Animation Baker and Instancing for Animated Characters v1.0.0
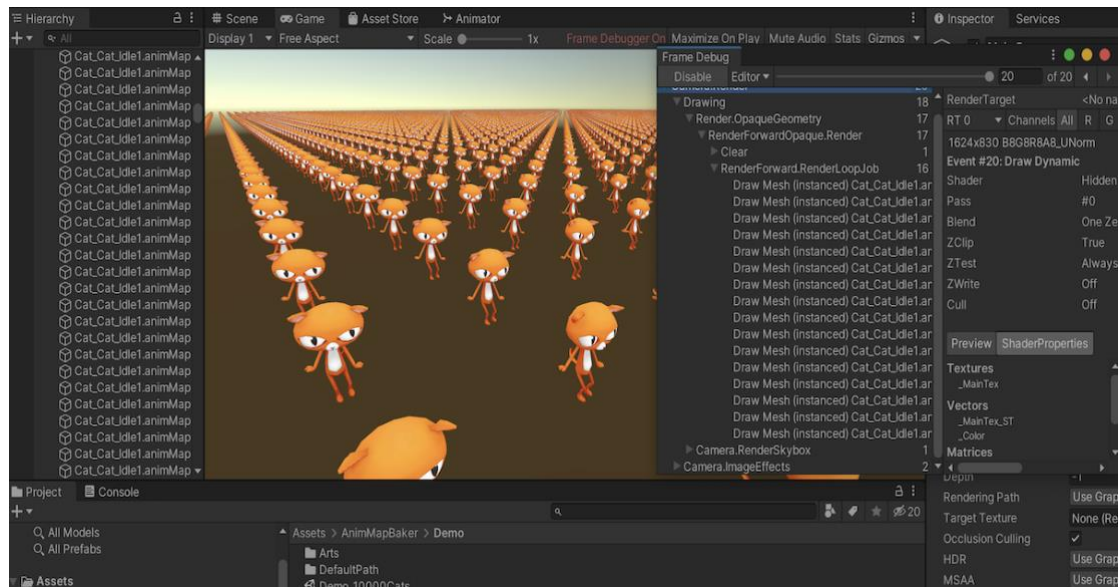

Table of Contents

About

Using GPU to implement large-amount animation characters rendering. The animation map for vertex shader to modify the vertex position of the mesh at runtime. Use GPU instancing to reduce draw calls. The initial version was released at GitHub on 30 Jul 2017, and of course it is still on GitHub. However, if you can buy me *a cup of coffee*, I will be very happy :-).

Recently I added support for Unity 2019, so it can be used from Unity 5.x to Unity 2019. And I created a video tutorial to demonstrate how to use it. If you want to know more about the implementation behind it, you can read this article I wrote.

Features:

- ✓ Use animation map to modify the position of vertices of your characters at runtime to avoid a lot of cost of skin calculation.
- ✓ Using GPU Instancing to reduce the number of draw calls, only 20 draw calls are needed to render 10,000 soldiers playing attack actions in the demo scene.
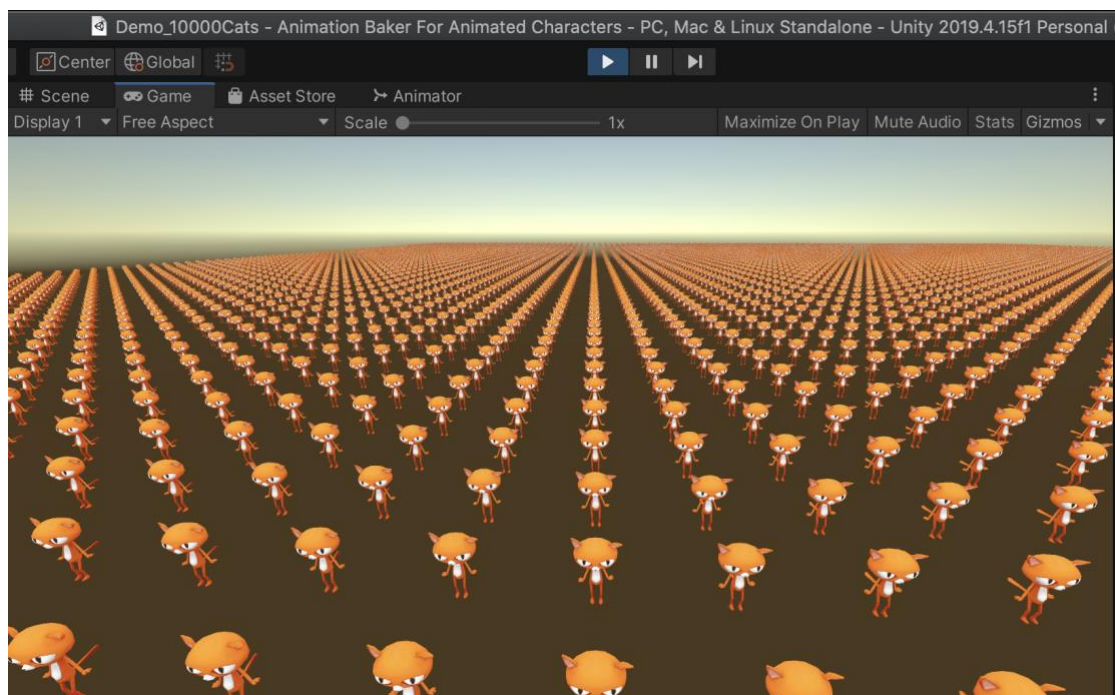
Changelog

- Sep 8, 2020 – CI/CD pipeline on GitHub
- Aug 29, 2020 – Support Unity 2019+
- 30 Jul 2017 – Initial release
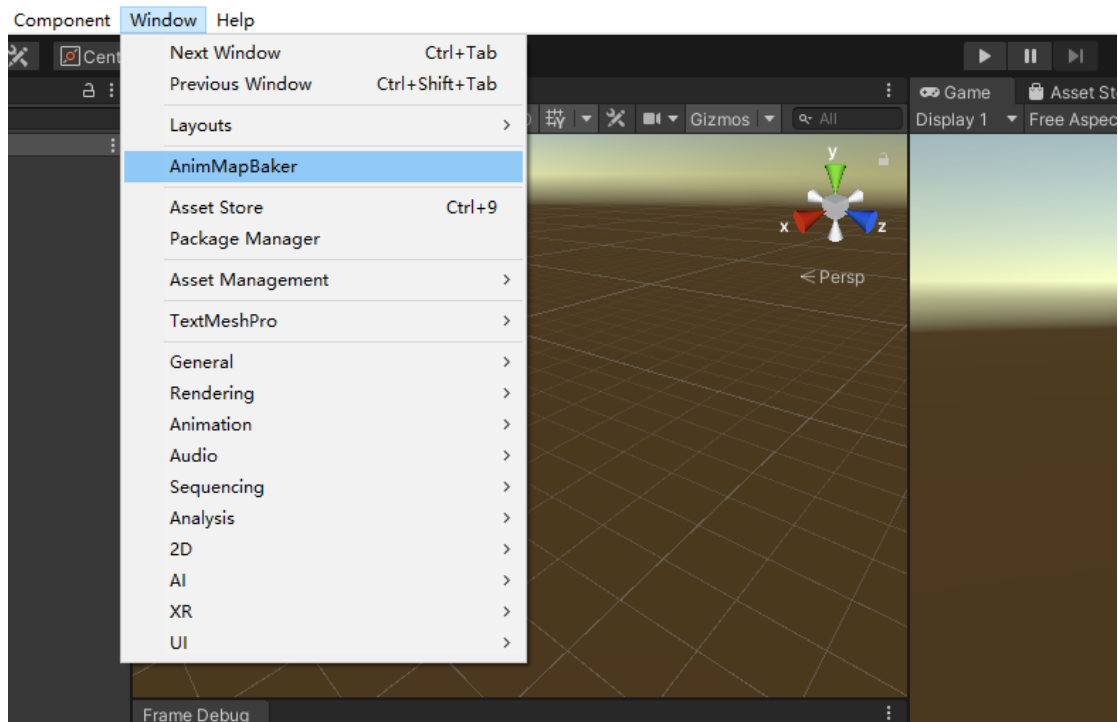
Set Up the Project
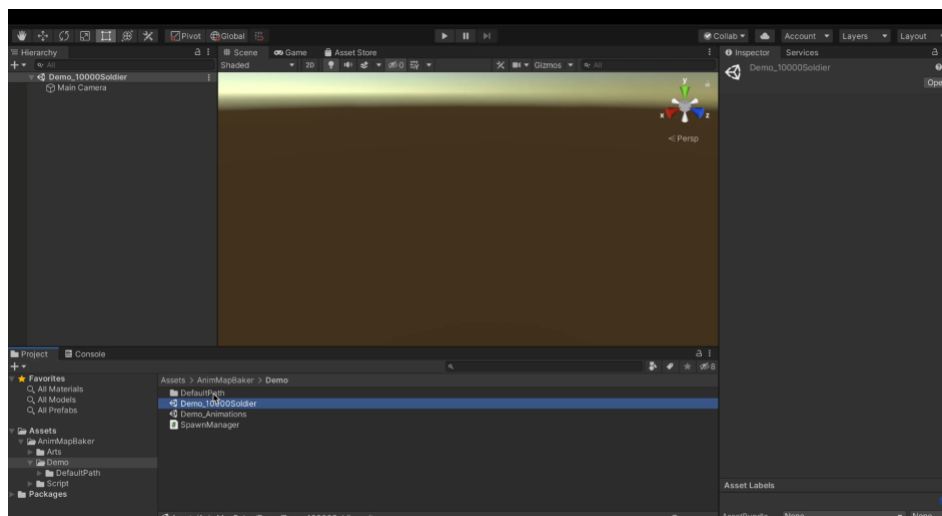
By default, there is a folder called 'DefaultPath' in the Demo folder of the project, which contains pre-generated animmap and prefabs, so you can directly open the "Demo_10000Cats"scene to run.
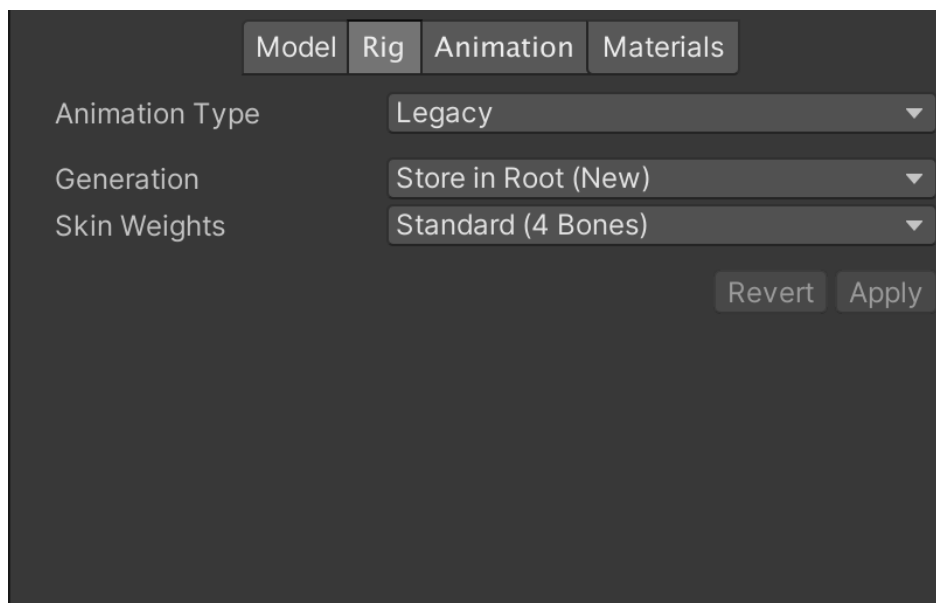
Bake Animation Map

If you want to create your own animation map and prefab, you can open the AnimMapBaker window via "Window/AnimMapBaker" menu.
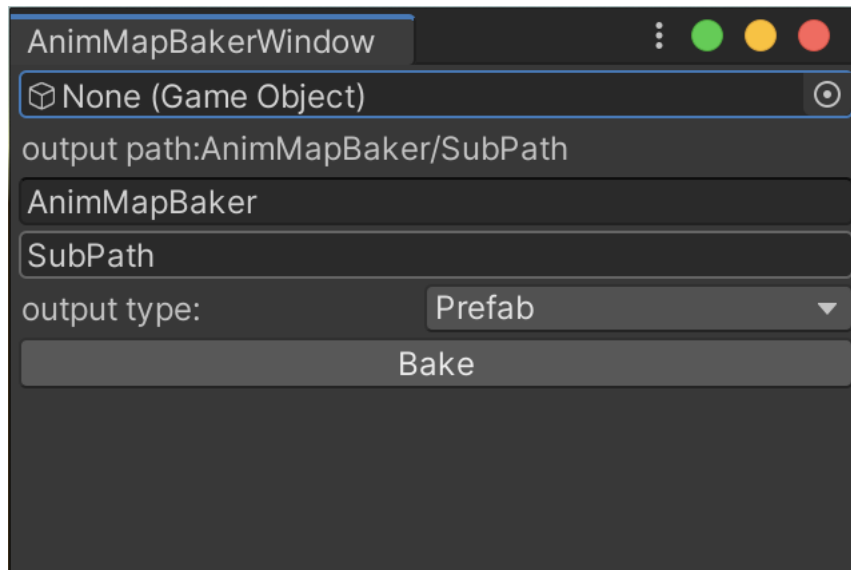

In the window, you can assign the target prefab and output path.
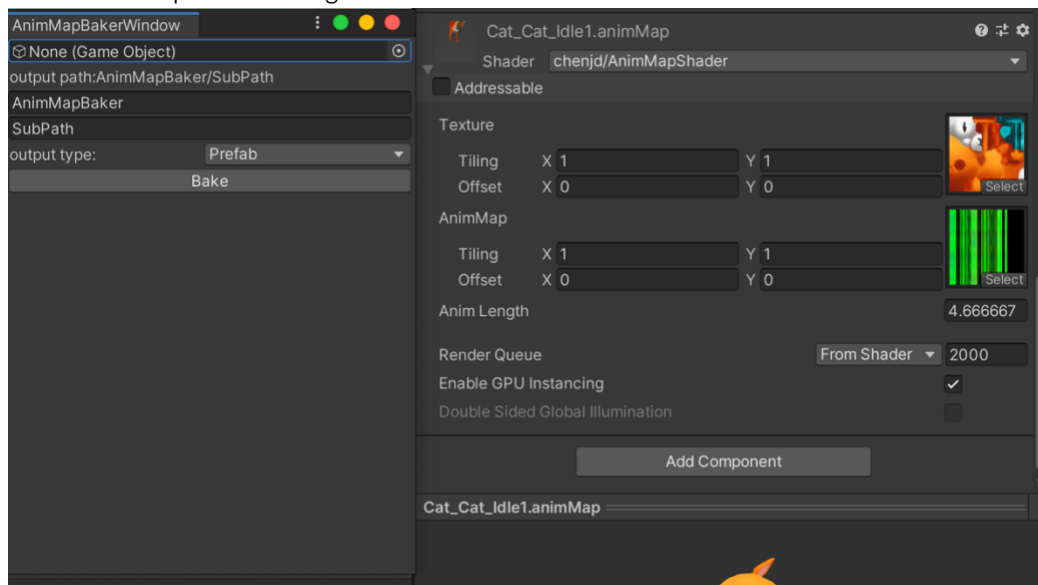And the target prefab should contain the **legacy animations (not animator!)** you want to bake.

The output type should be "**Prefab**".

Enable the GPU Instancing

After the prefab is generated, a corresponding animation map will be generated and the animation map will be assigned to the material.

Now, you need to check the "**Enable GPU Instancing**" option to enable GPU Instancing function.

Video Tutorial

https://www.youtube.com/watch?v=vqPIILqoJEI

Article - How to Render 10,000 Animated Characters With 20 Draw Calls in Unity

http://www.jiadongchen.com/2020/06/how-to-render-10000-animated-characters-with-20-draw-calls-in-unity/