



## Wwise Convinces Audio Programmers

By Alexandra Pasian

Six of the industry's top audio programmers talk about the advantages of using Wwise, including ease of integration, audio-centric workflow, and performance. They also discuss the power of sophisticated audio as well as the evolution of the designer-programmer relationship.

When the Wwise middleware technology from Audiokinetic arrived on the scene, sound designers everywhere were sold almost instantly on its revolutionary approach to sophisticated audio. From the beginning, they recognized that Wwise allows them to work with greater creative freedom because it is designed to facilitate the creative audio process. But, while sound designers were excited by the new possibilities, audio programmers were more reserved in their enthusiasm for Wwise.

For many audio programmers, the new approach to sound development seemed to threaten both the quantity and methodology of their work. But, while it is true that Wwise is having an impact on the way that audio programmers approach sound development, this middleware solution is actually allowing them to spend more time developing unique sound assets for their games rather than diminishing their role in the production of sophisticated audio.

Recently, six of the industry's top audio programmers sat down to discuss Wwise and its impact on their sound production. They talked about their experiences integrating it into their pipelines, about its impact on the performance of their games, and about its advanced workflow and feature set. In addition, they also talked about how this new Wwise paradigm is helping them to advance the state of audio for game development.

### The Importance of Sophisticated Audio

Although each developer interviewed is using audio in his own way, all of them agree that sophisticated audio is crucial for creating unique and successful titles. Many of them will admit that audio was traditionally left to the end of development where it was subjected to overwhelming time and budgetary constraints. But, they are unanimous in their belief that a game just looks better when you have great audio.

For Blair Bitonti, Central Audio Software Engineer at Activision, sophisticated audio is an integral part of the gaming experience. "Audio helps tell the story. In video games, we have the opportunity to immerse players in new and different worlds, but, to do that effectively, we need quality audio and surround sound. There is nothing else that can get a player immersed in a game like audio."

This is certainly true at Blue Fang Games where they are using Wwise on their current title. Says Douglas DaSilva, Associate Software Engineer at Blue Fang Games, "On this new title, sound will play a big part in selling the illusion of the worlds that we're creating. Having a sophisticated audio design for our games allows us to create a game world that feels more alive."



**ACTIVISION®**

**Blair Bitonti**, Central Audio Software Engineer  
Activision.

Pandemic Studios in Brisbane, Australia, takes the idea of audio as an integral component in story-telling very seriously. In fact, according to Chip Bell, Audio Programmer at Pandemic, "Sophisticated audio is essential for our current title. We're going for a very rich, emotional experience, and a lot of work is being put into meshing sound design with editorial design."



"Sophisticated audio is extremely important for our game production," says Scott Bilas, Senior Engineer at Loose Cannon Studios. "For us, it is not something that we hold off on until the last second. It is one of the key features of our games, and this is one of the reasons why we decided to use Wwise."



**Scott Bilas**, Senior Engineer  
Loose Cannon Studios  
—Dungeon Siege, Gabriel Knight 3.

## Working Autonomously Leads to Greater Collaboration

Since the ability to develop sophisticated audio is a key consideration in the production of successful titles, it makes sense that these developers have turned to the middleware solution that gives them the most control over the creative process. One of the ways that Wwise allows studios to create more sophisticated immersive audio is by changing the relationship between sound designers and audio programmers.



**Chip Bell**, Audio Programmer  
Pandemic Studios in Brisbane, Australia  
— Heavenly Sword, 24: The Game, MediEvil Resurrection.

Using Wwise allows the two sides of audio development to work more autonomously, which increases the creative potential of both groups. For example, according to DaSilva, "Because Wwise allows for greater control over the final mix without having to change the game code itself, our sound designer can

play around with ideas and experiment without having to wait for engineering support to hear the results. Having this time to experiment allows us the luxury of more time to polish the game's audio."

Further, DaSilva says that, "By using Wwise, designers and programmers are able to collaborate easily and efficiently, allowing time to focus on implementing advanced sound features comfortably within the game's development cycle."

In essence, Audiokinetic has created a new work paradigm in which sound designers are free to test out their creative designs without having to lean too heavily on the audio programmers. This means that audio programmers are able to spend more of their time creating unique assets that take their game audio to new places.



**Douglas DaSilva**, Associate Software Engineer  
Blue Fang Games  
— Zoo Tycoon 2: Endangered Species, Zoo Tycoon 2: Marine Mania, Zoo Tycoon 2: Extinct

## Wwise Eases the Burden of Repetitive Programming

In addition to providing a new, more collaborative relationship between sound designers and audio programmers, Wwise also reduces the amount of repetitive programming necessary for sound development. Because Wwise takes care of the low-level programming, audio programmers are no longer required to do the same basic work over and over. This is good news for programmers like Scott Bilas who prefer to focus on more creative work. Says Bilas, "I like working in audio, but I don't like doing boring work, and, thankfully, Wwise takes care of all of that for me."

As Bilas explains, "Wwise releases audio programmers from engine development. On our current project, we have spent much less time than I ever would have expected engineering audio. And, we are producing more stuff that is of better quality. Wwise has freed me to work on other things and gives me more time to interact at a much higher level."



Damon Osgood, Principal Lead Programmer of Gameplay at BioWare Austin, appreciates how using Wwise has simplified his development process. "Wwise hides the complexity of the audio environment from me. So, for example, I can trigger a single event or state change, regardless of how complex the sound program is. This means that I spend less time on programming audio hooks and more time on other systems with absolutely no sacrifice to our audio quality or complexity."

### Greater Possibilities for Sophisticated Audio

With a simpler, more collaborative development process, game studios are seeing even greater potential for sophisticated audio. Says Chip Bell, "It's amazing that, when you have the time to do more work, you realize just how much there is to be done. If you no longer have to worry about the basic implementation, you are freed up to explore where you can take your audio. There are countless benefits."



**Damon Osgood**, Principal Lead Programmer of  
Gameplay  
BioWare Austin.



One such benefit for Pandemic is the possibility of creating more realistic dialogue for their NPCs. According to Bell, "Our AI systems will allow more complex NPC interactions, meaning that, where it suits the action of the game, NPCs will be able to sustain contextually accurate conversations. In the end, we could end up with tens of thousands of pieces of dialogue for our game."

While Pandemic is looking at realistic dialogue for their NPCs, other development teams at other studios are taking advantage of the new workflow to create unique and differentiating assets for their games, including more advanced audio systems like interactive music and complicated dialogue. And, of course, everyone is focused on shipping their games on schedule with the most sophisticated audio assets possible.



**ENSEMBLE  
STUDIOS**

**David Bettner**, Game Developer  
Ensemble Studios

—Halo Wars, Age of Empires III, Age of Mythology  
Titans Expansion

According to Scott Bilas, switching from another audio tool to Wwise helped to keep Loose Cannon's current title on schedule and allowed for more sophisticated audio. "Wwise has helped us get through several milestones so far, and it didn't take much work. Using FMOD, it would have taken a lot more work, and there are definitely things that we have done here that we wouldn't have managed with any other middleware. I am a big fan."

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