

The importance of good sound in multimedia is often overlooked. Steve Shipside talks to Flabberghasted and hears how it should be done. Portraits by Paolo Patuzzi

Sound Blaster

'When I first came across multimedia I thought it was fantastic; the getting away from the linear into random access. I've been told I have a mind like a butterfly so to be able to butterfly around sound and visuals is great.'

Truth to tell, Alex Boyeson's mind is nothing like a butterfly. That's not to say it doesn't flit from one subject to the next – it does – but there's something far too ballistic about it for a butterfly. It's more like watching a string of Chinese fire crackers going off.

As befits such a ballistic brain, Alex is buried deep in a bunker under Spittlefields market, the home of Flabberghasted multimedia, where he is managing director. And it's a very comfortable bunker at that, with wall-hangings, scatter cushions, scatter guitars and vast legions of mixing desks and computer hardware. Just imagine the flight deck of a 747, with interior design courtesy of Eric Clapton.

It's a depressing fact that the term 'multimedia' so often translates to Kai Krause-influenced graphics, a little animation, maybe video in a box and a midi soundtrack tacked on as an afterthought. The importance of good sound is often overlooked, which is odd, because in the film business, from which multimedia so often takes its cue, sound is recognised as key in creating atmosphere.

Flabberghasted addresses the problem from the other end of the scale. Alex started on interactive media about five years ago when he was asked to write the musical content for an interactive guitar manual. Since then, he has worked extensively in the sound department

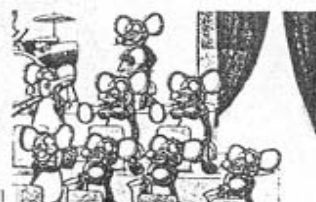
and this still comes first for the Flabbies. It has brought them some interesting work, including the sound effects for Trip Media's hit CDi game *Burn Cycle*. To date, Alex has written virtually all the music for the Dorling Kindersley series of edutainment CD-ROMs and the team is now working with Penguin to record speaking books on CD. As executive producers for Microsoft, they are also working on the sounds for the *Encarta* encyclopaedia as well as an *Exploropedia* for Maurice Sandala.

On the morning I tracked them down, Alex was looking a bit frazzled after being up all night mixing sounds for *The Great Green Mouse Disaster Orchestra*. 'It's a CD-ROM for Pixel Magic in Ireland. The idea is that this orchestra of mice, *The Great Green Mouse Disaster Orchestra*, escapes in a hotel and you have to check out the rooms and catch them with your own mouse cursor. The animation's great.'

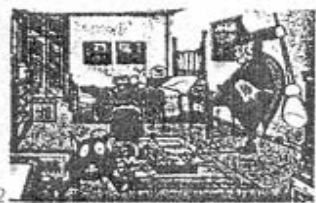
Each mouse is an instrument and, as you round them up, they play together. The thing is that since it's entirely down to the player as to what order they get caught, Alex has had to mix the tracks for any combination of the 19 instruments to play together. 'It meant writing for 60 different combinations. A normal recording studio couldn't do that. I had to work it all out across a spreadsheet, record the tracks separately, create the samples and burn it to CD-ROM before handing it back.' Having heard a fine swing rendition with just a hint of squeak, it certainly seemed worth the effort.

Falling, as they do, into the middle ground between the professions of music and

Getting away from the linear into the random access world of multimedia suits Alex Boyeson, head of Flabberghasted. 'I enjoy being able to butterfly around sound and visuals,' he says



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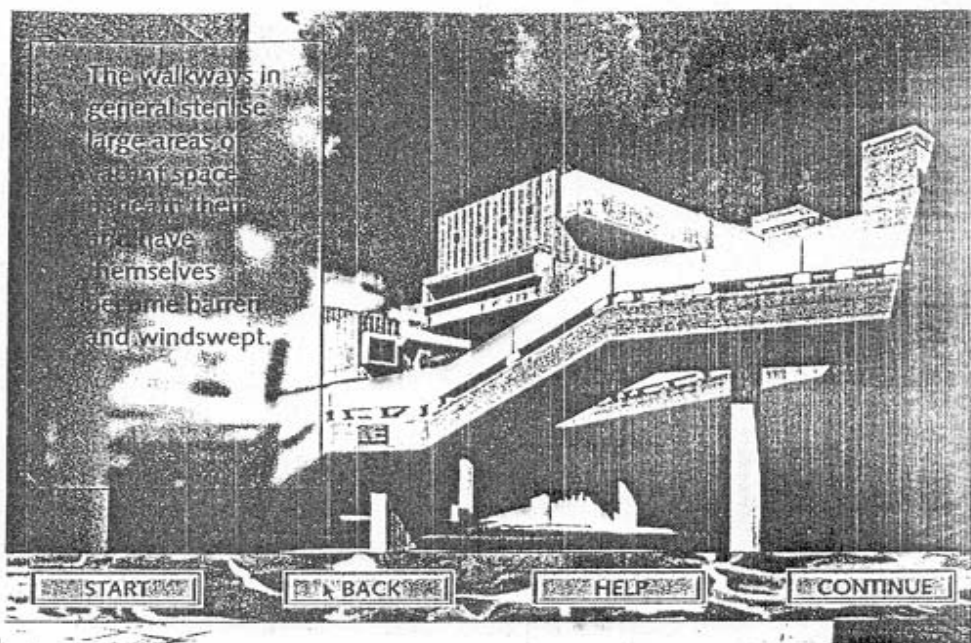


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1 & 2. Flabberghasted orchestrated a big band sound for the Great Green Mouse Disaster
3. CD Playback page for CD+
4. Point of info kiosk for the South Bank Centre



graphics, it is perhaps inevitable that the Flabberghasted team should find themselves being approached for CD Plus work. CD Plus is a hybrid between standard CD audio disc and CD-ROM.

Essentially, the idea is that most albums take up about an hour on CD and so, the remaining 14 or so minutes of space are given over to other media including graphics, lyric sheets, video or radio interviews. That data is, of course, invisible to the CD audio but provides an added bonus for users who also have multimedia computers.

From a design point of view, it's an interesting challenge. You're strictly limited in terms of space, you have to translate the musician's image into a multimedia message and you have to cope with the fact that users will probably be expecting CD quality sound from the tinny speakers sold with personal computers. 'With only 15 minutes, it has to be a question of quality not quantity and it's got to hook into something else,' says Boyeson.

'Apple and Microsoft are looking for closer Net integration so that buttons on screen from the CD take you straight on to the Net and the home page for that group in one click. You could get the latest information on tour dates, what they had for breakfast today, whatever.

'Not everybody out there in the street knows about CD-ROM yet so CD Plus is a good bridge to get people interested in interactivity and the thought process of multimedia. At the moment, record companies are resisting it because they pay more but they will have to put them out at the same price as standard CD audio discs. They've got to do something about it, now it's here. This is how people will get

their first taste of the action. This is the way forward I believe.'

A lot of the content is likely to be similar for any CD Plus disc: lyric sheets, photos of the band involved and video clips. All of which puts even greater emphasis on the need for good interface design to be the differentiating factor. It's further complicated by the need for cross-platform functionality.

'We've written our own CD Plus using Director and our own X Objects [which act like code plug-ins to expand Director's abilities] to make it cross-platform,' says Boyeson. But one problem with Director is that, while it is happy with 16-bit colour on the Mac, it has a maximum of 8-bit on the PC. 'We switch to 16-bit on the Mac but, on the PC, we have to redress that with careful palette balancing.'

Those kind of design compromises will be familiar to anyone preparing projects for the common denominator of mass market multimedia machines. What's less common is Flabberghasted's focus on sound. Alex, working on a Digidesign Sound Designer, pulls up some samples from another project, the opening sequence of a multimedia fantasy football league.

'Multimedia has its own set of problems partly due to the restrictions of the data transfer rate but also the kind of speakers being used. CD Audio is 16-bit, 44.1 KHz. Trying to make 8-bit 22 KHz audio sound good is hard work. You can only do so much but, after that, it's a lot of pain for no gain because of the speaker quality.

'When you downsample to that level, you inevitably lose some parts of the spectrum. You try to address that problem by taking the

left and right and equalising them differently to give a slightly wider feel. Similarly, boosting certain ranges helps compensate for the loss.'

Alex used the Waves Q10 equalisation package for that job, as well as a software tool called the Ultra Maximiser, which maximises the levels, while redrawing any wave forms that distort. While it makes it as loud as possible, there's no distortion, so that the user shouldn't have to turn up the volume and increase the crackle from cheap speakers.

Broadband noise reduction also takes out as much of the hiss as possible. Basically, that's done by taking a sample of the unwanted noise, say the hiss between track, and giving that to the software to 'learn'. It can then generate equal and opposite anti sounds to cancel out the hiss right the way through the soundtrack. Just to round off that sharpness, Flabberghasted also uses sound gates to block unwanted sounds, such as atmospheric noise audible in the gaps as a character speaks.

One example Flabberghasted is working on is notably complex – crowd noises recorded at Wembley mix with whistles sampled in the studio. At the same time, a drum loop provides the beat and horns, distorted explosions and gunshots add to the excitement. All of this accompanies a spinning football, with video of a game playing on it. As the football helicopters come down on to a pitch, the user hears aircraft noises. And, once on the pitch, the ball is booted away to a resounding smack on leather. In total, there must be 20 different samples in the space of only a few seconds.

There's also more than a little graphics work. Much of Flabberghasted's Director work is done in-house by finance director Brett Nagy but the Flabbies also turn to their associates, a graphics outfit called Morgan and Booth (M&B), who are long-term friends, as well as occupants of the bunker next door. M&B's work with 3D Studio and Director is key to the visual flair of the final work.

It's a common enough example of small media companies forming associations to broaden the range of projects they can take on. It's a pattern which is being reproduced all over the country. But Flabberghasted would also like to see it extended overseas.

'We're setting up partnerships between Binnare Sonore [binary sound] in Italy, SRC in France, companies in Germany, and us in the UK,' says Boyeson. 'Called the European Language Group, the idea behind it is that if someone wants something localised for anywhere in Europe, we can give them a costing and they go through us to our partners in Europe. We have a standard cost structure, methodology and quality assurance. Work can be sent between partners by ISDN, then burned to CD-ROM and handed over to the client.' While I was with Flabberghasted, a fax came through from a potential client looking

for a quote on an interactive product that has to be presented in both English and Italian.

It's an interesting solution for many media companies whose problem is that they need a certain critical mass to handle the lucrative projects but still want to stay small and agile enough to retain the creative edge. And this solution was also one of the subjects on the agenda, officially or otherwise, at Interactive City, which has just taken place in Manchester.

Interactive City, the digital media arm of the *In The City* music festival, was the brain child of Tony Wilson, ex of Factory Records. This September, Flabberghasted organised it and hosted discussions on CD Plus and the copyright implications of the crossover between music and multimedia. Among others, Flabberghasted was also sharing tips on tools and techniques for sound in multimedia. And it was trying to get an ISDN link 'so we can jam with other outfits in another country,' it says.

Despite the style of its offices, the one thing of which you would never accuse Flabberghasted is having a bunker mentality. □

The Flabby line-up plus one: managing director Alex Boyeson (front), technical director Brett Nagy (left) and business manager Simon Willis. They are joined at their Spittlefields luxury 'bunker' by Perry the builder (back)

