

Research and Exploration of Data Mid-platform in the Construction of Smart Campus

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Abstract

The form of education in our country is becoming more and more diversified, and the development of education information is also becoming more and more perfect. Currently, colleges and universities have already accumulated some experience and a lot of valuable data in the construction of smart campuses. However, due to the lack of a complete direction planning for the overall structure of information and data in the development process, the data is fragmented and loose, and there is no complete data management system. Moreover, the standard of statistics is not uniform, and the collected data cannot be used as a result. Therefore, the construction of data mid-platform in colleges and universities is a problem that needs to be solved at the moment. As a management system that collects and manages various types of data, the data mid-platform can provide services for colleges and universities with the collected data, provide high-quality data for the users, and provide help for the construction of a smart campus. This article analyzes the overall framework through the research and exploration of data mid-platform in smart campus, and studies the application and development trend of center management technology in smart campus, aiming to provide a better theoretical basis for the construction of smart campus.

Keywords

Smart Campus; Data Mid-platform; Construction.

1. Introduction

Today's world is developing in the direction of informatization, and today's economy and society are beginning to undergo changes with the development of informatization. In the development process of the education informatization, a certain amount of data, including teachers, teaching, students, scientific research, etc., has been accumulated, which is an important asset of the school. Unlike the shared data center ten years ago, in order to meet the needs of a large number of data applications and to better reflect the value of data, today's society requires more comprehensive data management. There are data management problems in the analysis of the development of educational information, the current educational management data requirements, and many other factors. Because data information is seriously fragmented, the division of labor for data asset management is not clear, and there is no organization dedicated to data management, it is very difficult to obtain valuable data from the huge fragmented information. The data mid-platform is to use relevant data technology to centralize and manage a huge amount of data, and finally form a standardized data warehouse by combining these data into a user data platform. The establishment of a data mid-platform can solve the problems of fragmented data and inadequate management, and play a role in the construction of smart campuses. This article explores the current research status of mid-platform data in smart campuses, analyzes its development prospects, and provides a theoretical basis for the construction of smart campuses.

2. Current Research of Data Mid-platform in Smart Campus

The management and construction system of smart campus data is currently under a situation in which informatization work is not paid attention to. There is a lack of top-level planning standards that keep pace with the times, and there is still room for improvement in overall data quality. In addition, data exchange is highly dependent on vendors. Data governance strategies focus on data security management, high-efficiency data standards, and other aspects, among which, data quality is the core content of smart campus construction. Data construction should follow data standards to organize and summarize, strengthen data storage, and adjust and optimize data. The main problems of efficient data management today are the lack of data standards and the poor quality of data collation.

The data platform of the smart campus is composed of data services, data application systems and data sharing platforms, and the construction and management of each part is indispensable. In addition, big data technology is integrated into the existing data of the smart campus. However, this method currently has problems such as backward data information, poor data analysis quality, lagging data system, and deviations in the concepts of related technical personnel.

The construction of a smart campus should aim at building a complete data center and creating a good service system, by adopting big data management strategies and big data sharing interface governance strategies. Currently, research on the construction of data mid-platform with smart campuses shows the importance of data construction and data governance for the establishment of data mid-platforms. The establishment of the data mid-platform can integrate and process existing data, serve the front desk, give full play to its existence value, and provide assistance for the construction of a smart campus.

3. Overall Framework of the Data Mid-platform in the Smart Campus

Today, as universities pay attention to the construction of data mid-platform, the ability of data mid-platform is also highlighted. More colleges and universities have increased their investment in data mid-platform, which plays a role of linking up and down through the construction of data centers by serving the users upward and accumulating data downward, and provides diverse service forms. As shown in Figure 1, the big data center is the main task of building a data mid-platform, and it is used to store a large amount of data and is the data asset of the whole school.

In the process of building a data mid-platform, there are three main tasks, as follows:

3.1 Top-level Design

Schools can carry out efficient top-level business design based on the amount of their existing data, build a data center, and place all their own data in the data center for easy access and use; schools can also support the use of data and carry out efficient data governance, with each department having a common point in business and with more convenience.

3.2 Standards for Data Construction

During the data construction, it is necessary to carry out a clear division of labor for its management, use unified data drawings to achieve centralized and unified management of data, provide overall analysis of the data chain, and build related management clauses and specifications to facilitate wisdom and efficiency. At the time of construction, regulations and systems such as data management, data collection, security level definition standards, and data use standards of the school should be formulated, increasing the quality of the data to constrain the output and get the optimized data.

3.3 Data Management

In terms of data management, it is also necessary to establish a complete data life cycle management system, explore all aspects of data management, and formulate relevant strategies.

Through the construction of the data center, the data assets of the whole school are summarized to enhance the development of school informatization.

4. Application Status of Mid-platform Technology in Smart Campus of Colleges and Universities

4.1 The Grasp of Relevant Concepts is Biased

Since the concept of a smart campus is novel and superior, it needs the support of school leaders during the construction process. In the school's information network management department, only school teachers and students who master the use of mid-platform technology can give full play to its role in the construction of a smart campus. However, because of the deviation between the traditional education concept and the current information concept, most school leaders do not focus on the construction of the application and data platform of the smart campus, but only look at whether the data mid-platform is used in the construction of the campus. Since school leaders do not have a comprehensive understanding of the role that data center plays in the construction of a smart campus, there will be many difficulties in the implementation of the work.

At the same time, due to the difference between old and new concepts, a long acceptance process is required to develop new concepts, which is the reason for the slow construction of the data center.

4.2 The Data Collection is Unscientific

In the construction of a smart campus, a lot of data needs to be collected to complete the construction of the data center. However, the current methods of data collection are still not highly representative and cannot represent universal information. Moreover, in the process of education informatization, collecting information is a tedious and complicated process, and a slight error will cause data disorder, so that the established data interface will be distorted. After the unusable data is discarded, a new round of data collection is required, which has brought great obstacles to the construction of the data center. In addition, some schools still use traditional paper storage methods for data information, but the work efficiency is slow and the reuse is difficult in the management process, which seriously affects the construction of smart campuses.

4.3 Analysis of Data Technology is not Perfect

In the process of building a smart campus, a lot of technical support is needed to fully play the role of data information and meet the requirements of service terminals better. When analyzing these data, the analysis process will be affected by many external factors because of the imperfect data. Since most schools do not have a dedicated work department to be responsible for data management, there is no specially-assigned person for data analysis. Moreover, some schools only use the most basic methods in the process of collecting data without applying data analysis tools, so that the collected data cannot play its maximum role, and the construction of the data center will be slower.

5. Development Trend of Mid-platform Technology in the Smart Campus of Colleges and Universities

In the construction of a smart campus, the application of data mid-platform technology is a new trend in future development, and it will surely help the development of smart campus. The data center plays an important role in the construction of a smart campus, which is mainly manifested in the following aspects: building a data management support system for colleges and universities, serving the teaching platform, and ensuring the perfection of service data.

For example, when serving the teaching platform, it is possible to construct the teaching style and collect various indicators of teachers through data analysis, forming a complete growth track of teachers. As a result, the students can choose their favorite courses, teachers and teaching styles depending on the preliminary understanding and judgment. It is also possible to perform certain data analysis on the use of student campus cards to obtain the real-time status of students, and to introduce the best plan for life choices for them.

6. Conclusion

In short, during the smart campus construction, the use of the mid-platform technology can summarize and organize the relevant data of the smart campus during the construction process, so that the integrity of the data is strengthened and the security is higher. Also the data is processed in accordance with the needs of the school, which provides data support for the development of all aspects of the school. Because of the advanced nature of the data mid-platform, it will have a very good development prospect and will help build a better campus environment for teachers and students in the construction of a smart campus.

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