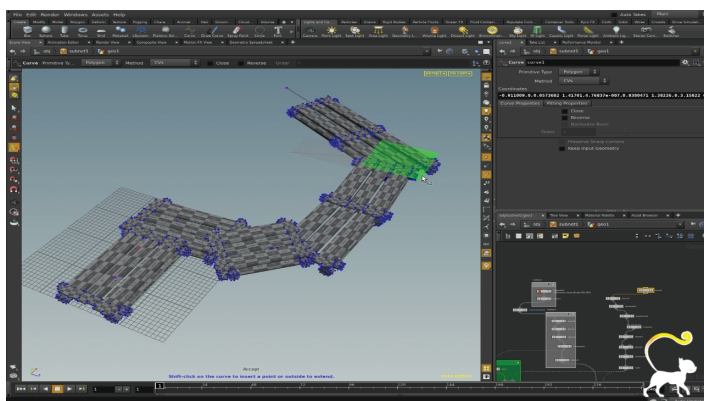




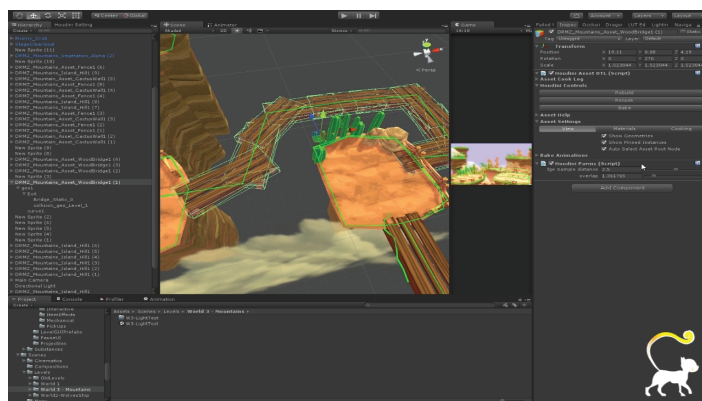
HOUDINI ENGINE FOR GAMEDEV

Houdini Engine brings a procedural node-based approach to creating game content. Build networks that define a recipe that can be applied over and over, then wrap them up to create custom smart assets. Share these assets with colleagues who can load them directly into game editors such as Unreal® or Unity,® 3D apps such as Autodesk® Maya® or 3ds Max® or proprietary game editors.



Procedural Asset being built in Houdini | Feline Arts

IN HOUDINI | In Houdini, everything you do creates a node. These nodes are wired together into networks which define the flow of data which allows you to easily go back and make changes. Networks can also be encapsulated into single nodes called Houdini Digital Assets which let you share your techniques with colleagues. These assets provide artist-built tools that can create the backbone of a procedural gamedev pipeline.



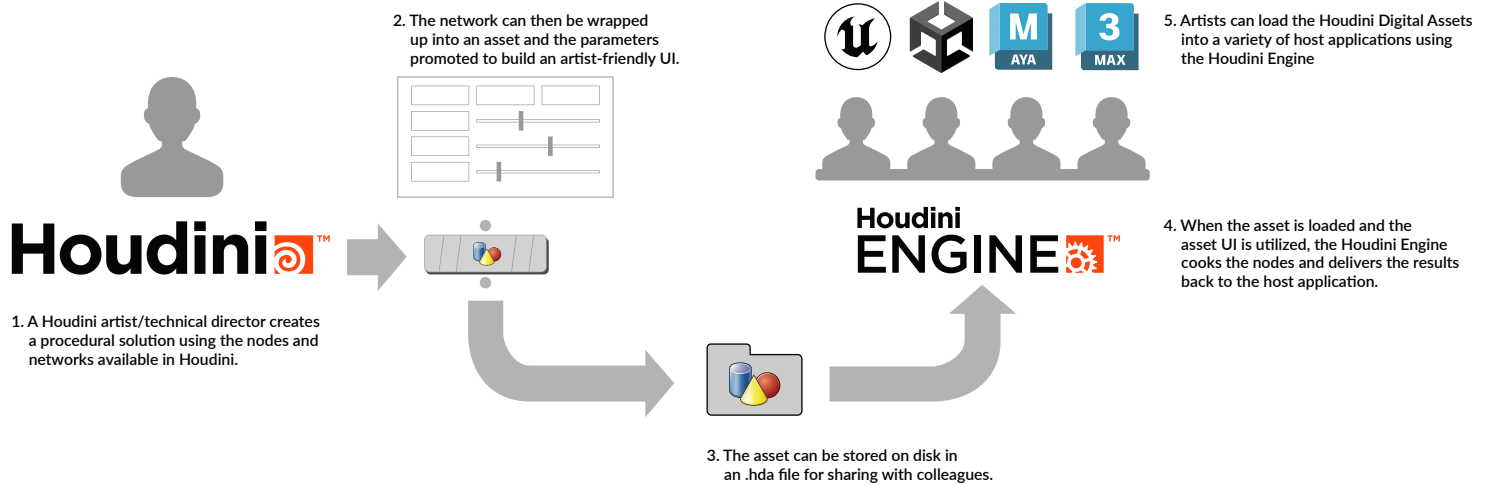
Asset being deployed in Unity for Suki and the Shadow Klaw | Feline Arts

IN YOUR GAME EDITOR | Houdini Engine lets you load these Houdini Digital Assets into your game editor. Any parameters added to the asset are available for editing and handles can be set up in the viewport for interactive manipulation. One asset can be used multiple times in a level or in multiple levels. Changes made to the core asset, even deep into production, will update all instantiations of the asset.

“The quality of the graphics in *Suki and the Shadow Klaw* improved dramatically thanks to Houdini Engine. I have 50 levels, which is too difficult for a one-person team to “hand model,” so I turned to Houdini Engine which lets me bring procedural assets into Unity to rapidly create game art without getting bogged down by repetitive actions.”

— Luis Garcia | Indie GameDev | Feline Arts

HOW ENGINE WORKS



PLUG-INS

Houdini Engine lets you load Houdini Digital Assets into other digital content creation apps such as Autodesk Maya, Autodesk 3ds Max, Unreal or Unity. You can also use the Houdini Engine API to create your own plug-ins for proprietary applications.

Unreal | Open the door to powerful procedural workflows with Houdini Engine for UE4. Load Houdini Digital Assets into the Unreal Editor and manipulate parameters to get the right look for your game.

Unity | Create procedural game art using Houdini Digital Assets loaded into the Unity game editor. Create unique environments and props that can be modified using parameters on the asset.

CUSTOM PLUG-INS | The Houdini Engine API can be used to create plug-ins for any number of applications. If you are interested in creating a plug-in for your favorite app, you can get started right away!

Autodesk Maya | With the Houdini Engine, Houdini Digital Assets can be loaded into Autodesk® Maya® with procedural controls available to artists. These assets can interact with Maya geometry and the results can be rendered in the Maya UI.

Autodesk 3DS Max | Bring Houdini Digital Assets into this popular Windows-based 3D modelling and animation package. This plug-in is available on github and is being generously developed by Hideki Suzuki, a member of the Houdini community.

To explore the Houdini Engine API and to create your own plug-in, visit github.com/sideeffects. There is sample code from our other plug-ins to show you how to get started.

BATCH

A Houdini Engine license can also be used to batch process Houdini scenes on the farm. Whether you are rendering to Houdini Mantra, processing a large fluid sim or combining a library of assets into a single scene, Houdini Engine provides behind-the-scenes control.

Distributed Rendering | Houdini's Mantra renderer works by processing scene description [.ifd] files created by Houdini at render time. To free up your workstation from this task, you can utilize Houdini Batch to create these .ifd files then send them to the unlimited Mantra tokens which come free with each license of Houdini.

PYRO FX Sims | To create smoke and fire, VFX artists can turn to Houdini's Pyro FX tools to simulate and render fire and smoke effects then partition and distribute them to your farm using Houdini Engine. The speed and memory advantages make this a great way to meet key deadlines.

FLUID Sims | In Houdini, FLIP fluids provide a unique combination of particle and fluid dynamics to create realistic simulations of flowing and splashing liquids. In Houdini, these processor-heavy calculations can be sliced into smaller simulations that are distributed to the farm. These slices not only speed up your overall simulation time but also allow for bigger overall sims because the total memory used is split into smaller, more manageable chunks.

Wedging | To quickly explore multiple iterations in Houdini, you can turn to the Wedge tool to re-render or re-simulate a shot multiple times, using different parameter settings. This approach lets you easily compare results with different values which can then be stamped on the resulting images to identify each wedge.



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