

Case Study, Kung-Fu Chaos.

Introduction

Kung-Fu Chaos is a third person party game for the X-Box from Cambridge based developer Just Add Monsters Ltd. (JAM) Up to four players can control one of the nine available characters, each of which has his/her good and bad points. Each character becomes an actor taking part in a 70s Kung-Fu epic. The object of the game is to fight your way through tongue in cheek recreations of famous film sets guided by "Shau-Ting", the director of the movie.

A Clean Slate

Being the first game from this new and upcoming Cambridge based developer Just Add Monsters (JAM,) no audio precedent had been set. This proved to be both an advantage and a disadvantage. An advantage in the fact that we had a clean slate from which to work, giving us total control over what we felt the content of the game audio should be. A disadvantage because without any predecessor you can have too many options! In fact, there were so many routes that we could have taken with the sound of the game, it proved hard to focus on one style and stick to it.

Music

Music was by far the most difficult animal. Initially the approach requested by JAM was for an epic score, which immediately pointed to the use of an orchestral sound. The seventies element in the game was very strong with one of the main influences being Kung-Fu movies such as Enter the Dragon, so we needed to incorporate that into the music as well. Our first attempts turned out to be essentially a watered down orchestral track with overdubbed seventies elements (wakka-chakka guitar etc.) After much deliberation and sourcing of new reference material, our approach leaned towards funk - turning our back on the orchestral method. Even then the debate raged on between utilising a more disco sound (simple bass lines and a straight "4 on the floor" bass drum) or a more contemporary acid jazz fusion (more complicated and ambiguous harmony and syncopated drum rhythms.) Finally we all agreed that the simplified disco bass lines combined with a slightly syncopated drum track would be the ideal compromise. The 'wacka chacka' Shaft style guitar backing was always going to provide a strong 70s link so that was in, but we also felt that to provide a good crossover between pure 70s and contemporary acid jazz we'd also throw in a brass and string section. Since the game is also heavily influenced by Kung Fu movies, we had to throw in some clichéd oriental sounds (although we had no idea what we were getting ourselves into by doing that). Finally we felt that a good sound to gel it all together would be the Hammond organ. So, I suppose you could call the score a 70s disco / Funk / Acid Jazz / Kung Fu fusion!

INTERACTION?

The levels of Kung-Fu Chaos, for the most part, are timed and therefore linear. This gave us the opportunity to synchronise the music very succinctly to the on-screen action, adopting a similar approach to movie scoring. The levels are not completely linear though. There is a boss encounter at the end of each level, which we decided to score using a condensed looping version of the ingame track for the associated level.

THE CASE FOR LIVE MUSIC

One thing that became apparent early on during the creation of the musical score was that we were going to need to produce live versions of all the in-game music. There were 3 main reasons to support this line of thinking and justify the extra expense:

- 1) [The nature of funk music \(add following text as hyperlink\)](#) [Funk music is traditionally a live genre and as such is difficult to make synthesised versions sound anywhere near as good. Live players interact with each other in real-time whereas a machine will blindly play back lines repeatedly without any interaction or interpretation that a human player would give.]
- 2) [The presence of licensed tracks that contained live performance. \(add following text as hyperlink\)](#) [With two licensed tracks contained within the game it was also going to be difficult to bridge the gap between these tunes and our in-game music without live performance.]
- 3) [Consistency of sound. \(add following text as hyperlink\)](#) [The clean and precise nature of synthesised music provided a different sound and feel to the music that we produced initially. This problem could only be rectified with live performance.]

Once the live recordings had been approved, we had to then set about the enormous task of organising the recording sessions. We didn't have a very large budget to complete the recordings so many corners had to be cut in order to get the desired result.

PREPARATION

One of the main areas that we had to cut back on financially was in preparation and in particular, the scoring and arranging of the parts for the instrumentalists. For example, we couldn't afford the services of an orchestrator/arranger to provide us with the benefit of his/her years of experience, so we had to do the job ourselves. This didn't prove to be too problematic in the main. We did a lot of web based research as well as listening to as much similar-styled source music as possible. The purpose of this was to understand how brass / string parts are usually written for funk music. Armed with this new knowledge we set about scoring out the parts.

In order to not compromise the quality of the work, we called upon the services of friends and industry colleagues to assist us in this mammoth undertaking.

- ◆ Li Jiang of [China People Promotions \[link to our links page\]](#) provided us with 4 Chinese instrumentalists and he personally re-wrote all of our scores in Chinese notation that the traditional instrumentalists would be able to play. Li's input was invaluable and we owe much of the success of the project to his hard work and diligence.
- ◆ Paul Mortimer drew upon his freelance mixing experience with top names like Kate Bush and Peter Gabriel to provide invaluable assistance during both the recording and mixing processes.
- ◆ Matthew Dille of [Digiverse \[link to our links page\]](#) provided us with some extremely useful information on scoring for brass (being that avid trumpeter that he is!)
- ◆ Film composer, Michael Price of Media Ventures gave us some great advice on scoring parts for both strings and brass.

THE RECORDINGS

While corners were undoubtedly cut to stay within the budget confines, we were careful to ensure that we only did this where we thought that the end result would not suffer. The main core element of the recordings are the drums, bass and guitar so it was important to us that these were recorded in a professional studio setting together, to allow them to interact with each other during the performance.

The players :-

Alex Reeves on Drums, a guy I met down the pub (well not quite, but virtually!). He runs a local jazz funk jam session in Cambridge.

Tim Sandiford on Guitar, a mate of Alex's another guy who plays at the jam session. Mates with Jamiroquai's guitarist – which was helpful.

Chris Taylor on bass. A session bass player for the past 15 years, the crazy man decided to transcribe the entire score to KFC simply by listening to my CD. I did offer to score it out for him but he said he didn't need it. He lied.

The recordings were made at Purple Studios in Norwich. I captured a couple of tiny movies from my digital camera to give you an idea of what it was like.

The brass section consisted of Nathan Bray on trumpet, Sammy Mayne on Tenor Sax and Dave Williamson on Trombone. Between them, they made up the brass section for UK tv's Pop Idol.

The String section consisted of Michelle Taylor on Violin, Janina Kopinska on Viola and Rachel Threlfall on Cello.

Li Jjiang of China People Promotions performed the Chinese Harp & Chinese Dulcimer parts, whilst Wang Shu Hong performed the Chinese Violin and Sarah Pui Yu Lee performed the Chinese Flute.

All of the other elements were treated as overdubs that could then be subsequently recorded over the top of this core element. We had our original MIDI recordings as reference and recorded each of these in various locations around the midlands and East Anglia.

EDITING / MIXING

Once the recordings were completed, we had to set about the mammoth task of editing and mixing the music. Time was not on our side so we had to work quickly. Many late evenings were involved with editing because we wanted to achieve a very clean and precise sound. We spent a great deal of

time editing the takes down to minute detail so that no unwanted noise was added and that the performance was as good as it could be.

The mixing process was more involved initially as we had to set up the “sound” of each track on our mixing desk. This includes adding effects such as EQ, compression and artificial reverbs. Once one track had been completed, many of these elements were to remain consistent throughout, with only adjustments being made to the type of reverb used from track to track.

The entire score was recorded, mixed and edited over a 2 week period in June 2002. And just to make our lives that much easier, it was the hottest weather we’d had up until then.

Sound Effects

The sound effects were probably the easiest part of the audio to agree on an approach. The game was very comedic in style and it was clear that the sound effects needed to reflect that.

PRELIMINARY WORK

We worked closely with JAMs audio programmer to ensure that all of the correct functionality was built into their [sound API](#). [\[link to glossary of terms.\]](#) Once this code was in place, our initial creation work centred on completing a first pass at the two earliest levels (Titanic and Dino,) reviewing the success / failure of them after implementation. These two levels then set the precedent for the sound effect approach for the rest of Kung Fu Chaos.

With these initial steps came problems. We soon ran into a technology barrier as we were trying to implement the entire level’s ambience in RAM. The solution to this problem came in the form of pre-rendering a lot of these sound effects into Dolby Digital audio files for streamed playback. This freed up much of the sound RAM and also gave us the opportunity to have some Dolby Digital sound in the game.

EQUIPMENT AND APPROACH

New equipment / libraries were bought in order to complete the task of sound design in Kung-Fu Chaos:

- Martial Arts and Human impacts library
- an MS stereo Sony microphone

In addition, we bought a new selection of more general commercially available sound effects libraries to complement what we already had. This is a production value that we feel is necessary on all projects. Without the regular addition of new libraries to complement our own expanding personal library, it is very easy to continually reproduce repetitive sound design through regurgitation of the same fundamental elements.

Every opportunity was taken to record sound effects live wherever possible. The street ambience on the Sci-Fi level is in fact a recording of a Cambridge street from a nearby park. The mouth sounds from the deleted scene on the Adventure level were recording of slabs being dropped / bashed together in Bob and Barns garden. Many of the in-game characters were vocalisations of either Bob or Barn.

In summary, we were building on what we had learned from *Medieval 2* by indulging in location recording, vocal recording in our studio and purchasing a new and extended CD library (some of which was bought specifically for this project.)

Problems Encountered

Initially, it was hard to identify the correct route to take the soundtrack. There were a few obvious ones purely based on the movie genre on which the game was based. The main problem source was whether to make the music predominantly orchestral with seventies elements, or whether to make the music predominantly seventies with orchestral elements or indeed, some other alternative approach. One thing was obvious; a better methodology for identifying our approach to the composition was required.

The solution was not far away. We looked to film and their methodologies to tackle the problem. Most films have a temporary score compiled from many disparate sources. By utilising this technique, it is possible to identify what will work (and indeed, what won't) so that there is at least a foundation of ideas from which to work.

Conclusion

We were a new company (and still are), JAM are a new company and the X-BOX is a new console. So, as you can imagine, it was a learning experience all round. Only time will tell if the game is as successful as we all hope it will be. Musically, we're extremely proud of the achievements we have made and the lessons we have learned from recording our first entire game score live. It helped reinforce our belief that live music is definitely the way to go with regards to game audio – of course going on the assumption that live music will suit the project, for many it won't. Sound design is a constantly evolving discipline in game audio, again we have learnt many lessons here, mostly with regard to mixing and dubbing. The amount of sound that could potentially go off in this game at any one time is mind-boggling, something that none of us thought could have been such a complex issue to resolve. Getting the balance of all the disparaging elements of game audio right we feel is going to be our next challenge.