

Autodesk®
In Games



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HARMONIX

Autodesk Digital Entertainment Creation technology empowers game artists and developers with content creation tools and middleware solutions for building innovative game experiences.

From 3D sculpting and advanced rigging tools to easy-to-integrate middleware libraries, Autodesk gives you what you need to realize your vision for the game.



WET™ © 2009 Artificial Mind and Movement Inc. Image courtesy of Artificial Mind and Movement Inc. All rights reserved.

Titles like *WET* are getting a lot closer to interactive films at this point, and the quality of the content is more important than ever. So if we can optimize our pipelines to enable more iterations at a faster pace, then we're ahead of the game. Tools like Maya, MotionBuilder, and Kynapse help us get there.

—Martin Walker
Chief Technology Officer
Artificial Mind and Movement

Creative Collaboration

Powerful Art Creation Tools

Autodesk provides game art teams with a broad set of tools for creating 3D characters, props, environments, and animation for groundbreaking games. Autodesk also makes innovative software solutions for solving very specific challenges in game development: challenges such as facial animation, motion data editing, and normal map baking.

Cutting-Edge Game Middleware

Autodesk is a maker of world-renowned game middleware products. These high-performance technologies are innovative, easy to integrate, flexible, and backed by solid support. Combining Autodesk middleware with Autodesk art creation tools results in more cohesive systems that help development teams create amazing games more efficiently.

Interoperability Technology

Many Autodesk Digital Entertainment Creation applications support the Autodesk® FBX® technology, an open framework for 3D data transfer that creates a high-level of interoperability among Autodesk products as well as certain third-party applications.



Fable II. Image courtesy of Lionhead Studios.

Best-of-Breed Creative Tools

Get equipped with the best tools for creative game content creation. Relied on by game studios for creating 3D characters, props, environments, and animation, Autodesk tools are dependable solutions for bringing your creative vision to life.



Ratchet and Clank Future: A Crack in Time, Sony Computer Entertainment/ Insomniac Games.

Full Game Art Creation Software

Personal preference is important to artists. That's why Autodesk continues to develop the unique qualities of: Autodesk® Maya®, Autodesk® 3ds Max®, and Autodesk® Softimage® software. These fully featured, comprehensive solutions each offer production-proven toolsets for 3D modeling, animation, rendering, effects, and compositing, enabling you to handle everything from in-game assets to final box art.

Character Animation Solutions

For certain types of character animation, Autodesk® MotionBuilder® software is your best choice: perfect for motion capture data, character performances you want to edit in real time, and motion that will be applied to a large number of unique characters. With FBX as its native file format, character data flows between MotionBuilder and certain other major game art applications efficiently.

If the story calls for expression of strong character emotion, then top-quality facial animation is probably in order. An Autodesk Softimage Face Robot-rigged and animated head, which can be quickly brought into either Maya or remain in Softimage, is the ideal solution.

High-End Modeling

For artists wanting to create highly-detailed, complex models, Autodesk® Mudbox™ software is up to the challenge. With an easy-to-use interface and artist-friendly sculpting, detailing, and texture painting tools, Mudbox helps you create stunning, ultra-realistic models, and then extract the details through normal and displacement maps. Mudbox works hand-in-glove with Maya, 3ds Max, and Softimage, for a smooth production workflow.



Blade Kitten. Image courtesy of Krome Studios.

Autodesk Entertainment Creation Suites

The Autodesk® Entertainment Creation Suites offer creativity and productivity for less, with your choice of Maya or 3ds Max, along with MotionBuilder and Mudbox. All-in-one, cohesive packages, the Entertainment Creation Suites empower you to explore more creative ideas, faster.

The Data Flow

Use Autodesk FBX interoperability technology to build highly efficient, scalable workflows.

Mixamo animation customization is all real-time. We needed something that responds very quickly, which HumanIK provides. Since we're using FBX and the fact that HumanIK, MotionBuilder, and FBX are integrated, there was added value in using all three technologies collectively.

—Stefano Corazza
Chief Technology Officer
Mixamo



Uncharted 2: Among Thieves™. Image courtesy of Naughty Dog, Inc.



Assassin's Creed II. Image courtesy of Ubisoft.

As a platform-independent 3D data framework, FBX supports high-fidelity 3D asset exchange that removes barriers to software compatibility. It is a widely used and supported data standard that enables you to move files between certain Autodesk applications, as well as many third-party tools and in-house software that integrate FBX. This leaves you, and your facility, free to build the most efficient workflows for your projects using the best software products for the job. Moreover, you can use FBX to export 3D models and animation data from your content creation solution to popular game engines: Epic Unreal® Engine 3, Unity, and Microsoft® XNA®.

Free*, easy-to-use C++ FBX software developer kit (SDK) and FBX Extensions SDK contain source code, instructions, and examples to help you customize various aspects of FBX. With them, you can manipulate information stored within FBX, convert animation and geometry data across data structures, and add custom data to the import and export mechanisms. And now you can also create and manipulate FBX data via a new Python® binding, enabling you to integrate FBX technology into your pipeline without needing to write C++ code. Learn more at www.autodesk.com/fbx

*Free products are subject to the terms and conditions of the end-user license agreement that accompanies the software.

Code You Can Build On

Use Autodesk Kynapse and Autodesk HumanIK middleware to create innovative, new gaming experiences.



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Autodesk® Kynapse® artificial intelligence (AI) middleware, and Autodesk® HumanIK® animation middleware, free developers to focus on what makes their games fun and unique. These high-performance, flexible middleware technologies, optimized for multiple game platforms such as Sony PLAYSTATION®3, Microsoft® Xbox 360®, Nintendo Wii™ consoles, and the PC have been production proven on numerous AAA games.

As a leading AI solution, Kynapse is used to create believable in-game characters. Kynapse provides game AI engineers an extensive set of software libraries to give characters real-time 3D pathfinding, spatial awareness, and team coordination capabilities, helping them save time and achieve higher game realism.

HumanIK animation middleware helps game developers achieve higher quality, believable real-time character animations through an extensive set of targeted software libraries. HumanIK enhances animation systems by enabling characters to interact more realistically with 3D environments, other characters, and objects. It also offers real-time retargeting capabilities, so that animations can be reused on other characters. With fewer gameplay constraints, HumanIK brings games to life through more interactive 3D character animation experiences.

Autodesk middleware solutions are backed by a team of support engineers, who are there to help your game production meet its key milestones.

The huge world of Warhammer meant we needed a very robust pathfinding solution. Autodesk Kynapse gave us an algorithmic exploration solution that enabled our AI driven actors to path with the same constraints and freedom as players.

—Matt Shaw
Chief Technology Officer
Mythic Entertainment,
an EA Studio

The Autodesk Advantage

Autodesk content creation tools and middleware solutions help you focus on the game.



Ghostbusters™: The Video Game. Image courtesy of Terminal Reality.

Autodesk® Maya® software is a powerful modeling, animation, and rendering application. Based on an open architecture, it provides a high level of control over game art workflows and pipelines. Maya offers a comprehensive range of character animation editing tools; a full suite of advanced modeling and texturing tools; Maya Embedded Language (MEL) and Python® scripting; and an extensive application programming interface (API) for customization. Learn more at www.autodesk.com/maya.

Autodesk® 3ds Max® software is a powerful, full-featured modeling, animation, and rendering package. It offers a ready-to-use, template-based character rigging system, robust modeling and texturing toolsets, and an extensive range of third party plug-ins. Learn more at www.autodesk.com/3dsmax.

Autodesk® Softimage® software is built on a high-performance, extensible architecture and provides a comprehensive set of modeling, texturing, and animation tools. Softimage features the Interactive Creative Environment (ICE), a platform for building effects and tools visually using a node-based paradigm, and now includes the Face Robot animation technology for high-end facial animation. Learn more at www.autodesk.com/softimage.

Autodesk® MotionBuilder® software is a powerful 3D character animation software for games. With its real-time environment, rigging, simulation, and motion-capture (mocap) data editing tools, the MotionBuilder software is the perfect complement to 3ds Max, Maya, and Softimage. Learn more at www.autodesk.com/motionbuilder.

Autodesk® Mudbox™ high-performance digital sculpting and texture painting software enables 3D modelers and texture artists to focus on the art, not the tools. It offers a highly intuitive user interface; organic, brush-based sculpting tools; and a production-focused texture painting workflow. Learn more at www.autodesk.com/mudbox.

Autodesk® Entertainment Creation Suites offer a powerful range of creative toolsets at a significant cost saving. Available in two options, the suite offers a choice of either 3ds Max or Maya, and includes MotionBuilder real-time character animation software, as well as Mudbox digital sculpting and 3D painting software. Learn more at www.autodesk.com/entertainmentcreationsuites.

Autodesk® Kynapse® middleware is a leading AI solution for game development and real-time simulations. Bring your games to life with characters that can find their way through complex 3D environments and even coordinate

with teams. Used by over 80 AAA game titles, Kynapse is a proven solution for putting the brain in your game. Learn more at www.autodesk.com/kynapse.

Autodesk® HumanIK® animation middleware is a run-time solution for creating believable, interactive character animation for games. HumanIK features full-body inverse kinematics and real-time retargeting, so that characters can interact and procedurally adapt to game environments. Learn more at www.autodesk.com/humanik.



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On *Assassin's Creed II*, having a package like HumanIK allowed us to address our IK problems quickly without sacrificing results or performance.

—James Therien
Lead Programmer
Ubisoft

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