Music Appreciation Teaching Platform Design Based on B/S Structure

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Abstract — **Music appreciation is a unique and complex psychological process activity, it is a free subject of aesthetic activity. Listening to a specific piece of music can lead us to experience and understand music education as a form of beauty. It is through music aesthetic appreciation activities that music students expand their musical horizons to enhance their feelings of the experience and joy. The ability to evaluate music leads to the development of imagination, creativity, rich emotions, where people's spiritual life gains greater richness and satisfaction, with physical and mental health coordinated and developed. This paper attempts to study how specific Art Institute students enjoy online music through an exchange platform. Many kinds of music resources result in management confusion with another existing database system scalability where reusability is not high. The paper deals with information music teaching systems as the research content. The work is based on B / S structure to achieve a music appreciation database system which leads to a collaborative model of teaching music appreciation as an auxiliary music teaching activity.**

Keywords -- Music Resource, Music Appreciation, Resources Management, B/S Structure

I. INTRODUCTION

Art schools generally have opened music appreciation class, welcomed by the majority of students, through music appreciation, so that students understand the United States, found that the United States, experience the beauty, the ability to improve the aesthetic and music literacy. In the actual teaching, professional and non-music for the music majors, in addition to listening to music in the classroom teacher to explain the selection of professional knowledge and appreciation of classical music teacher, extracurricular rarely together for music appreciation, evaluation and discussion, students The song's music is difficult to get to share in a larger context and appreciation. According to the author many years of teaching experience and exchange of information and student feedback, the current most art institutions still lack a professional, capable music sharing and exchange and evaluation platform [1-3]. Therefore, this paper attempts to study a specific Art Institute student appreciation of music online exchange platform.

The rapid development of online music makes the music digitization largely contributed to innovation and sustainable development of traditional music, but also brought a sharp increase in the amount of resources online music and mixed quality problems, which makes management of digital music resources became the focus of the construction of digital music. At present the most effective management of resources and data than the database system [4], which fully guarantee the mass storage and management of data, there is a very strong ability to re-organize the data, while fully describe the intrinsic link between the data [5]. These advantages make the number of database systems and the increasing scale, attracting more and more researchers to join. However, at present most music database system scalability poor reusability is not high, it can not be universal in the field of music, which influenced the development of the effective development and utilization of digital technology and music more musical resources to some extent. Therefore, the design and implementation of a standards-based unified data storage and versatile music database system highly scalable, and unified storage for music resources, protect, manage, and share a very important practical significance. Study abroad music database system has been extensively developed, and achieved remarkable results,

But domestic research work is still lagging behind, and resource management is not perfect, still lack in-depth research in information standard music resources, digital copyright protection, resource sharing and integration services. With the development of the information society, although a lot of music researchers plunge into digital music research and rescue and dissemination of music resources go, our traditional music resources are still facing a severe situation: a lot of traditional music resource wastage worrying , but there is not yet a complete built on standard, traditional music resources for the collection, storage, protection, management and sharing of standardized platform, more importantly, at home and abroad existing music database system scalability is poor, reusability is not high, cannot establish a common customizable database of music resources, so we need to combine the appropriate standards, establishing a common music database system is highly scalable, music resources for a large number of rescue, heritage and standardized management and future create more standardized music database provides a solid foundation.

II. B / S STRUCTURE TECHNICAL OVERVIEW

B / S (Browser / Server) mode, which browser / server mode. The biggest feature on B / S through its implementing networking applications simple and fast: on the server side implementation after Web application server and database

server deployment, users simply needed to be able to perform network operations through the browser, and complete the appropriate network applications [6-8]. Computer technology and network technology development and promotion, to build software system using B/S structure, resolve resource reuse of information management. B/S structure, namely the browser / server architecture, the presentation layer using a general Web browser; logical layer located on the Web server of the various applications implemented on the server, and data services layer provides the SQL Server database servers. In this structure, the user interface is through the WWW browser, to implement some business logic at the front end (browser), but the main business logic on the server side (server), a so-called three-tier structure. This greatly simplifies the client computer load, reduce system maintenance and upgrade costs and workload, reducing the total cost of ownership [9]. The three layers of B/S architecture model structure diagram as shown in 1.
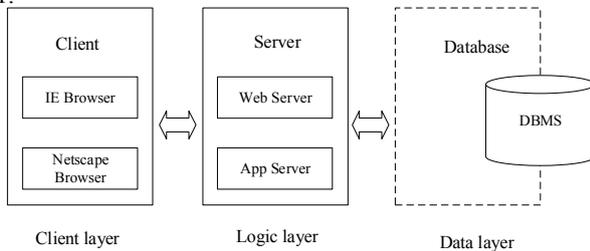

Figure 1. The three layers of B/S architecture.

Taking into account the actual situation of resource management, we believe that the use of B/S structure to build resource management information system has the following advantages:

1) The system is simple to install and maintain. Based on system B/S structure only on the server, each terminal does not require installation, general operating system through a Web browser will be able to do it. Client system maintenance and upgrades will save a lot of unnecessary duplication of work, it can be completed in a one-time server.

2) management model is more consistency and concentration. Coal resources based B/S structure of management information system will define a unified data storage format and data display formats, change the past, the same company all my all my data format is fundamentally different phenomenon. Data is stored centrally in the database server is also within range of users at all levels to promote allows easy call these data within the range.

3) can be an effective means of networking technologies based on system B/S structure, distributed after the transaction is completed, open the results or conclusions.

B/S mode Http protocol for communication, via URL (Universal Resorce Locator, Uniform Resource Locator) of hyperlinks, in the form of interactive access to e-commerce, enterprise portals, data or personal web pages Web Application Server , and then connected to a dedicated channel data through a Web application server and database server acquire vast amounts of information (including the

character, text, photographs, images, audio, animation, video and other data) is stored in the database, visually read from the browser [10-11]. B/S model has a low cost of software deployment, Web publishing easy, simple network access, network application upgrade quickly, system maintenance, fast, etc., but the data needs of different users on the network centralized point to Web application server and database server system, it requires a Web application server and database server with high reliability, a large number of levels for network applications, Web application server with the best high-bandwidth, load balancing mode configuration, database server should have sufficient data backup and data resume use of resources.

III. NEEDS ANALYSIS AND FUNCTIONAL MODULE DIVISION

Music Appreciation education mainly for the purpose of aesthetic and feel, it is different from other disciplines, it requires emotional thinking, expression is unique [12]. But the music teaching system and other disciplines also have the same basic teaching characteristics. First, the basic components of teaching teachers, students and media teaching is carried around giving and receiving knowledge of teaching and education as the basic purpose of education is based. The concept is based on the theory, music appreciation theory instructional system design is based on the basic teaching system design theory, it is the common teaching of other subjects have the basic concepts of the teaching system, for example: teaching methods, teaching conditions teaching result. In the conceptual development of instructional system design theory, one is based on the process of teaching and learning activities to longitudinal analysis, for example, the students are divided into understanding, consolidate, perception and application of the four stages, talk, according to the theory put forward teaching sixth process, mainly: teach new courses, examination review, organize classes, check the consolidation of new knowledge, make new courses purpose of the request, arranged homework.

Music is an important aspect of the quality of higher education, there are many colleges and universities will be music appreciation columns person Humanistic Education curriculum. Music as a cultural, vertical look long history, horizontal look voluminous. It impact the quality of talent, has a very important role. Through music appreciation process can improve the ability of iconic thinking and abstract thinking, and promote the balanced development of the brain, improve memory, coordination, stimulate creativity and emotional. But how to get in a short time, students try to grasp the profound connotation of music to raise awareness of the art of music appreciation, music education has been to try to resolve the issue, and the key to solve the problem of students targeted education. Among them, the music appreciation collect and organize information becomes particularly important [13]. Therefore, the design and development of an arts college to meet the needs of music appreciation and Analysis platform is an effective way to promote music education students. Music appreciation from development platforms, the current site

offers all kinds of popular music, classical, folk and other genres of music, and the music following every genre has a lot of different types of songs, synchronized lyrics; worse who, some sites even offer such as MTV and other music appreciation, so that students enjoy hearing the same time, enjoy the visual feast. However, these sites are just some of digital music to the masses works simply, no analysis and classification of cognitive ability for music college students; these musical material in music appreciation is a relatively haphazard data display, Therefore, these sites only allow students in front of a lot of different categories of music seemingly information, it takes a lot of effort to appreciate the level of their own music.
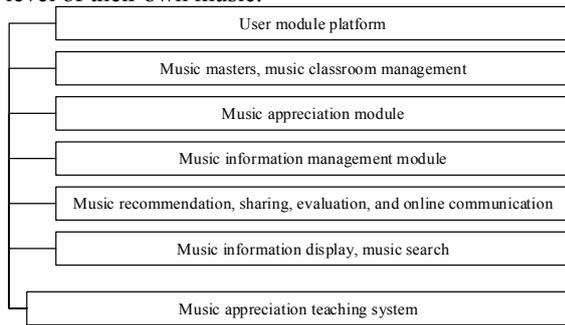

Figure 2. System basic function module.

Students create a platform for music appreciation, some relatively classical music, according to the appreciation level of college students, with different genres, academic departments in different categories to summarize and organize, and then displayed on the internet. Aimed at the establishment for college students to help college students to adapt quickly find their own level of music, performed appreciation, the platform can be used as future working unit Students On Music Appreciation Course teaching material public network, but also for students who are interested in music learning to provide a rapid increase in college students music appreciation learning platform. Therefore, the main purpose of this study is to build a professional music teachers and students to meet the Art Institute actually need an online music platform. By Art University Online Music Appreciation platform research and design, and ultimately within the range of the campus network, primarily for the professional music school students, between students, especially music students and teachers, students and students to provide a professional level exchange platform, rather than a simple online music audition, to improve college students to raise the level of music appreciation, promote exchanges of students musical expertise, his own musical works uploaded platform for students to share the discussion, so as to promote the quality of school music teaching enhance the sense of great importance.

Music Appreciation platform design includes a user module, music information display and music search module and online music review and exchange modules and related management module. In addition to general Web user has registered, login authentication, user information management endures, the display also includes music

information, browse, search, music, music recommendation and sharing among users music reviews, etc., in the music management module the passenger were music to add, delete, modify, and other operations. Displayed in both music and browsing, the user can press category, age, and other features famous music for music Browse, each module structure of the system shown in Figure 2.

Thus, according to the above analysis, functional module frame of the system shown in Figure 3. Obtained by the function module frames, the system is divided into two subsystems, namely the portal subsystem and backstage management subsystem, a lot of music resources and the corresponding music data element common data element standards as the basis for resource management, for the rest of the system Function application provides the basis for assurance.
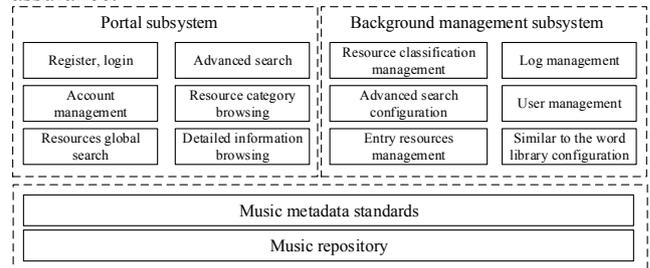

Figure 3. Structure of the function module.

Portal music database subsystem interface between systems and users, is the window to show the user system services. Through the portal subsystem provides not only gives users a full range of music resources to retrieve data entry, but also can be a good representative of each musical resources. Portal subsystem function module division mainly comprises two modules: subscriber information module and a full retrieval module, wherein the user information module consists of two sub-modules, namely: registration, login module and account management module. Comprehensive retrieval module as the core module gateway subsystem is responsible for the full range of all system resources and resource information retrieval viewing,

Background management subsystem is to help database administrators to customize generic package of resources metadata resource retrieval system configuration and manage routine maintenance work,

IV. MUSIC DATA ELEMENT COMMON DATA ELEMENT DESIGN

Music Resources metadata definition is the core of the whole system, as described, packaging, classification and retrieval of music resources to provide a solid foundation for the music resources can be more convenient clear finishing merge. It summed up the meaning of the music data, it allows users to manage, find, acquire music data; at the same time to help users understand the music data, to determine whether the music data to meet their own needs; also shows the relationship between the music data; and most importantly, provide the consistency of the data description, promote the sharing and exchange of music data. Dublin-

based standards, according to the special properties of music resources, music data element common data element standards define two-part music data element common data elements. This standard defines the first music category common data elements, including the literary class, score category, Audio, video class, class pictures, musical instruments category, figure category, organization type, activity type, technique classes, heritage classes relevant information and other types of public data elements, some common data elements, includes the sub-categories, such as literary category includes monographs, monographs, sheet music in music theory, articles, proceedings, journals, reports subcategories. This standard is defined by the internal identifier for the unique identification of each category in order to facilitate identification database storage.

In addition, the standard defines different musical resources based on attributes of the common data elements of music, extract the music as a common property resource common data elements (such as category, title, keywords, description, format, source, identifier, authority version, publishing units, etc.), while according to each resource category-specific attributes as special metadata (such as creation of literary theory class, book time, title, publication of other attributes, like musical instrument name, producers, production time, collectors and other attributes, player audio and video classes, commander, explain, genre, duration, based on common attributes of this spectrum, etc.), the basic structure of music resources common data elements as shown in Figure 4.
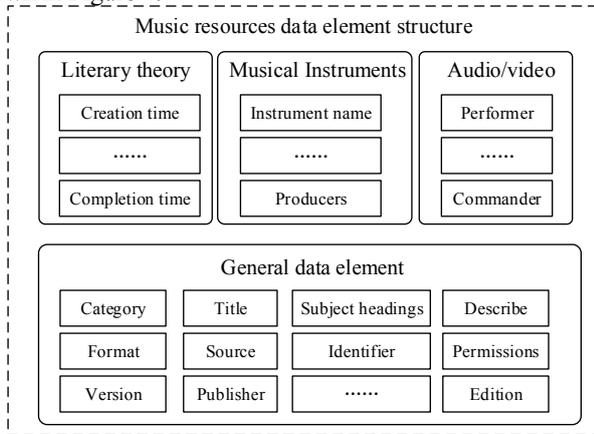

Figure 4. Basic structure of music resources data element.

V. MUSIC APPRECIATION TEACHING PLATFORM BASED ON B/S STRUCTURE DESIGN

Music Appreciation repository design. To meet the needs of resource metadata storage, retrieval, and a full range of back-office systems management, system design database table to store and retrieve metadata information resources and systems required to manage data information. Figure 5 describes the link between the entities map database tables.
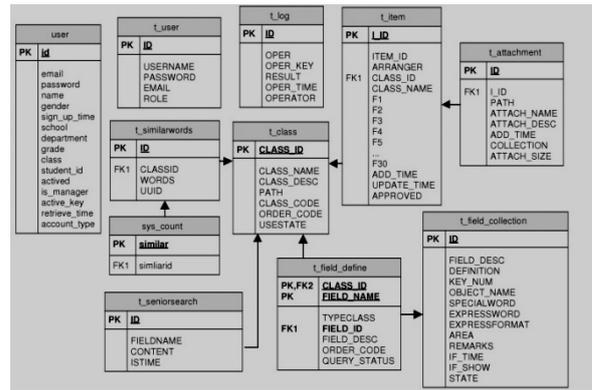

Figure 5. Database entity-relationship .

Database of the entire system with all relevant information, such as user information, song information, comments, and other data stored in the local information, database structure design is good or bad will directly affect the efficiency of the system, it is a system developed in a very important part. Before designing a database, the user needs to know to determine the structure of the database. Otherwise, if we modify the structure of the database in the code implementation process, it will be a huge waste of human and material resources. Meanwhile, in database design, logical hierarchy table cannot be too much to prevent data redundancy, or the upgrade and maintenance of the system will create difficulties. To analyze the needs of the database, you first need to determine WEB applications and object-oriented groups. Of course, to be involved in the management of registered users, background administrator management is also required to use the database. The core of an online music-on-demand system, of course, request songs, and therefore maintain a music library is also essential. Others, such as news and other information is also required to maintain the database.
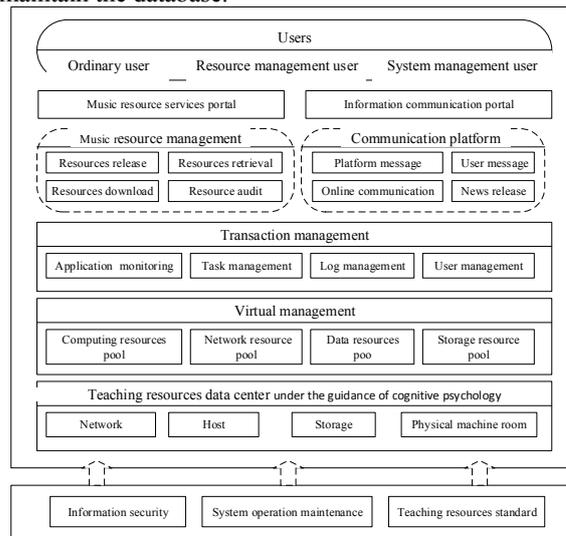

Figure 6. The music database system structure model.

Library structure model. Music database system is based on B/S (Browser / Server, Browser / Server) music resource sharing service platform structure designed for a large number of traditional musical resources to conduct a comprehensive digital processing and storage, while being standardized packaging and management, and provide users with comprehensive search functions, the establishment of a common database system is highly scalable on this basis, as shown in Figure 6. Therefore, the system design needs to meet the following objectives:

1. The development of metadata standards to describe music resources unified package for different traditional musical cultural resource, the music rational resource classification, combined with its metadata features, to formulate a unified description of music resources metadata Standard - Music data element common data element standards, define data formats, store format and their interconnections, etc., all music resources for a unified metadata descriptions and packaging.

2. Provide universal custom database functions, ensure that the system is highly scalable for different types of traditional music can quickly and easily build their particular database, and set up a database resource classification categories and different categories according to their respective corresponding resource metadata properties and so on.

3. Provide comprehensive music resource search function provides a convenient multi-dimensional resource retrieval system users to establish links between the different resources and other resources from the perspective of the content and properties, so that users can quickly retrieve the desired results, while resource-based unity description and packaging, detailed information resources in a unified manner to the user at a glance.

Music Appreciation platform is the use of modern computer network technology and information management and software engineering technology, according to the system requirements, and music appreciation teaching basic business process design is completed. At the same time as the expansion of the system functionality and scope of teaching, online communication platform designed to help students improve the level of music appreciation, to change the traditional music teaching tape recorder playing music mode. In order for the system to play music appreciation curriculum management and effective role in efforts to achieve network teaching, promote the sharing of resources, improve work efficiency and quality of work. Music Appreciation platform business processes: the user interface with a browser to access the system, all registered students can enjoy music information platform for viewing the operation. Registered students performing music appreciation, listen to music at the same time have the right to evaluate, you can share with other users, and other registered users or teachers to interact. Administrators have the basic information for maintenance of the system of public information to add, modify, update, and delete permissions, while all functions in the system management purview to operate.
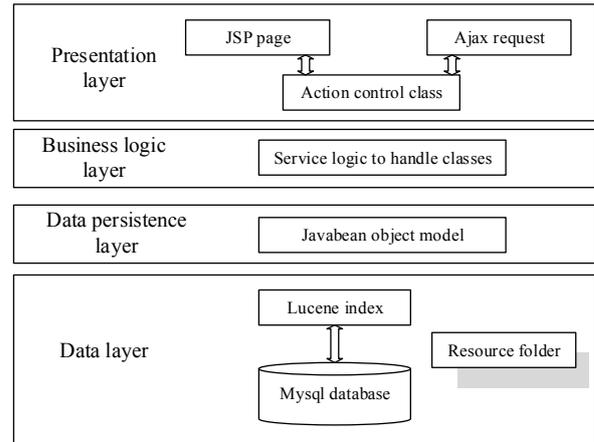

Figure 7. System hierarchical framework layer.

Hierarchical framework design. To make the system has good scalability and maintainability, the system uses a hierarchical design, system implementation will be divided into four levels: the presentation layer, business logic, data persistence layer, data layer. The system uses the Java language, tomcat Figure 7 as a server, the system shown in hierarchical framework.

Presentation Layer: is responsible for receiving user requests data, and to submit to the logic layer processing, while the response data back to the interface logic layer processing is displayed, the user is presented dynamic web content. Presentation layer use struts2 framework to respond to user requests, while providing a controller to call the business logic and provide a model for the show, on the one hand use struts2 framework of rich tag library can make the presentation more convenient to accept the page request, on the other hand use Struts2 powerful framework page jump control functions, in a profile page Jump unified management of all control, make the code more concise, easier to manage.

Business logic layer: in the middle of the presentation layer and the data persistence layer, presentation layer is responsible for receiving the requested data submitted in the system, while calling the corresponding business logic processing, after obtaining the data processed by the data persistence layer, the data processing results returned to the presentation layer.

Data persistence layer: in the business logic layer and the intermediate data layer, business logic layer is responsible for handling the data need to access the database to read and write operation, the business logic layer and database operations separate. Data persistence layer use Java Bean to encapsulate data, make the operation as simple as the operation target data, and enhance the reusability of code, so the code is easy to write, easy to maintain, easy to use.

Data Layer: The data layer is the underlying system hierarchical framework is responsible for handling this data in the system, including the establishment of operations and Lucene index database. Lucene technology through the establishment of a database index related data, so you can get the data you need business logic layer directly from the

15.5

Lucene index, greatly improving the efficiency of database queries, while improving the system retrieves the response speed.

VI. CONCLUSION

With the development of the school network to improve the level of information and network information construction of schools, all public education, educational administration service system has this built, to build the network information environment for teaching discipline and professional programs and services is imminent. Because of material for construction music students online music appreciation information platform is to achieve school education reflects the fundamental information, students can use the network repeatedly listening to the theme music, singing the theme music, the performance of the theme music, which for theme music and other elements memory more efficient and convenient. In this paper, the use of modern information technology, by building a database of music appreciation, music appreciation teaching platform is based on the establishment of B/S structure, the theme music to enjoy teaching learning brings great convenience to improve the teaching efficiency music appreciation courses. A music appreciation for the music department students, communication, evaluation platform for the development of music-based cultural knowledge Majors and significance of professional music listening service has provided for other majors.

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