



Research on Teaching Aided System of Digital Music Course Based on Computer Application Technology

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Abstract. For the teaching of music courses, music courses are a cultivated course, which can cultivate sentiment, let us have fun in the noisy life, and enjoy the ocean of notes. As far as teaching is concerned, the auxiliary teaching system of music courses based on modern information technology takes the lead. It not only has timeliness, but also helps to achieve online music knowledge teaching, field investigation of students' learning conditions, and communication between teachers and students. Effective interaction, so as to effectively realize the mutual connection between teachers and classmates, promote students' learning, and let teachers know the actual needs of students in learning. For now, students not only strengthen their professional courses, but also need to strengthen their extracurricular courses as their own learning hobbies, which can also be valued. The music teaching guidance system should not be too cumbersome, it will directly affect the students' sense of experience, and fundamentally increase the students' learning ability. Many studies have been carried out on the course auxiliary system in this field, and certain results have been achieved. This paper takes the B/S system as the structure, makes full and reasonable use of computer application technologies such as JSP and SQL, and designs and develops the research of the auxiliary system. The design and development of the digital music course teaching assistant system based on computer application technology, the system analyzes the needs of students in detail and saves the specific information to the database, which has achieved the best real-time changes [1].

Keywords: Computer application technology · music course · auxiliary teaching system · digitization

1 Introduction

Under the influence of computer technology and Internet technology, computer technology has a wide range of applications, and plays its own role in a dominant position, which can easily and efficiently penetrate into education and teaching. For music teaching, under the influence of traditional teaching methods, there will be many problems, and these problems need to be solved, but the digitalization and informatization of education and teaching will become the advantages in the teaching process. The digital

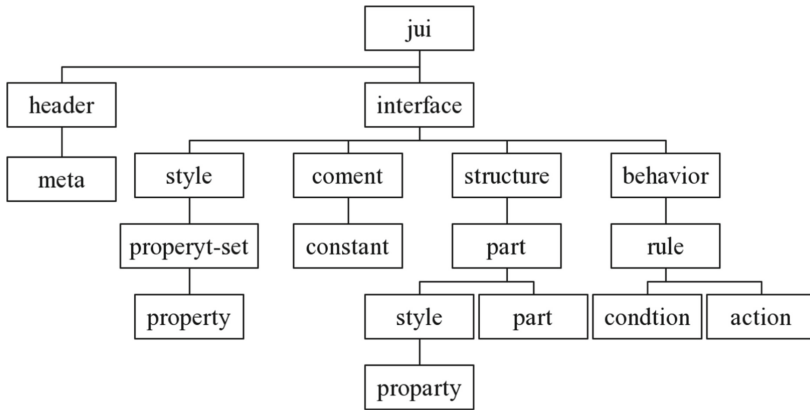


Fig. 1. Schematic diagram of B/S structure

music skill training system is composed of music knowledge and skills, video analysis technology, modern information technology, etc., through the effect of the digital music training process, the training elements of these music skills can form a digital music course assistant teaching system [2].

The specific structure of the B/S three-tier system based on the system is shown in Fig. 1 [3].

2 The Advantages of Digital Music Course-Assisted Teaching Mode

2.1 Conducive to the Intuitive Image of Music Teaching

The model of music teaching is not in line with daily teaching, generally in concerts or performances. In the face of the development of computer application technology, it can bring a lot of convenience to music teaching, making music teaching more easy to understand. In modern teaching, the audio cards and audio software installed on multimedia computers are promoting the further development of music teaching, making music teaching more intuitive and vivid. In the process of teaching, teachers can the analysis of sound helps to guide the learning of music for students [4].

2.2 Conducive to Expanding the Content of Music Teaching

Using the digital teaching mode to carry out music teaching, students can prepare materials in advance, and then combine the style of music with the rhythm of audio to better learn music [5].

The music teaching assistant system platform belongs to the course learning system, which supports the basic teaching content of multimedia technology. This platform adopts ControlWeb, which contains many multimedia technologies, which is convenient for better learning on the network platform. Take Realplayer as an example, there are many multimedia embedding specific ways as follows [6].

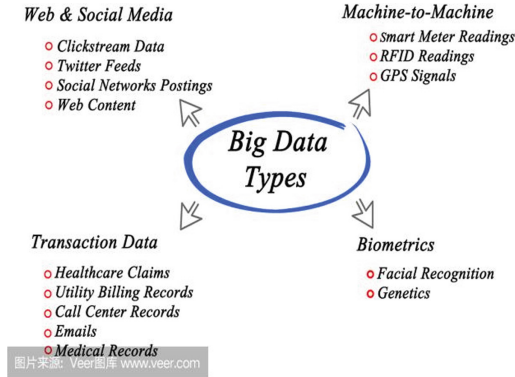


Fig. 2. Schematic diagram of the music system platform

Use the <OBJECT> tag to embed the Realplayer ActiveX control into the music-assisted teaching to achieve playback control. The main codes include [7].

```
<OBJECT id="Exobudl"
  WIDTH: 235px; POSITION: relative; TOP: 0px;
  HEIGHT:196px" classid" classid: CFCDA03-8BE4>
<PARAM NAME="ExtentXValue"6218">
<PARAM NAME="ExtentYValue"5286">
<PARAM NAME "AUTOSTRAValue "0">
<PARAM NAME " SRC " Value="<%= RIPfile %
>>
<PARAM NAME "cONTROL.Value" iIMAGE
  Window, controlpanel ">
<PARAM NAME "LL0OP" Value "1">
<PARAM NAME "NUMI0OPValue"0">
</object>
```

Using </OBJECT> can be used to mark the player, realize the audition window, and temporarily store the playlist in the server. Students can browse the interface through this technology, download the corresponding audio and video content and so on. Use the security of the system to connect the information of the database together, and then ensure the security of the access database. See Fig. 2 [8].

3 General Structure of the System

The music course teaching assistant system based on computer application technology can provide a lot of music data [9]. The amount of data is huge, but the storage space is very sufficient. Therefore, it is absolutely possible for music majors to record their basic training, improve the traditional learning process through the data information of the

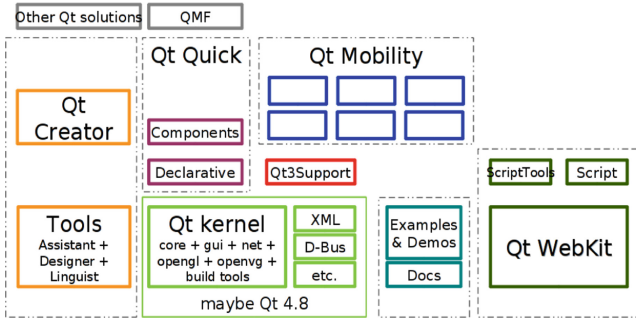


Fig. 3. Shows the flow chart of the teaching system

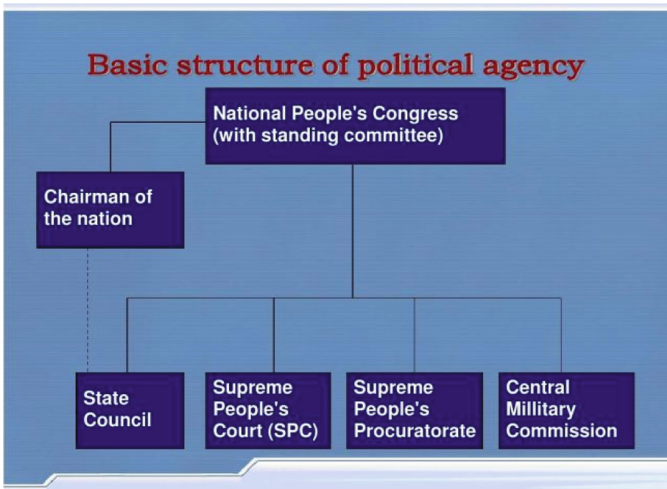


Fig. 4. Schematic diagram of auxiliary system

platform, and then combine it with the computer according to the process. The teaching system based on traditional teaching training is shown in Fig. 3 [10].

4 System Design and Implementation

The music course teaching assistant system mainly includes data collection, storage and display. Specifically as shown in Fig. 4 [11].

The system design should be analyzed in detail. Based on the training of vocal music teaching, it can be well explored through singing. Correct vocalization is a training composed of various elements such as breathing, pronunciation, and the driving of the vocal cords. They mutually drive each other. In the process of auxiliary teaching, it must be carried out from many angles to promote the integrity of the entire singing process. The external device frame is shown in Fig. 5 [12].

The system system is a complete whole. As an intelligent auxiliary teaching system, it provides us with a large space for communication between teachers and students. In the system, the process and function of the interaction between various elements, in order to achieve the ability of timeliness, are mostly used as a threshold in the teaching process, which is convenient for communication between teachers and students [13].

5 Conclusion

This paper describes the teaching assistance of computer application technology for music courses. This system is similar to an intelligent system. It uses computer technology to assist teaching and changes the original teacher teaching. Such a system can make abstract concepts more vivid, make things that were far out of reach into reality and touchable, and promote students' active learning. In addition, the teaching assistance system of music courses can be applied to teaching, [14] and it can also monitor students' learning in real time, which promotes the scientific nature of music auditing and makes subsequent learning more effective and targeted. Through the experiment of the system function, it is of good value to know the authenticity of the system at first glance, and it can promote the further development of the digital music course teaching assistant system [15].

References

1. Chao Xinxin, Wu Liu, Zeng Junying. The Construction of the Youth Palace Curriculum from the Perspective of Core Literacy—Taking the Music Teaching Curriculum System as an Example [J]. *Popular Literature and Art*, 2022(05): 149-151.
2. Chen Zhiyong, Ye Huachang, Zhang Xiaoqin. Course Ideology and Politics for Computer Majors: Core Elements, Basic Principles and Implementation Strategies [J]. *China University Teaching*, 2021(04):34-38+65.
3. Duan Yan'e, Li Daoliang, Li Zhenbo, Fu Zetian. A review on the measurement of aquatic animal visual features based on computer vision [J]. *Chinese Journal of Agricultural Engineering*, 2015, 31(15): 1-11.
4. Ge Weilun, Geng Jiali, Zheng Youqing. Exploration on the Reconstruction of College Professional Curriculum System Based on 1+X Certificate System: Taking Cloud Computing Operation, Maintenance and Development Vocational Skills Certificate and Computer Application Technology Major as Examples [J]. *Journal of Tonghua Normal University*, 2020, 41(06): 137-144. DOI: <https://doi.org/10.13877/j.cnki.cn22-1284.2020.06.025>.
5. Gao Weiwei, Fan Yali, Niu Zhihua, etc. Research on the Teaching of Music Courses in Preschool Education [C]//. *Proceedings of the First Academic Symposium on "Why Be a Teacher"*, 2021: 357-376. DOI: <https://doi.org/10.26914/c.cnkihy.2021.022502>.
6. Liu Jie, Zhou Yuxia, Zhu Peida, Yuan Xicheng. Research on the design and application of teaching resources of rural music tablet computer - taking the music course of a rural primary school in Wenshan Prefecture, Yunnan Province as an example [J]. *China Distance Education*, 2015(07): 65-71. DOI: <https://doi.org/10.13541/j.cnki.chinade.2015.07.012>.
7. Li Hongchun. Research on digital music course teaching assistant system based on computer application technology [J]. *Automation Technology and Application*, 2019, 38(11): 62-64.
8. Xiao Liping, Xie Quangen, Xiao Shao, Xiao Yueming. Exploration on the talent training mode of higher vocational computer application technology professionals with deep integration of post-certificate competition [J]. *Industry and Technology Forum*, 2021, 20(24): 137-138.

9. Yu Wuyan, Zhang Liang, Pei Shaoting, Wang Rui, Wei Meng, Sun Chaojiao. Research on the Application of Computer Application Technology in Engineering Project Management [J]. Science and Technology Wind, 2021(21): 78-79. DOI: <https://doi.org/10.19392/j.cnki.1671-7341.202121036>.
10. Yang Leize, Guo Zhenyu, Yao Xiang. Analysis of the Integration of Computer Application Technology and Information Management [J]. Electromechanical Information, 2019(17): 180-181. DOI: <https://doi.org/10.19514/j.cnki.cn32-1628/tm.2019.17.103>.
11. Zhang Yuchen, Dai Ying, Zhao Teng. Research on Personality Type Distribution and Teaching Strategies of Computer Major Students [J]. Evaluation and Management, 2021, 19(02): 21-25.
12. Zou Lishan, Lv Xuesong, Chen Xiaozhu. Research on the Construction of Modern Apprenticeship Curriculum System Based on “Post Orientation and Project Guidance”——Take Computer Application Technology as an Example [J]. Industry and Information Education, 2021(04): 47-51.
13. Zhao Yu, Wang Dexu, Gu Lixu. The new development trend of artificial intelligence technology in the field of computer-aided diagnosis [J]. China Science: Life Science, 2020, 50(11): 1321-1334.
14. Zhang Shun, Gong Yihong, Wang Jinjun. Development of Deep Convolutional Neural Networks and Its Application in Computer Vision [J]. Journal of Computer Science, 2019, 42(03): 453-482.
15. Zhao Guangyuan, Wang Wenqing, Cai Xiumei. The experimental design of “computer network” course from the perspective of maker education [J]. Modern Educational Technology, 2015, 25(09): 116-121.

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