endorphin 2.7
dynamic motion synthesis

endorphin is the 3D industry's first **dynamic motion synthesis** software.

At the heart of *endorphin* are its **Adaptive Behaviours**, which – unlike animation data – are completely interactive.

With **Adaptive Behaviours**, 3D characters essentially animate themselves. Move two Football players close to each other and one will automatically tackle the other one, realistically trying to grab hold of his legs and bringing him down.

Or not. It really is up to you. *endorphin* allows animators to direct scenes in real-time in a way they have never been able to do before. You can change parameters or change behaviours and see the results instantly on the screen in front of you. It is software that will not only save animators time, it will save money.

New Features in 2.7

- *endorphin* Control Panel plugin for Maya

- Fluid effects

- Extended forces and torques

- Improved hold effect

- Improved file format support

- Improved resources
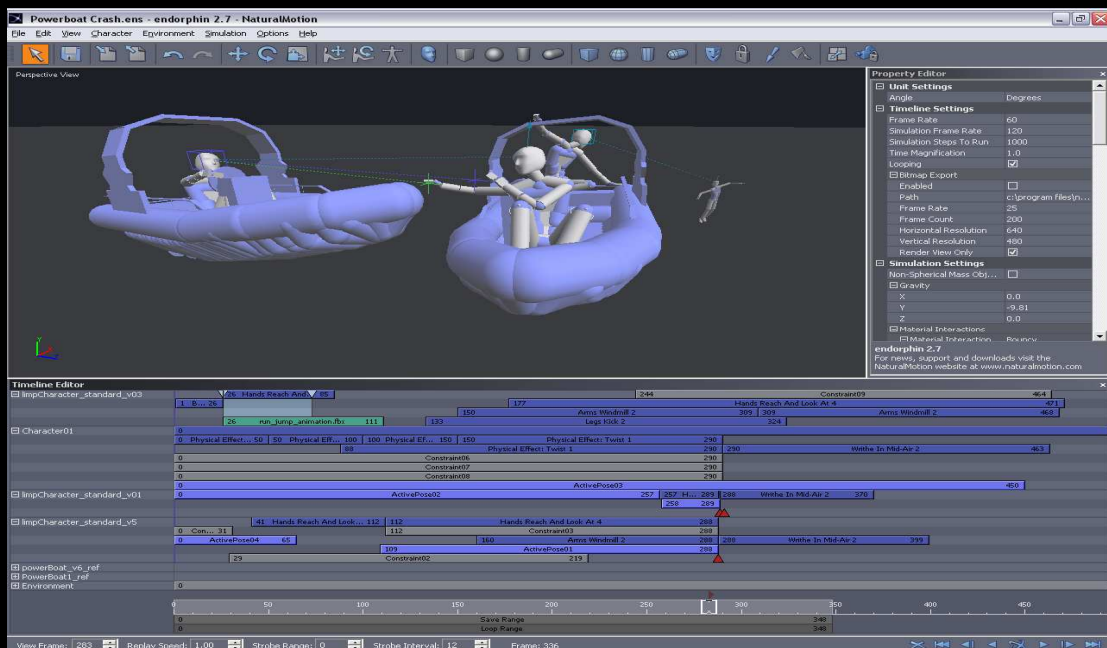
endorphin integrates seamlessly into your pipeline and does not require you to change your custom skeletons. What's more, the **Active Animation** and **Motion Transfer** features let you add interactivity to your **existing animation data** in real-time.

With **spectacular** turn-around times and **stunning** animation quality, *endorphin* will change the way you think about character animation.

FEATURE OVERVIEW, *endorphin* 2.7

Artificial Intelligence

Forward Dynamics Muscle Controllers
- Biology-based control architectures using *Dynamic Motion Synthesis*[M]

Wide Selection of Adaptive AI Behaviours
- Characters sense and react to the simulated world
- New Adaptive Behaviours based on extensive survey of game developers and post production studios **<NEW>**

Expandable AI Behaviour Library
- Incorporate new behaviours into *endorphin* as they become available

Character Simulation

Physical effects
- Ultimate level of control over the simulation **<NEW>**

High Fidelity Biomechanical Simulation of the Human Body
- Character dimensions and joint limits based on anthropometric data sources
- Biomechanical data enhanced by Oxford University research

True Physical Interaction Between Character and Environment
- Virtual character with realistic collision surfaces and inertial properties
- Robust, fast rigid-body-dynamics engine
- High-accuracy collision detection

Fully Customisable Character
- Intuitive tools to change the shape, dimensions and mass of the *endorphin* character to match your custom character
- Mirror tool
- Automated editing process **<NEW>**
- Character scale tool **<NEW>**

Multiple Characters
- Multiple, interacting real-time characters
- Characters with independent behaviours, poses, motion capture data etc

Parameterised Behaviours
- Character behaviours with intuitive user-level parameters (eg *urgency*) for even more control

Active Posing™
- Multiple user-defined poses can be keyed such that character will try and achieve them in a believable and fluid manner

Motion Transfer Events
- Import and map data onto characters using *endorphin's* proprietary motion mapping techniques
- Use Motion Transfer events to dynamically map animation data onto the simulated character

Active Animation™
- Drive character's muscles using your animation data
- Combine behaviours with animation at the same time
- Smoothly drive the simulation towards continuing animation data (such as running)

Prop Support
- Full support for ancillary objects attached to character (eg shoulder pads, armour, hockey sticks)
- All props physically simulated and can be motion captured

Driven Collision Surfaces
- Objects (eg vehicles) animated in the scene using imported animation data

Severed Body Parts
- Controlled detachment of body parts and props

Authoring

Intuitive Event-Based Scene Authoring
- Time bar offers full control over behaviours, forces and environment interactions
- Customisable event names
- Property View multi-select

Multi-Track Time Line
- Multi-purpose tracks allowing convenient grouping of events
- Layering and prioritisation of behaviours through lay-out on time line

Multi-layer behaviours
- Assign simultaneous behaviours to different body parts

Force Tool
- Direct interaction with character's body
- Full control over force parameters (direction, magnitude and impact area)
- Support for unlimited force events in a scene

Environment Builder
- Intuitive and quick creation of environment collision surfaces
- Editable environment object parameters (e.g. mass, dimensions)
- Scripts for importing environments from Max and Maya

Interactive Strobe Preview
- Faster than real-time pre-simulation

Inverse Dynamics Character Posing
- Posing with (optional) retention of full collision detection, inertial properties and joint limits

GUI

Intuitive Graphical User Interface
- Use of industry-standard widgets and conventions

Camera Tracking
- Camera tracking of arbitrary scene objects (including character body parts)

Variable Replay Rate
- Animation playback at user-defined rates for reviewing

Hotkey Editor
- Custom key mapping with presets for most common animation tools

Pipeline Integration

endorphin Maya control panel plugin
- Create your *endorphin* in Maya. Import animations and keyframe over the top. **<NEW>**

Import of Existing Animation Data
- Full continuation of imported animation with AI and dynamics enabled

Dynamic Blending
- Blend from and into moving animation data

Supported File Formats
- 3dsmax / Character Studio: .csm
- Acclaim: .amc/.asf **<NEW>**
- Biovision: .bvh
- FBX: .fbx
- Softimage: dotXSI
- Vicon: V and VST

Video Output (Tabletop Preview)
- Generate an AVI video of your scene, straight from *endorphin*

Camera Import
- Import camera data to drive *endorphin's* renderer

Video Back Plate
- Play back live-action AVIs in the *endorphin* view port and have character interact with set

Asset Management Support
- Avid® Alienbrain® integration
- Perforce® integration

Administration

Network Licensing
- Enables multiple *endorphin* licences to be shared across a network from a single server dongle.

System Requirements:
Windows 2000 / XP
Pentium or Athlon 1.7GHz CPU
512MB RAM
Nvidia GeForce2 or ATI Radeon 7000 or higher

naturalmotion