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Application and development of production technology of computer music under new media environment

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ABSTRACT

Along with the arrival of the third technological revolution, emerge as the times require computer information technology, and make our country in the new media era. In recent years, computer information technology has been widely applied to each field of the society, especially in the music field, our country music production technology has made great progress and improvement, the combination of the two will make our country music level has been raised to a new level. Based on this reason, a discussion on the application and development of production technology of computer music under new media environment is proposed, in order to better understand the development direction of manufacturing technology of computer music and understand the new media to the computer music technology demand.

KEYWORDS

Computer music; Production technology; New media.



INTRODUCTION

In recent years, with the continuous progress of science and technology, especially the rapid development of digital technology, new media continues to develop rapidly. At present, the new media audience groups continued to expand, the number has increased year by year, new media because of its convenient way of communication has been more and more popular, and become a way of acquiring information indispensable in people's lives^[1-3]. Twenty-first Century is the diversification of information era, new media of communication transmission diversity, convenient, can better cater to the needs of modern people full of personality, almost anyone can find a suitable new media dissemination of their own, in order to obtain the required information. At the same time, the new media in the fields of entertainment, education also plays a very important role. The new media to break through the traditional media, pay more attention to people's individual expression, it can arouse people's awareness of participation, more specific to each kind of crowd, more accurate, detailed information dissemination and culture. Based on the existence of new media is technology, digital technology, network technology, mobile technology have become the driving force of the rapid development, it can be said that, the new media technology is based on digital technology. In the process of communication, new media in digital photography, digital broadcasting, digital TV, network media, mobile phone media, digital publishing, digital movies and other forms, but also may have more forms and manners^[4-6].

Music is an important way to cultivate sentiments and beautify the soul, and computer information technology have the most advantage of the communication technology under new media environment, the music production technology effectively with the combination of computer and information technology, the advantages of the two present at the same time, and can also generate a stack value and effect, the music artistic conception and appeal more complete and delicate expression^[7-9]. Computer music is centralized composing, command, playing and recording, as a whole, which makes the previous traditional teaching and creation have great changes, and then derive a compositional thinking by computer, the total reached the creation and synchronization of audio.

This paper will be the development and application of technology of computer music under new media environment as the main object of study, to study the relationship of music making of the computer, the computer music technology and new media, new media technology in the application of computer music technology in the new media environment, development prospects, in order to better understand the advanced production technology of the computer music's development direction, to understand the new media to the computer music technology demand.

AN OVERVIEW OF THE NEW MEDIA AND MUSIC PRODUCTION TECHNOLOGY

The so-called new media, which is based on the original media technology, is continuous innovation and perfect, add new contents and forms, thus forming a "new" media. But the development of science and technology will promote the new media technology to further improve, and the "new" media at any time will be later replaced by the media to become a kind of "old" media. So, it is difficult for the new media to give an accurate definition.

The so-called computer music, is simply by computer information technology involved, produced music. Computer music is a new music form, is very different with the traditional music, it is through the processing method of the digital continuous increase expression of form and technique of music, the music wants to express the artistic conception and the force of infection better reflected, so that the overall quality of music to be greatly improved. In the background of the new media environment, hear our music to the ears of mostly after computer information processing technology of music, no matter whether it is in the sound, mood, or the effect of music is the traditional music production technology can not match.

THE CHARACTERISTICS OF NEW MEDIA

New media communication, no central point, everybody can comments and views, strong interaction. The receiver can be communicators; communication can also be the recipient. Any questions can be determined by the new media in the individual to answer questions and participate in, the audience group of individuals according to their own preferences and needs, select the appropriate new media, which makes the dissemination of information more professional, professional, and efficient. New media results from the propagation efficiency and amplitude in some areas, and even more than the influence of the traditional media.

Because new media digital information transmission, all the other medias do not have the advantage. Reproduction and dissemination of information become more conveniently and quickly. For example: in the field of music, traditional tape copy time-consuming long, multiple copy quality decreased obviously, communication way is single, high cost; digital audio reproduction is small, can be infinitely replicated without quality deterioration of the situation, a CD-ROM, hard disk media, flash disk, dissemination means and diversity. With the rapid development of Internet technology, the transmission of digital audio has become more and more convenient, people can not go to the video shop to buy CD publications, can be directly through the high-speed download mode in the network, the purchase of electronic publications. Every kind of audio information the have everything that one expects to find, save a lot of people's time and energy, with the Internet search function, to collect their own love music becomes easy.

New media with the most advanced communication technology such as vocabulary fiber and satellite which in our ears almost everyday; we have already got the technological support. The efficiency of digital information communication is developing at an astonishing speed.

THE RELATION BETWEEN NEW MEDIA AND COMPUTER MUSIC PRODUCTION TECHNOLOGY

Music as essential elements in people's daily life, is always lingering in our ears. New media in the process of conveying information, we need to spread the music information. While the new media for music information has certain requirements. The first audio information must be digitized information, otherwise unable to spread through the network, satellite channels. Secondly, the quality requirements of audio information transmission capacity is relatively high, but the smaller the better, in order to facilitate the rapid propagation. Computer music technology is just used to solve this kind of problem. The music making of the computer music technology in digital audio form, the kind of information carrier is various, can be stored for hard disk, CD-ROM, USB flash drives, network servers, can be called at any time. With the passage of time, still have to guarantee the quality of information preservation, not like the traditional tape will be like degaussing, weak phenomenon. And because the digital audio using the computer can identify the binary code, the file has a very good compatibility which can realize the smooth playback at any computer. Therefore, in the new media, the computer music technology is indispensable. It is difficult to imagine, if there is no production technology of computer music, how will we music dissemination of information in new media. On the contrary, the application field of computer music technology mainly concentrated in the new media, the computer music making digital audio technology created mostly in the form of new media in the dissemination of. Although the traditional media still plays an important role in the communication process of music information, but the new media has become an important way to the spread of new music. Such as the song became popular, customized ringing tone to promote the universal download so we have to realize that, the new media are very powerful, music in the dissemination process cannot leave the support of new media.

THE MAIN FORMS OF DIGITAL MUSIC IN THE NEW MEDIA

CD. Also known as CAD format. Digital music exists in the new media in a variety of forms. The sound signal is A/D (analog / digital) conversion and contains large amount of information. Digital audio CD quality although the quality is very good, the effect is very good, but because the data volume is big, not easy to replicate and spread. So people are a lot of other digital audio format.

MID and RMI. The two documents are MIDI files, this file is actually the MIDI signal of the instruction set, itself does not contain audio information, but through the computer software sound wave form the audio. Therefore the amount of information of this file is very small, is currently the smallest music file format. The storage capacity is relatively small environment, using MID format music. Such as mobile phone ring tones, often use this format. Another feature of the MID file format is easy to edit and modify, we can through the MIDI editing software to revise and edit information, can be MID format music files to create and modify or even in some mobile phone also. But the MID format music also has some shortcomings. Because the information is mainly comprised of MIDI instructions, so there are different results in different playing environment, therefore, the MID file format is rarely used in the music content dissemination process of high specification. But the MID format file to its and the small amount of bytes, occupy certain advantages, the development of space is very broad.

WAV. The file uses almost no non compressed form directly to carry on the record after the analogy-to-digital conversion of audio, so WAV format voice very high quality. At the same time, with the development of modern computer technology and voice storage technology, WAV format can support more and more frequency of sampling and quantization precision, but the WAV format file, because there is a large amount of information, so the storage and transmission are subject to certain obstacles. And, in a 32 bit operating system, to maximize the WAV file format is 2G, it also greatly influence its ability to store music information.

MP3. MP3 is a lossy audio compression coding." Therefore, the MP3 format is at the expense of the compressed audio file, sounds in the non professionals, modest decline in music quality, easy to be accepted. MP3 format with the smaller storage space, relatively good quality has been the vast number of music lovers around, became the most popular music file format. But because of the music compression, lost some of the details, in the heart of the requirements of high fidelity music fancier and professional workers, MP3 format music content and WAV lossless format of music content there is no small gap. In the more professional and high level of monitoring environment, such a gap between the more is obvious.

ASF and WMA. The two formats were developed by the Microsoft Corp, has the very good fidelity, and file after compression is small which is suitable for network transmission.

APPLICATION OF MIDI TECHNOLOGY IN NEW MEDIA ENVIRONMENT

MIDI is a technology of making new music, has obtained the rapid development in the new media environment. In the process of music creation, we can use the MIDI keyboard, percussion pad MIDI input devices in real-time input the music information, like playing in a real keyboard and percussion. In this environment, users feel the music, emotion control, no impact, which ensures a high degree of simulation input information. For example: a drummer playing real snare drums, percussion notes of different lengths, each intensity was not a rhythm, may also exist in the allowable range of advance or delay. In his use of MIDI pad, also can achieve this effect. The MIDI pad will to transfer information from these length, intensity, rhythm in advance or delay as and MIDI signal accurate input to the audio workstation software. But in the MIDI information input at the same time, the player can be heard playing effect, and can replay. If a mistake in playing with the

entry of the MIDI, information on the mistakes, do not have to start again from the beginning. That is to say, the MIDI pad can achieve the same performance real drums and playing pleasure. Even more exciting is the MIDI pad, in addition to playing the snare drum sound accident, we can change the tone for almost all conceivable percussion sound, and the sound quality is very good. We have such a MIDI pad at the same time, to have the percussion almost all. It is almost impossible to imagine in the traditional music in the process of making. The development of MIDI technology make the composer from information input complex freed, as long as have an excellent idea and rich creativity, can in a very short period of time to produce great music.

This technique can effectively reduce the cost of the music production, reduce the time spent in making music, is a very convenient music production technology. MIDI technology not only has the operating system is very simple, a simulation system and be highly simulation, in music making, production staff can conduct a comprehensive grasp of the production process, whether it is looking for the feeling of the music, sound and music control, to edit, modify or playback are quite easy and efficient. In addition, the MIDI production technology to produce music with mood and good simulation results, music production staff can give full play to their imagination and creativity, and simple systems use, make music production staff can in a very short period of time can produce high quality music. The MIDI system contains a lot of highly simulation instrument timbre simulation software. For example, need to be integrated into the necessary violin accompaniment in the production of music pieces, but the music production staff will not play the violin, at this time, MIDI technology in the system simulation software can play the violin, the violin accompaniment to provide a high degree of simulation of the production staff. Thus, the MIDI technology is a kind of simple and convenient, high simulation, the efficiency is very high, and

To create music production technology of high quality music under the new media environment, I believe that in the near future, MIDI technology will move towards a more intelligent and humane direction, saving more time, effort and money into music production.

APPLICATION AND DEVELOPMENT OF DIGITAL AUDIO TECHNOLOGY

Digital audio the binary code, processed by the computer, so the digital audio technology has incomparable advantage compare with other audio processing technology. At first, the data processing capacity, digital audio information to support a large number of storage and advanced search, in 64 for the system, we can record almost infinite audio information. We can use the search function to find a need many audio fragments in computer. The nonlinear editing software, we can cut, the audio sorting, modify, polish and not have to worry about the modifications can not be restored to the original state. In the replication and portable digital audio performance, also has a very attractive. In the recording studio, we can through the mobile hard disk, when the work was completed to the mobile hard disk has digital audio engineering documents to carry. While in the other work environments we can immediately be mobile hard disk and computer connection, to continue the original work and not be affected by any. Copy files have become a very simple matter, as long as a few simple operations on the computer will soon be completed. Another advantage of digital audio information is his information quality is not decreased with increasing the number of copies, to copy the way of this nondestructive, make people feel very safe and high quality. In the information explosion today, a copy of information is a problem that can not be avoided, and the digital audio technology in the audio information replication to achieve very good results.

Digital audio technology is a kind of binary coding, and processed by computer information technology and processing a technology to make music. Digital audio production technology in music audio processing functions and advantages more than traditional audio production technology, not only can have the information storage and retrieval functions, and also made a major breakthrough in the audio information reproduction. Function and advantages of digital audio technology based on the music production, music production technology is widely used in the new media environment, for example, is closely linked with our life radio and QQ, Micro message, micro-blog forms a large number of application of this technique. The computer information technology as the support, to achieve the conversion of binary code and read, and with bit as the storage data processor unit, is a more advanced technology in the production of music, pop music, film and play a role can not be ignored. In the future, digital audio technology will have more extensive range of applications and development prospect, in the content of science and technology, technology, system function etc. will be further innovation and improvement, to obtain a better development in the new media environment.

Mobile phone as a mobile communication terminal is in people's lives become necessities, such as 3G communication technology. With the development of mobile phone, was given a new role. Mobile phone communication tool is from the traditional into information dissemination tool. Mobile phone newspaper, broadcast, mobile phone mobile phone, mobile phone TV the Internet already became the people to accept the information channel. In the apple mobile phone, we saw a software based Talking Tom digital audio, this is similar to a sound small game program, open the program, we will see a kitten, users of the mobile phone when speaking or singing. It will listen, when the user stops, it will be our language and repeat it out as like as two peas. This software to mobile phone for digital audio work of the core, the modulus of digital to analog conversion and in the process of digital audio effects were processing. When we passed the Talking Tom recorded a funny word may be by mobile phone directly to the speech to share with friends. In the new media we feel the digital audio has brought us convenience.

DEVELOPMENT OF COMPUTER MUSIC PRODUCTION TECHNOLOGY IN CHINA

Computer music production technology began in the last century 80's in China, followed by rapid popularization in China and development so far, China has a large number of professionals engaged in computer music production work. In addition to traditional media, the computer music technology in a number of new media digital broadcasting, digital TV, network media, mobile phone media, digital film is widely used.

In the digital broadcast domain, there are Digital Audio Broadcasting, DMB, Internet radio and other forms, common to these forms of broadcasting in the largest audio is that they all use digital audio signal based. Production technology by computer music, we can put the broadcast audio synchronization into digital audio, which provides CD level of sound quality for digital broadcasting, and the sound signal is not like the past form, the form of broadcast in mono, stereo sound broadcasting but by way of. Because the signal using the digital audio form, so not because the receiver distances provide distance program source generates signal attenuation, radio wave interference. We used in the listening to the AM/FM radio, because the radio frequency band used relatively wide, can effectively use the frequency band is relatively small, it is because the band is relatively close, often appear channeling frequency phenomenon, which seriously affects the quality of listening. Digital broadcasting is completely solved this problem, can be at home listening room set up stereophonic broadcasting system, and then the digital broadcast receiving apparatus is connected, so, you can listen to various radio programs to CD quality in the home. At the same time, digital broadcasting in the user experience is also very convenient, it has good search function, as long as the preset several own like bands, in also not twist the trouble of rotating button.

The Internet access in China since April 20, 1994, has been developed 17 years, although late, but the development speed is very breathtaking. Network music in network world can run in both directions unblockedly, in addition to people's love of music, and his technical reasons. Network music is through the computer music technology produced, perfecting the computer music production technology and the popularization of Internet, which can make and spread. Making network music is not like traditional music ever recorded as complex, a grass-roots singer with a computer and a set of simple recording device can finish. Dao Lang, overnight Hongbian on both sides of the Changjiang River, behind its success, we saw a highly developed modern computer music production technology. Dao Lang's music album is completed, its production cost is very low, but the effect is met the requirements of appreciation of the majority of Internet users. Computer music production equipment he uses less than 10000 yuan, but with very low cost production created the extremely high commercial value. And this kind of form of digital music production is very convenient circulation in the network, which generates a network songs overnight Hongbian the amazing phenomenon. China's culture and present situation of computer music making talents

With the popularization of computer music making technology, many domestic universities have opened the relevant professional. In many areas of film and television, music, sound recording, computer music making has become an important part of. But because our country computer music technology started relatively late, and the research is weak so that R & D most software in large foreign music software development company. China is not a small gap compared with abroad in the production of hardware equipment. Personnel of computer music technology in the number of China's rapidly increasing illustrates this technique, the necessity of the existence, at the same time, we also see, the overall level of development is low and weak research capacity has become the bottleneck of computer music production technology development, we are in urgent need of a large number of high professional quality, innovation ability and scientific research ability of professional talents.

THE DEVELOPMENT PROSPECTS OF COMPUTER MUSIC MAKING TECHNOLOGY

Computer music production technology occupies an important position in more and more fields, the development of technology, digital technology as the backing, in constant development, innovation. For example, the fabrication and application of sound, sound source, we from the previous synthesizer era into the sample age nowadays, more and more real voice is collected and sorted into the creative process of MIDI music, in this way, the computer simulation results produced music is more high, better quality. And so on technology constantly updated. And if, with the Microsoft Corp Windows7 operating system is available and i7 central processor market, computer upgrade from 32 bit to 64 bit system, computer system memory can surge limit of 4G, appear on the market at present has 32G memory of personal computer. So, our computer operation ability and batch processing capabilities are greatly improved, in the aspects of computer music making, we can at least get advantage is, sampling source to multiply even number several times while loading on the computer. Imagine, we can put the Vienna symphony orchestra all real disposable instruments sampling all loaded in the computer, and then supplemented by the electronic sound, by this means, we will with production cost very low, very few human consumption, complete the high quality music.

In music, composing four piece is "orchestration", "acoustic", "polyphony", "musical works analysis" for each course, unity, must achieve a theory and practice of combining, in the traditional music teaching, music is often a silent creation, stay in the spectrum plane, the students not to show their works to be true, but can not say that to modify and improve. And if it is made by use of computer music technology can solve this problem well, its powerful interactive function by using this technique, the student oriented visual, auditory and visual, make students feel. This not only increases the content of learning, but also helps the students to master knowledge of firmness,

Improve the classroom efficiency, but also to learn the knowledge to have a complete understanding, further will integrate theory with practice. The use of computer music technology in teaching, it can be reflected in the following: apply in harmony course; in the course of polyphony

Use; used in musical works analysis; used in orchestration teaching in. In the use of these courses, computer music production technology not only accurately and quickly, it can save hours of capacity, can make students better grasp the essence of music.

CONCLUSION

To sum up, the computer music technology makes our music life more rich and colorful. Various styles, various forms of music keep traditional at the same time, more or less, the computer music production technology is advanced, which makes the creation and dissemination of music into the modern elements, it is more conducive to the development of music. Under the new media environment music production technology will be further developed in China. Music production field begin to play a greater role, and create more favorable conditions for China continued to produce high quality music than ever before. Computer music production technology with its unique way of thinking to promote the creation of music, the music teaching and can also promote the modernization of teaching; it has a very important role in the history and have realistic significance.

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