International Journal of Science and Engineering Applications
Volume 12-Issue 02, 137 – 139, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1202.1050

Intelligent Innovation Platform Design of Chinese Film and Television Music Based on Multi-Dimensional Information Fusion Algorithm

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Abstract:Experienced changes in recording techniques and musical styles. With the development of the times, digital technology is constantly developing and progressing. In the aspect of film and television music creation, the application of digital technology has been innovated accordingly. Using multi-source information fusion to build a music feature system to solve the problem of music recommendation cold start Users provide personalized music recommendations. The optimized high-concurrency Cuckoo Hashing algorithm is implemented on the DPDK platform, and the algorithm is optimized for large page memory, batch processing and preprocessing combined with DPDK features. Music information retrieval is expanded from the traditional retrieval based on keywords such as file name and artist name. At the same time, the evaluation of the example model of the system also verifies that the multi-information source fusion method proposed in this paper can optimize the precision and recall rate of the system.

Keywords: Intelligent Innovation Platform, Chinese Film and Television, Television Music, Multi-Dimensional Information Fusion

1. INTRODUCTION

In the art of film and television, an important part is film and television music. With the development of the times, digital technology is constantly developing and progressing, because the application of digital technology has made corresponding innovations in the creation of film and television music [1]. In my country, the non-traditional band method was applied to the creation of film and television music very early. The development history of traditional music in our country is quite long. In front of the public, the public's awareness of traditional music has been improved. Erhu is a well-known traditional musical instrument in my country. Its sound is bright and distinctive, full of the charm of ancient Chinese style [2]. With the comprehensive development of the current film and television industry, music recommendation has received extensive attention in the recommendation task of multimedia products. However, because music has connotations such as emotion and style, compared with other Internet products, it is difficult to quantitatively describe and extract features. and other characteristics, which makes the existing research still have many shortcomings [3].

In order to solve the above drawbacks and meet the communication needs of "high-speed", "high-efficiency", "mass" and "ubiquitous" in the future network, on the basis of in-depth research on the theory of future information network architecture at home and abroad, Beijing Jiaotong University's Next Generation Internet Interconnection the National Engineering Laboratory [4] for Equipment has creatively put forward the "Intelligent Collaborative Network Theory System". After years of construction and development in the film and television industry, relatively mature multi-terminal independent systems have been built in various fields, such as the digital copy satellite distribution and reception system for cinemas, and film key management [5]. System, cinema computer ticketing system, cinema management system and cinema network operation and maintenance center ticketing box office system, etc. The current music retrieval in the P2P network has the following problems: (1) The retrieval method is relatively simple, and only supports retrieval based on file name keywords or the simplest string matching [6], but cannot fully support retrieval based on semantic content information; (2) It cannot provide users with personalized retrieval. This is contrary to the personalized characteristics of music. The target tracking technology is to find out the area of interest in the video stream and match it with the target, so as to achieve the purpose of real-time tracking [7].

Using computers instead of humans to acquire and process external information can accomplish many tasks more efficiently and quickly, thus making the human society develop more rapidly [8]. The fault diagnosis of power transformer is based on fault characteristic information. When the fault has not been fully formed. Predict the possible faults of the transformer. after the failure occurs. Judge the fault type, fault location and fault cause. And develop a condition maintenance program [9]. The existing power transformer fault diagnosis methods are mainly divided into traditional methods and intelligent methods. The research objects of the power load analysis model in the power grid environment are multi-faceted, mainly including busbars, regions, new energy, distributed generation processing and intelligent terminal power consumption forecasting [10]. The design and construction of the relevant intelligent analysis platform using the existing conditions is the concrete embodiment of the smart grid management technology. According to the types of models used in data fusion, multi-source data fusion methods mainly include structured methods [11] and semantic methods [12].

The starting point of the structured method to solve the problem is the information structure, and does not consider the semantic connection between the information, and mainly solves the problem of structural heterogeneity of the data to be fused [13]. In film and television music, the traditional way of organizing material is lines, and the combination of different ways of music is assembled, which is usually an element of music in the aesthetics of traditional music [14]. With the development of the times and the continuous development of

digital technology, electronic music has emerged. The second is to innovate the genre of film and television music. The reason why traditional folk music rarely appears in film and television works is that it was influenced by foreign music and popular music in the early stage, which led to the neglect of folk music. At present, the national style trend has become popular, and people pay more attention to the inheritance and development of national music [15].

However, recommendations based only on audio, tags or categories will lose a lot of music characteristic information, so that better personalized services cannot be provided. In practical scenarios [16], the music cold start problem is common. It is difficult to solve the cold start problem by studying the explicit or implicit feedback data of users, that is, for newly added users and music [17], they cannot be recommended due to the lack of relevant feedback data. The intelligent service layer provides service identification and description, and is responsible for the intelligent search of services and the dynamic adaptation mapping of resources; the resource adaptation layer is responsible for the game decision-making of intelligent service requirements and network component behaviors, dynamically adapting network resources, and building network groups [18].

2. THE PROPOSED METHODOLOGY

2.1 The Multidimensional Information Fusion Algorithm

The construction of ontology is not a simple standard and matching, but a very complex and meticulous process. It is common to use traditional machine learning methods such as Gaussian mixture models, Bayesian networks, and hidden Markov models for music recommendation. Algorithm model tools, etc., in order to realize related algorithm functions. It will satisfy and realize the automatic arrangement of films, statistical analysis of the big data in theaters, identification algorithms, multivariate data fusion algorithms and other functions. Multi-dimensional information fusion technology is to uniformly process a large amount of information of each dimension in space and time. form an overall indicator. Provide a basis for decision-making and control. The key of multi-dimensional information fusion technology is to process multi-dimensional information with similar or different characteristic patterns. The data structure on the control cloud is different from that of the traditional EMS system. The data object-centered data association and integration of the control cloud is the data foundation. , and adopts a set of coding rules for data exchange and sharing as the unique identifier of the power data objects.

2.2 The Chinese Film and Television Music Based on Information Fusion Algorithm

Music is narrative. In the development process of erhu music, the development history is quite long. In the long-term development, there have also appeared many excellent works, which are well known to the world, such as "Erquan Reflecting the Moon", "The Birds of the Empty Mountain", "Liu Bo Song", Listening to Song", "Cold Spring Song", etc. In order to be compatible with various data storage and computing engines and maintain a unified interface structure, the system plans and designs the engine layer, including various script execution security sandbox executors (including SQL, Shell, Python , Spark executor).

We use the RDFPeers architecture to build a distributed DHT index of triples, that is, the RDF subject, predicate, and object triples in the music ontology are distributed and stored in the nodes of the P2P network. For the introduction of the specific architecture, please refer to [14]: The following We give examples of how to implement static and dynamic information retrieval in the RDFPeers architecture. When researching and analyzing target feature information, it is found that the target in this environment generally does not emit sound continuously; at the same time, due to the characteristics of the Kinect microphone array, the parameters related to sound source localization will also be affected when the environment changes. Figure 3 shows an example of storing, indexing, and dynamically computing RDF triples in six nodes in a 4-bit flag space RDFPeers network: by studying the internal correlation of correlation matrices between parameters. Find common factors for all variable properties.

The variables are grouped according to the degree of correlation between the variables. The variables with high correlation degree are all in one group. The correlation between different groups was low. Common factors are variables that can represent basic related attributes within the group. The equipment basic information table (such as circuit breaker basic information table, bus basic information table, transformer basic information table, etc.), equipment parameter table (such as transformer winding parameter table, AC line parameter table, bus parameter table, etc.) in the cloud database will be regulated). The recurrent neural network cannot capture information from a long distance, which may cause information loss, resulting in the problem of gradient disappearance, but LSTM adds a "gate" structure to the model, stores information in neurons, and is controlled by multiple gates. The memory unit Multi-task operations such as input and output.

2.3 The Intelligent Innovation Platform Design of Chinese Film And Television Music

All data is integrated and summarized, data warehouses are built, reports that assist business improvement are developed according to the data required by the business, and then the reports are made into a visual data interface, so that any report can be viewed and exported at any time. The test music set is divided into two groups: the first group contains 107 dance pieces performed by 73 artists; the second group contains 103 classical pieces performed by 50 artists. For this test music set, on the one hand, we automatically extract user labels for the features of music signals, and on the other hand, we grab the corresponding label information through the Web.

The design principle of this module is the particle filtering method based on HSV color histogram, and the specific principle is mentioned in the second chapter. The applicable environment of this module is indoor environment and dynamic background. The complexity of the environment is relatively stable, and the trajectory and speed of the moving target will not change greatly. At the same time, the obtained results are preliminary tracking results based on visual information. The data layer fusion model is directly related to The collected raw data are fused. Extract feature vectors based on fusion results and perform diagnosis. The data layer fusion model belongs to the bottom layer fusion. Its integration cost is high. 0, the space is directly created by this function and the pointer is returned, and then the memcpy() function is used to store the registration packet information, IPv6 header and Mac header. Finally, through the output() in Click. push() Nl number, send the data packet from the corresponding port.

3. CONCLUSIONS

Based on the network architecture model of the smart collaborative network, this paper realizes the service registration and resolution mechanism in the smart collaborative network, and completes the design and implementation of the smart service resolution platform. In the semantic-based music information fusion and retrieval system architecture for peer-to-peer networks, the multi-information source fusion method improves the recall rate of the system while maintaining a low error rate. For multi-information source data including low-level features, we propose a storage and retrieval method for static and dynamic information based on RDFPeers architecture.

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