



# Research on the Design of Auxiliary Teaching System for Music Courses Based on Modern Information Technology

Meili Zhang<sup>(✉)</sup> and Kewen Hou

Nanchang Vocational University, Nanchang, China  
gyx010306@163.com

**Abstract.** Music course is a cultivated course, which can cultivate sentiment, let us have fun in the noisy life, and enjoy in the sea 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 [1].

**Keywords:** Modern information technology · music courses · databases · auxiliary teaching systems

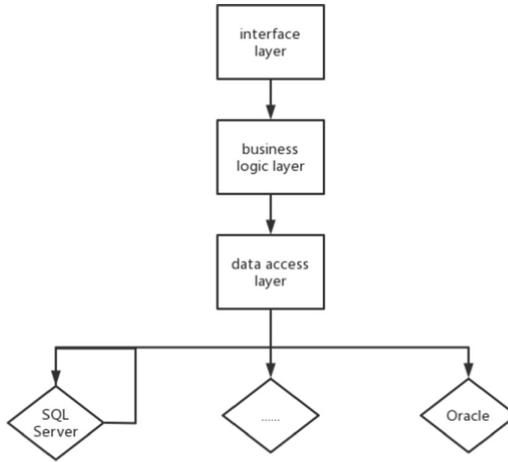
## 1 Introduction

Based on the development of online auxiliary teaching system for music courses and the needs of modern people, the system is divided into four parts. The first part is user management to add user information for better search. The second part is music appreciation, which allows us to understand the classification of videos, the retrieval of videos, the display of video information, and the upload and download of video information, all of which can be clearly displayed. The third part is resource sharing, which is responsible for mastering first-hand information, including uploading, downloading, and evaluating. The fourth part is online Q&A. Where the questions are raised, there will be professionals who will answer the questions and give feedback. When operating the system, we not only need to know the division structure of various aspects of the system, but also understand the connection between them and whether the communication is normalized [2].

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**Fig. 1.** B/S system structure diagram

On the basis of the music-assisted teaching system of modern information technology, there is a three-tier system structure of selective B/S as shown in Fig. 1 [3].

When we learn to communicate with others in childhood, it is usually done by listening. According to domestic and foreign literature data, our communication time is divided into these parts: listening accounts for 40%, voice communication accounts for 30%, reading comprehension accounts for 15%, and writing ability accounts for 9%. Among them, the oral application part includes expression and listening, which are our most basic qualities and play an important role in language. Listening is a very important skill in language communication, and it also plays a vital role in our life. Listening is equivalent to another method of our survival, promotes our studies, and is a basic life. Skill. He lays the foundation for our future survival and will give us enough vocabulary in listening teaching [4].

## 2 System Design

For now, we need to choose an idealized system to enrich our teaching courses, which usually include database design and login design, knowledge learning design, and homework management design. The database mainly includes three parts: entity, attribute and connection. It is a combination of database relational modules. It ensures the security and integrity of the data in the music knowledge learning system designed. See Fig. 2.

The login design belongs to an interface that catches the eye, and the user can achieve the effect of use by following it, which can help the user to successfully connect with the system. Knowledge learning is like theoretical knowledge learning and common sense knowledge learning. The two constrain and improve each other, providing us with the function of querying and browsing. The homework management design is a music-assisted teaching system based on modern information technology. For example, teachers assign homework through the platform, and students can complete and submit

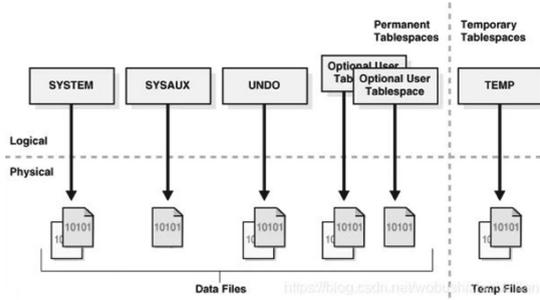


Fig. 2. Database management process

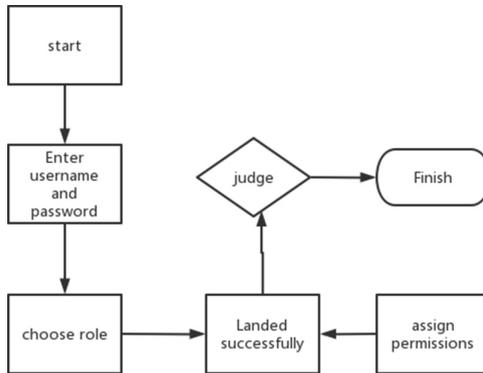


Fig. 3. System login process

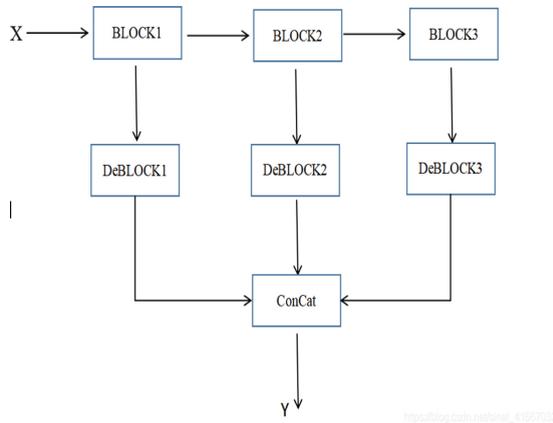
homework within the specified time according to the system’s reminders. Students can check their grades and mistakes after the teacher’s review. Question. See Fig. 3 [6].

The functions of these designs are to process the questions raised by students and the course data recovered by teachers through the online Q&A interface to ensure that they have practical significance.

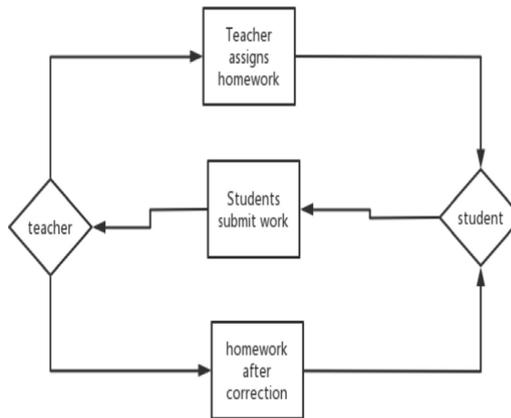
### 3 System Architecture

The login design module belongs to an interface that catches the eye, and the user can achieve the effect of use by following it, which can help the user to successfully connect with the system. Knowledge learning is like theoretical knowledge learning and common sense knowledge learning. The two constrain and improve each other, providing us with the function of querying and browsing. See Fig. 3 [5].

Learning Common sense knowledge learning is a kind of judgment based on things in reality, with flexibility, and can be changed at any time. You can query and browse knowledge materials in both ways. The knowledge learning module is shown in Fig. 4. Music knowledge is mainly composed of theoretical knowledge and common sense



**Fig. 4.** Schematic diagram of the knowledge learning process



**Fig. 5.** Job management process

knowledge, and theoretical learning knowledge is to achieve according to the conclusions in books, which is a very fixed way of learn [14].

The homework management design module is a music-assisted teaching system based on modern information technology. For example, teachers can assign homework through the platform, and students can complete and submit homework within the specified time according to the system’s reminders. Wrong question. See Fig. 5.

The system is a complete whole. As an intelligent auxiliary teaching system, it provides us with a large space for communication between teachers and students. The communication method between students and teachers in this system provides users with a unified platform. to facilitate the composition of the system. 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 (Fig. 6).

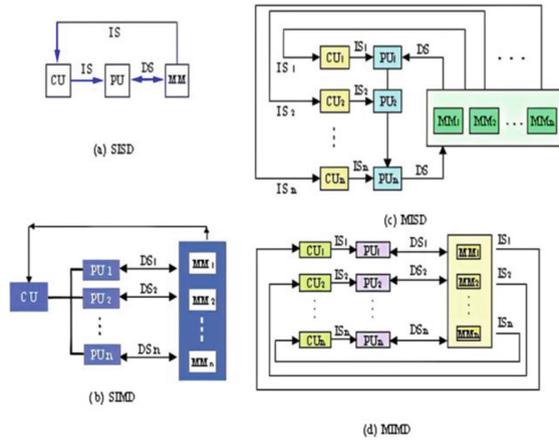


Fig. 6. System Architecture Diagram

### 4 Auxiliary Teaching System

The so-called aesthetic education is in the process of perfect harmony between artistic beauty and classroom teaching beauty, with scientific teaching methods and tools, perfectly create a form of external image of a student’s personality. According to these, aesthetic education is of great significance to the development of our individuals, not only to meet the characteristics of students to cultivate image beauty such as spiritual beauty and behavioral beauty, but also to promote the realization of efficient music education [11].

From the essence of education and teaching, the fundamental characteristics of aesthetic education are reflected from the essence, and in the structure of education, the role of aesthetic education is mainly expressed through emotions. Many musicians attach great importance to the role of education, and music promotes the emotional display of individuals, thus achieving perfection [10].

College students are in the golden age of life and have a wealth of feelings. Teachers can convey the natural beauty, artistic beauty and personality beauty through teaching, so that students have abundant feelings, so as to form a correct sense of aesthetics, and under the teacher’s teaching, reflect the beauty of music, feel the beauty of music, and create the beauty of music. Because of this, under the guidance of education, college music integrates the educational elements of aesthetic education, which can show the important role of education and have a subtle impact on the minds of college students [13].

Music-assisted teaching is a form of activity that reflects the higher spirit, and the individual can also embody the value of its beauty in terms of participation, and show it from the main concept of the individual aspect. For college students, it is also important to have the right aesthetic awareness. Will this be different for a person’s point of mind, worldview, values have changed. In the classroom, teachers can combine online and offline lessons and refine the ultimate goal of music education. This is shown in Fig. 7 [12].

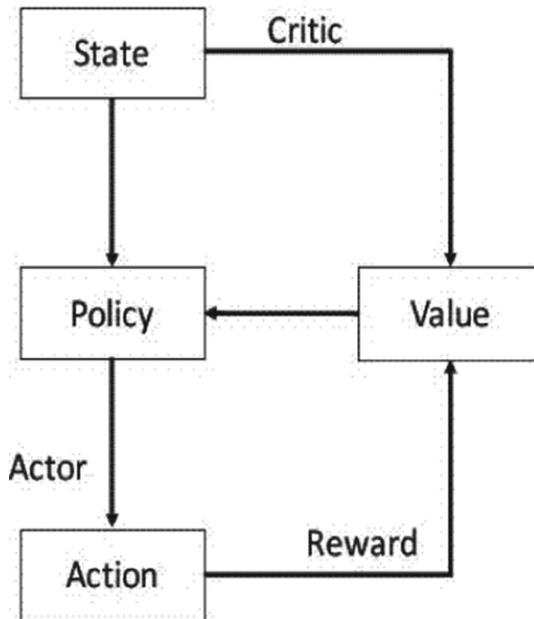


Fig. 7. Music operation structure diagram

Based on the modern information technology of the music curriculum auxiliary teaching system to achieve our structure according to the structure of the system will have the following distribution:

(1) System implementation. In the system, the perfect system function uses the distribution of java EE three-layer structure, with the presentation layer, business logic layer, data service process, so that you can put business rules, thought logic, data access and other work to the middle layer for processing work, the client is all the work is through the controller and the middle of the continuous contact, and then through the middle layer to achieve interaction with the database.

(2) Presentation layer. Using JSF structure, but excluding Java's system, so their design will be more simple and effective, JSP structure of the system page using tags for data display, and then through the visual way to generate the page display effect. See Fig. 8 [9].

(3) Middle layer. The combination of the presentation layer and the middle layer is used, and the MVC controller layer is set in the middle layer to achieve the goal of separating the IPA entity layer and the business logic layer of the control layer. First, the function of the controller layer is responsible for cooperating with the middle layer and the presentation layer to achieve information exchange; Second, the EAO layer is the middle layer of the entity layer, and the function is to have its relevant data on the encapsulation and modification respectively; Third, the function is to implement the basic rules of the business logic layer and the data protection and recovery function; Fourth, the function of the JPA entity layer is to organize and collect the data tables in the database so that this operation can be performed on the database. See Fig. 9 [7].

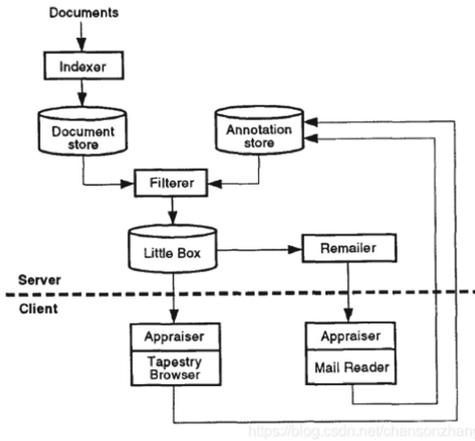


Fig. 8. Schematic diagram of the teaching system

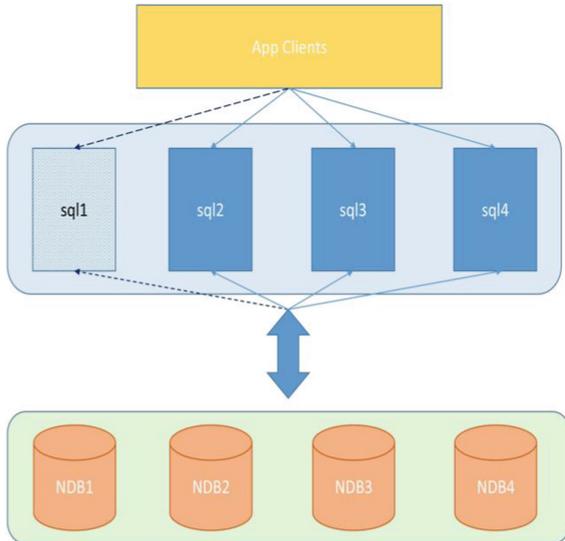


Fig. 9. Schematic diagram of the data service

## 5 Conclusion

According to the above materials, the information management of music-assisted teaching based on modern information technology will help us improve our love for music and knowledge of music, so that the quality of music teaching has been recognized and the ability to pursue teaching efficiency. Enable the development of the entire industry. Music-assisted teaching is mainly used in children’s teaching. Kindergarten is a place where children form good habits and language skills. In teaching, music-assisted teaching is the best teacher. You can learn basic language from the perspective of singing,

and you can also babble, but up to now, music education is still in the traditional music classroom. The learning environment is closely related to learning. You have mastered the knowledge, which must be a good thing and the best mental state. Through system technology and research reports, it is shown that modern technology also has a significant impact on music. It shows that they are also operating well, and can meet the design goals in a wide range, which is helpful for subsequent upgrades to strengthen the auxiliary teaching system [8].

The music online auxiliary teaching system is very simple to implement in the school. It can be taught along with the professional courses. If you are full of love for it, you can surpass yourself. According to the design software process, a series of auxiliary functions have been completed. Being responsible for yourself is also an affirmation of the teaching system, and it also effectively improves the management and efficiency of music auxiliary courses [15].

In the new era, the reform and innovation of the auxiliary teaching system of college music has been superiorly developed, as the promotion of music education in colleges and universities, college teachers will deeply explore and study the connotation of music and education, distinguish the relationship between the two, and achieve through teaching in the education system, similarly, college music teachers can also combine the current situation of music education, stand in the perspective of students to consider students' learning and living conditions, and actively promote new paths and innovations in music education teaching. In practice, teachers will create the main area of music aesthetic education for offline topics, optimize the learning and training methods of students and music education, strengthen the education and training policy between colleges and universities, and combine music teaching and teaching practice.

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