COMPUTER MUSIC
IN SHENZHEN, P.R.CHINA

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ABSTRACT

This paper is a report of emerging computer music in Shenzhen, P.R.China. It reviews the application of computer music and 3-D audio in Shenzhen, P.R.China.

1. Looking back to the past: the birth of computer music in Shenzhen

Shenzhen is one special zone of the most opening and developing in P.R.China; it is one center of Economy and High&New Technology in P.R.China. Because of its placement close to Hongkong and its special policy from the government, though Shenzhen was born in 1980, its history was short, but now it heads China in Economy and High&New Technology. The powerful economic strength strongly hoists the high&new technology. In the 90s the Multimedia Wave surged to Shenzhen, the Multimedia Personal Computer invades family. People need the abundant high-quality software for education. It is in July, 1996 that Shenzhen Multimedia Technology Co., LTD was established, this is the first specialization corporation to exploit the multimedia education software in China. At present, it is developing "Mediating" a network system for interactive multimedia classroom, and it is producing the school software for teacher and student, its 3-D audio studio start to make voice, effect and music. The audio studio was the birthplace of computer music in Shenzhen, P.R.China.
2. Looking into the present: the application of computer music in Multimedia

Multimedia sound includes voice, effect and music, the audio studio in Shenzhen Multimedia Technology Co., LTD, is to make music and dub the textbook. Sound in multimedia can be divided into two main types: digital WAVE and synthesis MIDI.

Voice and effect can be recorded as sampling wave by microphone; Music and sound effect from CD and CD-ROM can be sampled, edited, processed by Wave Studio software. MIDI music can be composed, recorded, programmed, and played back by Cubase software.

As to WAVE file and MIDI file, they are very different. WAVE is good at voice and MIDI is good at Music. WAVE & MIDI can be re-edited and re-processed by Sound Forge software. WAVE occupy larger memory space, but MIDI occupy few space, one WAVE file in same length is as much as 200-1000 times than one MIDI file in same length. Until now, MIDI file can be changed into WAVE file, but WAVE file can not be changed into MIDI file.

To digital wave sampled by MPC, its audio quality is not controlled by its equipment, but to MIDI, its playback quality entirely is controlled by sound card. Moreover, MIDI user should know well music theory and control composition and performance as well as sound processing techniques. Because most audio producers in Shenzhen are the computer technologists, not the musicians, WAVE is used more than MIDI.

3. Looking towards the future: the perspective of computer music in Shenzhen

Where is Multimedia heading with Computer Music? Multimedia is bringing Music and Science together to "On the Edge". Like Hong Kong, Shenzhen's placement is right on the edge of Asia. Shenzhen is the fastest developing and most opening city as a window of the world. Through the window, you can look at the highlights of High & New Technology in P.R. China.

Now the MPC's are going into thousands of families in Shenzhen and Multimedia is bringing Computer Music and Computer Science together, it is the best go-between who introduces Computer Music and Science to everyone. The MPC's Hardware and Software will be the 21st century musical instrument.
Shenzhen is the most important foundation of Computer industry in P.R. China, computer hero all over the country converg on the edge of China. Shenzhen.

In 1985, Shenzhen Science & Technology Industry Foundation was found; In February, 1994, China Great Wall (the foremost personal computer corporation) linked with IBM, established a joint corporation for producing PC in Shenzhen, P.R. China;

In June, 1994, Chino Stone (the leading PC corporation) linked with COMPAQ, established a joint corporation "COMPAQ COMPUTER TECHNOLOGY CO., LTD." in Shenzhen. In addition, there is the electronic town "Saige Computer Unit Market" and there are over 40 multimedia corporations, but only Shenzhen Multimedia Technology Co., LTD has the audio studio and music producer. However Hongkong as a neighbour hold a large number of music producers and software resource, in the year following Hongkong will become a part of P.R. China, Shenzhen and Hongkong will share computer hardware and software market. Multimedia will popularize Computer Music, Shenzhen Special Economic Zone will be the most strength foundation of computer music.

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