Research and Implementation of Smart Campus Service Platform Based on Mobile

Hao Guo

Tianjin Maritime College

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Abstract: Due to the advent of the information age, the application of information technology in various aspects has become more and more extensive. Taking college management technology as an example, traditional campus management methods have obvious deficiencies in the real-time information and user convenience. In order to meet the intelligent needs of daily management and teaching in colleges and universities, mobile-based wisdom will be adopted. The application of the campus service platform to the construction of informationized campus has become the trend of the times. This paper will study the implementation of the smart-based campus service platform based on mobile, and hope to improve the informationization level of campus management and teaching.

Due to the continuous development of social science and technology, as the pioneer of the application of science and technology, the speed of updating the efficient teaching management mode in China is accelerating. Especially in today's widely used information technology, the smart campus service platform based on the Internet is very important for the teaching and daily management of colleges and universities. The so-called smart campus is based on the Internet. The integration of efficient teaching resources through mobile network, multimedia technology and the popularity of mobile terminals to realize the real-time release and sharing of management information is of great significance to the teaching of colleges and universities. Because the smart campus platform abandons the traditional large and cumbersome data management terminal, in the continuous expansion of colleges and universities, it can effectively reduce the related faults caused by the excessive load of management information, and avoid the impact on the daily management of colleges and universities. The popularity of mobile terminals has made the application of the smart campus service platform a new level of convenience, promoting the level of modern teaching management and information management [1].

Analysis of the Construction of Smart Campus Service Platform

Problems in the construction of smart campus service platform.

The main theoretical basis of the smart campus service platform is the Internet of Things theory, which aims to enable intelligent control of teaching, research, management, and daily learning and life of relevant personnel within the university. Most of the current college smart campus service platforms combine the application of Internet of Things technology and cloud computing technology to achieve communication and collaborative operation among various departments of the university. Although the smart campus service platform has a certain practical basis in China's colleges and universities, most colleges and universities have relatively complete application equipment and scientific and reasonable management system, but we should also note that there are still some problems in the construction of smart campus service platform.

First of all, the subsystems of the smart campus service platform system cannot perform better system work. The transmission and processing of information between various business departments still have obvious deficiencies. Secondly, the service functions of the smart campus service platform It is still not perfect. The teachers' teaching, management staff's office, accounting fees, student learning, daily life and other services should not be able to get one-stop service and management in the platform. Finally, the docking between the smart campus service platform and the mobile terminal Without proper handling, the current mobile terminals such as mobile phones and tablet computers cannot meet the established requirements. The application of students to the smart campus service platform is still limited to the use of PCs [2].

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The needs of the smart campus service platform construction should be met.

In view of the above-mentioned problems existing in the construction of the smart campus service platform, we can sort out the specific needs that should be met when the smart campus service platform is combined with the mobile terminal.

In terms of functionality, the demand for smart campus service platforms based on mobile terminals is mainly derived from the actual needs of college faculty and students in daily life, study and work. Therefore, when building a smart campus service platform, it is necessary to set up campus-related news information, campus calendar, related key information query, personnel management, library management, and information on the mobile terminal from the actual needs of the personnel in the university. Feedback and other modules. Only by better implementing the above functions in the construction of the smart campus service platform can the management of the daily operation of the university campus be properly completed. At the same time, on the service platform, the above-mentioned part of the service functions can also be realized through the technology of scattered information collection and subject analysis to help the construction of the mobile terminal. On the service platform, information exchange functions should also be added to meet the multi-directional communication needs between students and students, students and teachers. This helps to quickly transfer relevant information between students and teachers, and provides a more formal and convenient official platform for communication between students and teachers [3].

The Design of Smart Campus Service Platform Based on Mobile

Smart Campus Service Platform Server Design.

Since the mobile-based smart campus service platform has many functions, the calculation process completed at the time of its operation is relatively complicated. In order to support the data computing load, a very complete distribution system needs to be built in the server design. The B/S architecture is generally used to build a network topology as the operating environment of the service system in network software and hardware. 3 related design of one-stop service platform for smart campus

System framework design of smart campus service platform.

The mobile-based smart campus service platform often comes into contact with the huge amount of data resources generated by users during its operation. Therefore, it must have a new distributed structure when it operates to achieve information transfer and information interaction within the platform. The ability to process information. In general, in order to achieve the above requirements, the distribution system in the smart campus service platform needs to have the following six levels of framework structure: interface application layer, Web API interface service layer, data cache layer, business logic layer, data inside and outside. Access layer (data access layer, external interface layer) and database layer. The so-called interface application layer refers to the mobile application used by the user to log in to the smart campus service platform, such as the most popular social software WeChat; when the user applies for login, the interface service layer downloads the relevant system plug-in in the terminal, thereby realizing The user and the platform are docked, and the user information is cached; in the process of using the platform by the user, the service platform logically inputs and outputs according to the user's selection of the platform function, and retrieves the required information from the database. For the staff, the monitoring and detection of the service platform response can be completed through the above architecture, and the management and optimization of the service platform can be realized.

Smart campus service platform system function design.

In order to improve the efficiency of the mobile-based smart campus service platform, the platform system generally needs to adopt a three-layer B/S structure, that is, the system of the entire platform is divided into three logical levels. By regulating the ports accessed by the users and taking independent control methods for each level of the system, the individual processing and control of each data in the system is completed, and finally the purpose of protecting the background server is finally achieved. In addition, the business process followed by the smart campus service platform

system in the daily work is relatively complicated: the user completes the login of the mobile terminal by typing the account password in the terminal, and completes the identity verification process via the controller of the system. The system allocates related resources, information, data, etc. according to the user's identity, and realizes intensive management. The system encrypts the user's identity, account number, password, etc., to prevent user identity information or stored data from being leaked, and to protect the user's information security. By optimizing itself, the system realizes the independent operation of each functional module while improving the ability of mutual cooperation, so that the functions of the entire platform are more perfect.

The Realization of Smart Campus Service Platform Based on Mobile

In addition to the software design described above, the implementation of a mobile-based smart campus service platform requires the cooperation of hardware facilities. It is worth noting that the design content often faces various problems in the implementation process, such as a single point of failure when the smart campus service platform system operates. In order to avoid such problems, it is important to make the data of the two databases identical. If the platform system fails, you need to terminate the user access process at the first time.

Since the smart campus service platform system has been expanded on the mobile side, it is necessary to fully consider the new requirements of the user in implementing the platform system function. Traditional PC-side platform systems often require customers to actively query the content they need. Mobile devices have strong portability and can be carried by users. Therefore, the platform system should convert the past “passive query” mode to “active notification”. New model. In order to achieve this function, you can choose the following two ways: one is to make the system's scheduled task; the other is to push through the mobile device service account with push permission, and send the information to the user's mobile after determining the specific user. On the device. The implementation of the scheduled task is mainly performed by using a third-party scheduled task springboard and using CronTab to set periodically executed instructions, and transmitting the information content to be sent to the user's mobile device according to a prescribed time.

Conclusion

Due to the wide coverage of 4G networks and the popularity of WIFI networks, mobile devices occupy an increasingly high position in people's lives. In view of this, the mobile-based smart campus service platform is becoming more and more practical at present. Through the application of information technology and multimedia technology, it can completely break through the flaws of the traditional smart campus service platform, and combine it with people's life, work and study to facilitate the daily activities of the campus staff. At the same time, the smart campus service platform based on the mobile terminal can also improve the communication between students and students, students and teachers through the optimization of the service system, improve the learning efficiency of the students, the teaching efficiency of the teachers, and the work efficiency of the teaching staff. As a frontier area for the application of new technologies, universities have taken the initiative to develop mobile devices as an important carrier of the smart campus service platform, which will undoubtedly promote the advance of smart life. It is believed that in the near future, with the continuous development of mobile devices, data storage and data processing technologies, the smart campus-based mobile service platform will play a more important role.

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