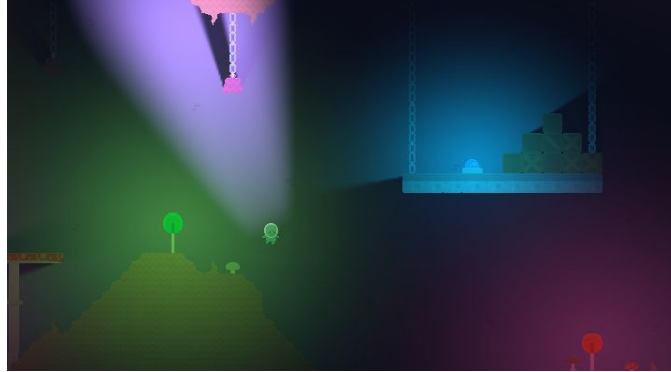


SFSS Performance Tips



- Soft shadow rendering performance is mostly affected by the number of lights onscreen at once, and how many pixels on the screen they cover (including their shadows). You want to make sure that on average, each pixel on the screen is affected by only a few lights.
- If you can't reduce the average number of lights per pixel, then use the downsampling parameters on SFRenderer to draw fewer pixels. This is especially important on mobile or computers with integrated graphics.
 - Do this by increasing SFRenderer **Light Map Scale** and **Shadow Map Scale**
 - **Light Map Scale** can easily be 8 or more with little visual impact. Smaller lights will look blocky when you get up to 16 or 32. Experiment!
 - **Shadow Map Scale** will cause shadows to get blocky, especially if you have a lot of sharp shadows in your game. A value of 2 - 4 is a good tradeoff of quality and performance.
 - Some mobile devices have a low fillrate, especially early retina iPads. We find that **Shadow Map Scale** of 4 or higher looks great and performs great on these devices. Because they are so high res, the quality often looks better on the device than your desktop screen.
- SFPolygons are batched on the CPU. This means that for very large and detailed polygons, such as a level outline, it's better to break them into smaller chunks. That way the CPU doesn't have to spend time batching parts of the polygon that can't be seen. The cost is per-vertex, so only worry about large polygons if they have a lot of vertexes.
- Try disabling shadows on very small lights. This will save you a draw call and some CPU time for culling and batching shadow casters.
- Very large smoke particle textures, such as the one in the Cave demo can eat a lot of fillrate. On many mobile platforms, SFSS will be competing for that fillrate, so you'll have to balance where you spend it.
- Avoid creating very large lights with shadows enabled, as this can cause a lot of SFPolygons to be batched.
- Using SFSample makes a sprite/mesh unbatchable. Don't create thousands of individually sampled blades of grass for example.