

Havok™ Destruction

Destroy with Ease Using Next-Generation Technology



Havok Destruction provides you with the tools and runtime SDK to easily create destructible assets and worlds, significantly reducing the cost of asset creation with a suite of custom in-modeler tools. Havok Destruction offers game developers complete control over runtime and memory performance, and enables a level of never before seen believability and interactivity in destructible game environments.

Havok Destruction integrates into any production pipeline, and, like every Havok product, features highly optimized performance on the industry's leading game platforms.

Cutting-Edge Game Design Features

With Havok Destruction, you have access to a powerful set of technologies designed to make next-generation game content creation fast and easy:

In-Modeler Asset Fracture Tools

The Havok Destruction modeler tools have features to cover all major use cases, like vases, tables, pillars, deforming barrels, bridges and buildings. Breaking an object automatically simply involves specifying properties such as the roughness and textures of broken surfaces. An artist can choose from several automatic fracture algorithms (e.g. stone or wood), or he can hand-craft the broken pieces for full artistic control. Of course he can also mix and match both techniques. The resulting pieces can be viewed in the modeler and further tuned if desired. Rapid iteration and previewing of results via a real-time preview make this a highly efficient tool time process.

Complete Solution for Buildings

Easily break complex structures from original unbroken geometry by a number of tools and runtime algorithms:

- Automatically create the physics representation using convex decomposition.
- Specify areas of destruction by creating

simple cut out areas in the modeler and fracture them automatically.

- Add special effects to create realistic looking composite materials, for example plaster-covered brick walls.
- Automatically add extra decoration and debris objects to improve graphical complexity without increasing the memory footprint.

Structural Destruction Tools

Havok Destruction allows the easy creation of structures such as bridges, scaffolding or fire escapes, that can deform and break under the influence of loads and impacts in believable ways. Links between structural elements are automatically determined, and simulated efficiently by the Havok Physics SDK.

Object Deformation Tools

Create deforming objects such as metal barrels and containers, with automatically created and optimally simulated deformation bones.

(Design Features continued on Page 2)



The Shoot uses Havok Destruction
Image courtesy of Sony Computer Entertainment

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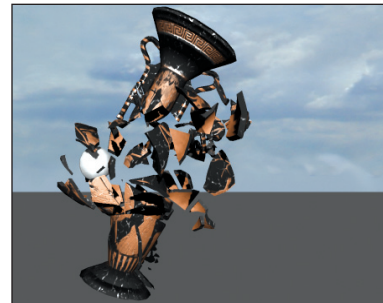
Cutting-Edge Game Design Features (Continued)

Control Over Memory Usage

Key to deploying destruction in a game is the control of memory usage. Havok Destruction provides techniques for instancing, dynamic fracturing, reusing existing predefined debris pieces and decorating objects. Furthermore the game developer has full control of when and how breakage will happen, for example selecting a lower LOD for objects breaking behind the player.

Integration with Havok Tool Suite

The features in Havok Destruction are designed to work as natural extensions of Havok's existing Content Tools. Data integration is provided via the Havok Filter Pipeline.



FEATURES	BENEFITS
In modeler creation tools to cover a huge number of destruction use cases	Significantly reduce content creation costs for destructible environments
Incorporates tools specifically targeting <ul style="list-style-type: none"> • Simple and multi-material props • Destructible buildings • Deformable objects • Believable structures 	<ul style="list-style-type: none"> • Unprecedented level of realism for structural mechanics, graphical effects and game-level design • Quickly and easily create large numbers of believable destructible game objects
Full support for the industry's leading game platforms	Compelling content creation for games designed to run on Nintendo® Wii, Microsoft® Xbox 360®, Sony®Playstation®3, Sony® PSP™, PC, Linux, Mac, iPhone/iPad, and Android.
Industry Leading Support	Dedicated account managers from our world renowned Developer Relations group will work with your team to ensure you get the most from your Havok products.

Professional Services

Havok offers dedicated onsite professional services that provide focused assistance to help studios meet the ever-evolving demands of their development cycles.

For More Information

www.havok.com

