Get with the programmers

Lead Hit'n'Mix engineer Martin Dawe takes us to Infinity and beyond

Hit'n'Mix
Martin Dawe

cm Tell us how Hit'n'Mix came to be.

MD "Since I was little, I've been curious about how everything works, from tech to biology, to the mind and perception. One of my earliest software projects involved finding a way for a computer to convert the thousands of black and white dots that make up a scanned page of text into an editable document (OCR). Leading on from that, getting a computer to play back music from scanned sheets of manuscript sounded exciting, so I launched into developing PhotoScore, which has been incredibly successful worldwide.

"Creating notation from audio seemed like a natural progression, so my next work involved investigating how we hear individual notes in music. Through much trial and error, I found I could achieve the highest accuracy by writing code to detect the individual sine waves that can make up any sound (representing the ear) and building a complex perception engine on top of that (the brain). This venture eventually became Hit'n'Mix which not only picks out the waves, harmonics and notes, but lets you do whatever you like with them."

cm How would you describe Hit'n'Mix Infinity to the uninitiated?

MD "I describe it in two catch-all phrases: firstly, 'Edit Audio Like It's MIDI', ie, just like in a MIDI editor, where you can click and drag notes and do what you like with them, Hit'n'Mix Infinity picks out the notes in stems and stereo mixes and lets you do the same. Secondly, 'Atomic Audio Editing': ie, there's a lot more detail in audio notes than there is in MIDI. At Hit'n'Mix, we describe the fundamental building blocks of sound as atoms – slices of audio information such as amplitude, frequency, phase and stereo panning, which are grouped by Hit'n'Mix Infinity into harmonics and notes. These are what you're changing when making edits in Hit'n'Mix Infinity – and in fact, no waveform exists until you press play or export an audio file."

> "It required several years of deep thinking"

cm What was the biggest hurdle?

MD "Working out how to group the hundreds of individual harmonics into the notes we hear. It required several years of deep thinking, trying to work out how we are able to perceive sounds as discrete objects."

cm What are your favourite features of Infinity?

MD "I love the visual way it expresses audio during playback. And being able to redraw the pitch of notes however you like has always felt very rewarding. The Clone Tool takes this a step further, by allowing you to apply the pitch changes from one sound source or instrument, onto another – for example, a guitar solo onto another instrument or vocal."

cm The Infinity interface is... different, to say the least. Non-standard in many areas, some might say. What are your plans in this area?

MD "I like to avoid influence from anything else out there. So, until recently, I hadn't even opened a DAW. Now we've created something pure with a well-built track ahead of us, we've been adding the features that fit with the expectations of users. We've made giant bounds, releasing several major updates since Hit'n'Mix Infinity was released several months ago, and we'll continue to do so."

Look out for a review of Infinity soon. More from hitnmix.com