like below:



C. Feature Requests & Support

If you have any feedback or need support, please drop us an email at contact@offaxisstudios.com and include your invoice number and any screenshots or information you think might help us assist.

Thanks again for your support!