

RenderWare Studio

RenderWare Studio Introduction

RenderWare Studio 2.0 is a unique collaborative game development framework that encapsulates best of breed tools and processes to help developers rapidly create games concurrently on multiple target platforms. It also leverages **RenderWare Platform 3.7** to provide unbeatable graphics, physics, audio and AI performance through its features.

RenderWare Studio 2.0 now empowers designers and other non-programmers to produce game content 'out of the box', complete with core design tools and optional First Person Shooter genre pack.

RenderWare Studio 2.0 provides:

- **Game world editor** - a designer-focused view that hosts all the features and tools your team needs to rapidly populate and tune your game worlds with assets and gameplay events, including indispensable previewing and attribute editing features
- **Powerful build processes** - tools that are the industry benchmark in best practice, and are fully open and customizable to suit your ongoing programming requirements and game development. They promote fluid operation, minimize the inefficiencies that occur, and ensure each team member is steered comfortably through their role in the game's production
- **Game database management** - structures, transformations and processes that have been designed to provide bullet-proof asset management, robust fail-safes and informative error and warning reporting for the whole team

Encompassing the whole development process from pre-production to gold master, the collaborative nature of game development with RenderWare Studio enables all team members to **work in parallel** on gameplay creation, software engineering and build production in real-time. This removes most of the time-consuming bottlenecks and dependencies that frequently occur with conventional development methods.

RenderWare Studio enables you to have “**game on-demand**”, providing developers and their publisher's immediate access to a latest build of the game. This means that ideas and gameplay concepts can be shared throughout the duration of the project and that milestone-building nightmares are a thing of the past.

RenderWare Studio Features

FPS Genre Design Pack

We provide a pre-built game engine - a great example of integrating a high performance, cross-component game engine (complete with source code) with in-game editing and centralised asset management facilities. The FPS-customised game framework provides best practices examples and services, including: player management, hand controller interfacing, collision, NPC AI, physics, sound integration, game logic, animation control, pickups, weapons & effects. Also a playable game level that includes step-by-step tutorials to help game designers become expert authors of gameplay without having to involve a programmer to write basic game behaviors, plus typical FPS art assets.

Core Design tools

Our new core design tools include a Sequencer – an incredible new tool that allows a designer to animate attributes of one or more entities over time, which allows them to create anything from a simple moving platform to a complex cut-scene with virtually no programmer input. Also new are a Stream Editor that allows you to modify custom RenderWare plugin data, a trigger volume tool for spawning events of any kind, a light mapping tool that allows you to set up and preview light maps, plus a general-purpose spline editor.

Fully customizable and flexible Game Build Process

The Game Production Manager is an Automated Asset Management & Image (*game file system*) Production Pipeline. It ensures asset consistency across all team members and provides an “image on-demand” that you can burn (or download) then play. The rule-driven, fine-grained, centralized knowledge manager is automatically deployable by any team member.

Once configured, the asset management handles the important and time-consuming processes of validation, transformation, dependency handling, custom processing, incremental in-game asset handling, auditing, stream creation and SKU Management.

The automated game file system or ‘image’ production subsequently handles disk layout and the burden of multiple SKU management.

Level building & editing

The 3D Design View is a powerful and easy to use level construction and tuning tool that uses an intuitive ‘drag & drop’ style user interface.

Structured Game Databases

RenderWare Studio allows you to assemble your game world databases in a structured, hierarchical manner encouraging you to organize entities, assets and templates into nested folders. Global entities store non-level specific assets, custom properties can be attached to all database nodes, plus short cuts and searches ensure powerful management of your database throughout the lifetime of your game development.

Real-time Attribute Editing

A powerful feature of RenderWare Studio is the ability to dynamically tune important attributes of behaviors that the programmers generate. Any 'tagged' attributes are lifted out of the code when it is parsed on load, then the attribute-editing interface is dynamically generated to allow designers to tune them in real-time on the target platform(s) via the resultant GUI.

Customisable User Interface

The RenderWare Studio comes with several task-orientated layouts. The user interface is also fully customizable; allowing users to author their own tools for the Workspace via ActiveX controls, menus, scripts & dialogs. The customized UI information is stored in XML format for easy tracking and editing.

Asset management

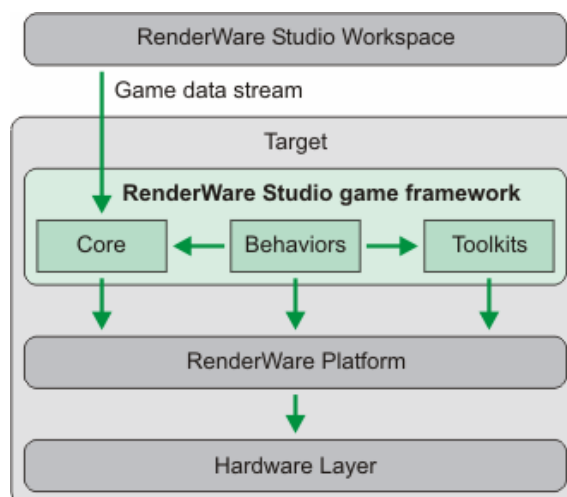
RenderWare Studio uses NXN alienbrain 7 to underpin its operation with best-practice asset management. Features supported include multiple check-outs, selective check-ins, automatic imports, a 'get all' option, 'who's checked out' identifiers and revision history dialogs.

Game Framework

The game framework provides you a set of C++ implemented services that you use to develop a game with. Supplied as source code, it is designed to be incorporated into your own game code from the earliest "proof of concept" through to the final commercial game. The game framework consists of three components:

- ❑ The **Core** provides the common functionality required for a game, whatever its genre and a communications layer that integrates the game with the Workspace.
- ❑ The **Behaviors** provide the functionality for each entity in the game. The behaviors supplied with the game framework generally provide only basic functionality. It is intended that you use these supplied behaviors as a basis for creating new behaviors that are specific to your game.
- ❑ The **Toolkits** provide functionality that is useful in different behaviors; for example, animation and audio.

This diagram shows how the game framework fits into your games software architecture



Other Powerful RenderWare Studio Tools

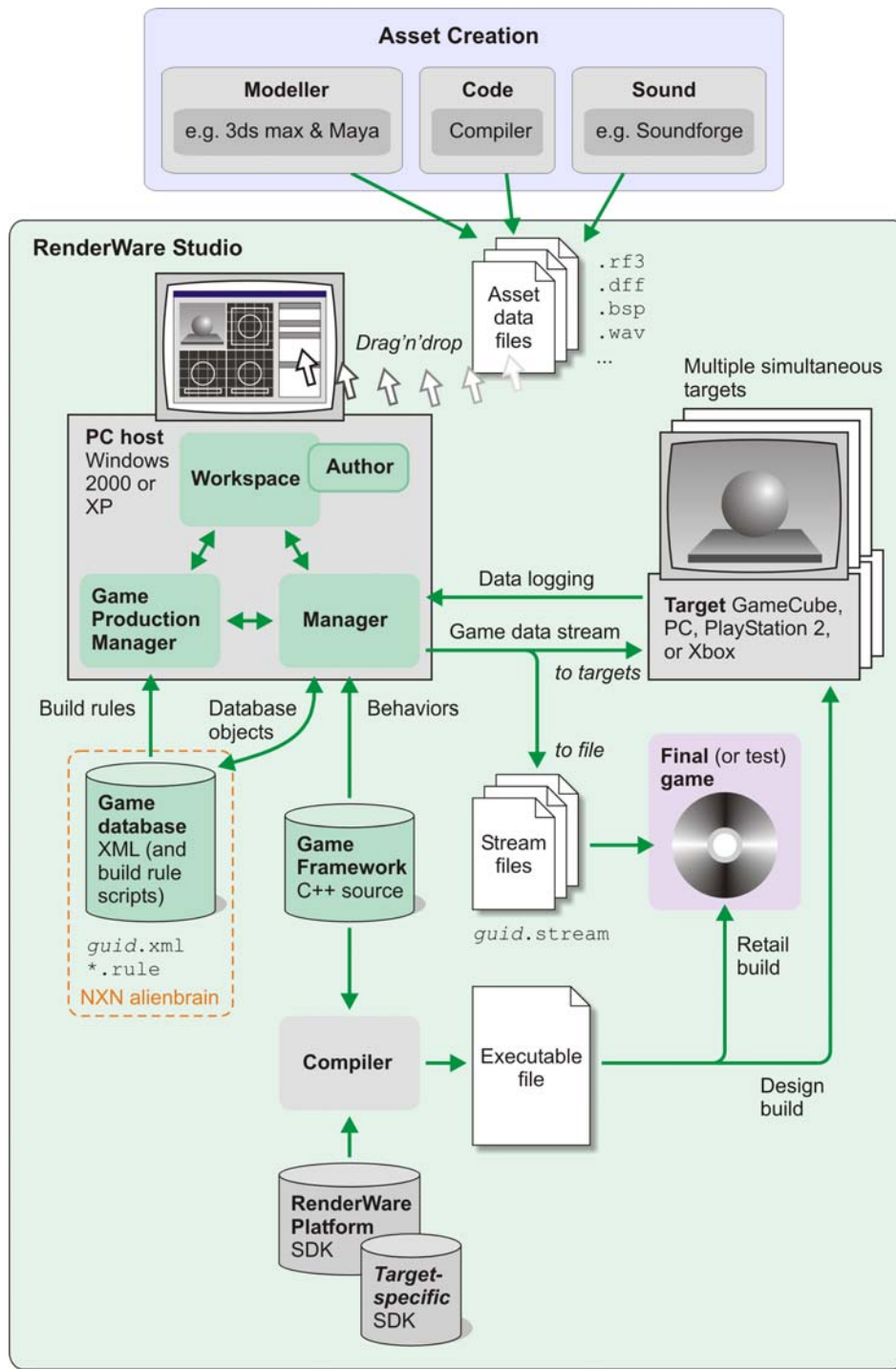
Memory & Performance tools

RenderWare Studio has useful tools for the running game, to display memory usage over time via an interactive display that's directly linked to allocation calls, plus a per-function performance tool that shows time spent in a function and the cumulative call counts.

Preview Tool

This tool for the Workspace lets RenderWare Studio users inspect graphics and animation assets by dragging them from either inside the game database or outside (without importing) from Windows Explorer, providing useful statistics such as polygon & bone counts.

RenderWare Studio 2.0 - Overview Diagram



RenderWare Studio General Benefits

Open & Extensible

Developers can look forward to fast, easy integration of RenderWare Studio into their current working environment and the high scalability of the RenderWare architecture means that developers can effect a seamless integration of their existing tool chains and assets. Asset importer plugins link RenderWare Studio with 3ds max™ or Maya™ and developers can extend the coverage of any import path, as all are open and well documented.

Rapid Game Development

RenderWare Studio enables faster development of new concepts and full working levels, validating game designs at a much earlier stage in the game's lifecycle. There is no need to invest man-years developing tailored tools and technology for each game or platform, as RenderWare Studio provides the full data-driven framework, so developers can hit the ground running and get straight on to developing critical gameplay and features from the outset.

Reduced Risk

RenderWare Studio is a major risk reducer for a number of reasons. Not only is it a proven, integrated AAA game delivery system, the greater visibility the team has across the entire game's production cycle means that should new team members be added or replaced, it can be done so without causing disruption to the workflow. More importantly, this visibility enables both developer and publisher to manage the games' production at a more commercial level, being able to share and forecast progress and creative direction earlier in the cycle.

Reduces Bottlenecks and Simplifies Game Development

Unlike conventional games development methods, RenderWare Studio empowers all team members to import and modify their own work independently, without relying on the activity and progress of the other elements of game production, resulting in faster progress and ensuring heightened development efficiency. The final phase of the development lifecycle is also less problematic, with tuning and testing being dispersed throughout the entire development cycle. Bandwidth and productivity therefore become easier to control, resulting in more efficient resource management across the entire studio.

Higher Quality Game Demonstrators

As a result of the faster development capabilities of RenderWare Studio you can improve the quality and reduce the cost of your playable concept. With a game demonstrator immediately available on all game platforms, you are also able to maximize the product pitching, reviewing and focus testing processes.

Encourages Innovation

By improving the overall efficiency of the team and catalyzing significantly reduced development times, RenderWare Studio gives the team greater confidence and more valuable time to focus on delivering truly innovative and unique gameplay ideas to make the game stand out from the crowd.

Truly Multi-Platform

RenderWare Studio has a real-time communications link to PlayStation®2, Xbox™, NINTENDO GAMECUBE™ and PC, with regular updates for immediate, continuous play testing.

Better Developer / Publisher Coordination

With a latest build of the game available to both developer and publisher, concepts and ideas can be easily shared throughout the duration of the project. Progress updates can be facilitated quickly and easily and mutually agreeable and realistic milestones can be set.