Marmoset Toolbag is a real-time rendering application for preview, editing, and presentation of 3D artwork. This talk will discuss the rendering techniques employed in Toolbag, the practical considerations of their implementation, and a comparison of Toolbag to modern game engines. Techniques covered will include importance sampling for image-based lighting, screen-space ray tracing, area light sources and shadows, a shader permutation system, temporal supersampling, cross-platform development, and more.

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Jeff Russell is a founder and engineer at Marmoset, focusing on real-time rendering systems for games and art. He has worked in game development since 2005, mostly as an independent, creating commercial rendering systems and engines on a variety of platforms.

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