

# *Analysis on the Construction of Online Service Hall in Universities*

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**Abstract:** With the national requirements for universal access and the planning and deployment of educational informatization, colleges and universities across the country have actively responded and started to build and deploy online service halls. This article takes the construction of the online service hall of Guilin Medical College as an example to analyze the construction ideas and experiences of the online service hall based on the construction of the school's smart campus.

## **1. Introduction**

The "14th Five Year Plan for National Informatization" proposes to create a collaborative and efficient digital government service system, and deepen the promotion of "access more services via a single website". In this context, various universities across the country have also responded to policy calls and actively constructed, deployed, and promoted the construction of "access more services via a single website". The online service hall is the foundation and key point of the construction of "access more services via a single website". Building an online service hall that "allows information to run more and teachers and students to run less" is an effective way to improve the level of school management services and enhance the sense of gain and happiness of teachers and students. [1] The construction of online service halls can enhance the scientific decision-making, precise management, and personalized service level of education, which has practical significance in assisting school operation and management to improve the service level and governance ability of universities.

Guilin Medical College is also actively responding to policy calls, Building an online service hall on the basis of the "three major platforms" of the school, and deploy online business processes, so as to promote convenient business processing, and shorten work time, which can improve management and service efficiency, and strive to provide services that make work, study, and life more convenient and efficient for teachers and students.

## **2. Necessity of building a online service hall**

The smooth deployment and operation of the online service hall is conducive to integrating school resources, coordinating the work of various departments, and improving overall work efficiency and service quality. On the basis of actively promoting the construction of "smart campuses" in universities, the deployment of service halls is necessary as follows.

(1) Compared to offline business, online business avoids resource waste more, which plays a good

role in saving paper and avoiding unnecessary printing. Simply providing approval screenshots can replace the printing effect.

(2) The online service hall is more user-friendly. Compared to a streamlined OA system, the online service hall is not only aimed at faculty users, but also at students and off campus users, allowing students and off campus users to apply for business online.

(3) It provides a convenient and fast work experience. The online process review has no time or location restrictions, and applicants avoid the embarrassment of not being able to find someone to sign, especially for the convenience of handling business with multiple campuses.

(4) It helps functional departments to further understand departmental processes, sort and optimize them, making them more realistic, in line with the usage habits of teachers and students, and in line with the department's audit needs. It helps to improve the administrative management ability and level of the school.

### **3. Construction objectives**

The construction of online service halls mainly returns to the concept of "people-oriented" and adheres to the principle of practicality first. [2] Whether it is the design and production of the process, the final management department, and the use of teachers and students. For teachers and students, they can do whatever they want and do it at any time. For reviewers, it is essential to approve whenever they want, to be able to approve at any time, to track the implementation of key tasks, and to supervise and remind tasks according to predefined rules. For process management personnel, it is extremely necessary to summarize and categorize the progress of various work tasks, as well as to design, create, and modify simple processes. It is inevitable that processes that have already been launched will need to be revised after a period of use, and many processes are constantly being improved through modification. This is extremely important for process business managers to have a user-friendly designer. Implement a unified business system that integrates resources, enables collaboration and interoperability among departments, and eliminates departmental business barriers.

For the overall information construction of the school, the online service hall can integrate with the school's smart campus, and ultimately contribute to the construction of the school's smart campus. This is what the information center hopes to see, and even lay a solid foundation for further construction of "access more services via a single website" in the future. Finally, teachers and students can apply various types of data, forming reverse error correction, feedback, and supplementation of the data during the use process, forming a virtuous cycle from data to services, and achieving data self-purification.

### **4. Construction ideas for online service hall**

#### **4.1. Construction background and foundation**

Our school started deploying and constructing three major platforms a few years ago, and the current construction of a smart campus is also based on the construction foundation of the three platforms to connect and integrate and continue to expand. The Information Center also requires that the school's new key business systems must be connected with the three major platforms of our school to solve the "information silo" phenomenon. The specific measures are: firstly, the organizational structure and user information data are distributed from the data center to avoid inconsistency and inconsistency of data, ensuring the sole source of key data. Secondly, we can connect with a unified identity authentication platform to achieve single sign on and only remember one password to access key business systems of the school. Thirdly, all key business systems are connected to the school information portal, enabling one click direct access to other business systems on the information

portal. This is an important means of data governance, which can effectively improve the management level and governance level of school informatization.

The construction of our school's online service hall is actively integrated into the "three major platforms" that the school has already built, achieving a situation of interdependence and mutual promotion. This is also to ensure the unified data standards, interface standards, and identity authentication construction requirements of the school's application system.

#### **4.2. Data construction for organizational structure and teachers and students**

The organizational structure and personnel information data of the online service hall are distributed from the school's data center. After preliminary construction, our school's data center has developed relatively complete data management capabilities. The data in the data center is extracted from the only key business system and integrated for governance. For example, faculty data is extracted from the personnel system, while undergraduate and junior college data is extracted from the academic affairs system. Graduate data is extracted by the graduate system. This ensures the sole source of data. As long as the data from the three business systems is accurate, the organizational structure and personnel data of the entire school's integration into the smart campus are correct and unified. Once any data errors are found, they will be tracked layer by layer.

We should establish three intermediate tables in the online service hall database, which are used to store the organizational structure information of teachers and students\_ JZG\_ T for BM intermediate table and faculty user data\_ JZG\_ T for USER intermediate table and student user data\_ XS\_ JBXX intermediate table.

By setting scheduled tasks, the data center distributes organizational structure and personnel data to the intermediate table every morning, and then synchronizes the data from the intermediate table to the system table. This ensures that the newly entered or modified data will be updated to the system in the online service hall the next day. Taking the synchronization of faculty data as an example, the execution steps are: faculty first level department → faculty second level department → faculty personnel → faculty department personnel relations → faculty user roles → visible scope of faculty permissions.

#### **4.3. Single sign-on construction**

Since our school already has a unified identity authentication platform, the online service hall no longer displays their login pages to teachers and students, but directly accesses the school's unified identity authentication login interface. After users click on the login page of the online service hall, they will directly jump to the unified identity authentication interface to log in. It can fundamentally avoid confusion between teachers and students in the login interface and entering incorrect login passwords, and also ensure system security to a certain extent.

When a user logs in to the unified identity authentication login interface on our platform, they enter their account password. If the account password is correct, the user's ticket will be sent back. If the account of the ticket sent back has an account on our platform, then the login can be successful, otherwise the login fails.

The entrance of the online service hall is also connected to the school information portal. After logging in to the information portal, teachers and students can click on the link in the online service hall to directly enter the online service hall processing page without entering the account password again.

#### 4.4. Mobile platform docking

In order to actively respond to the policy of reducing the construction and use of apps, our school's online service hall no longer builds separate apps, but adopts a direct connection with enterprise WeChat for mobile usage. As long as teachers and students join our school's enterprise WeChat and scan the WeChat plugin, they can receive and handle business processes on their personal WeChat end.

In order to ensure the uniqueness of the source of enterprise WeChat data, the organizational structure data is distributed through the service hall, and the invitation to join function of enterprise WeChat is turned off. Teachers and students can only join the school's enterprise WeChat through self-registration to avoid confusion in joining personnel data. The self-registration joining process is as follows:

(1) Teachers and students scan the enterprise WeChat self-registration QR code to reach the self-registration page, and then select the user type.

(2) We should enter the account password for unified identity authentication for verification.

(3) If the verification is successful, the department with unified identity authentication, work (student) ID, and name will be brought to the service hall for comparison with the user table. If the comparison is successful, this data will be inserted in the middle table of the enterprise WeChat, and then pushed through the enterprise WeChat, to generate data in the corresponding organizational structure of enterprise WeChat.

(4) We should follow the WeChat plugin for school enterprise WeChat. You can find the corresponding enterprise account in WeChat ->Address Book ->My Enterprise and its contacts to enter the one-stop service hall.

#### 4.5. SMS gateway service

Off campus users are also one of the important users in the online service hall for better user feedback. This is also different from the campus OA system, which is only available to faculty users. The online service hall can cater to a wider range of users: faculty, students, and off campus users. Both faculty and students can receive process processing information through the system and enterprise WeChat, but off campus users do not have such channels. Therefore, we connect with SMS gateways and have a mandatory control for mobile phone numbers when creating process forms for off campus users. After the final review is completed, the approval information will be sent to personnel outside the school via SMS using the phone number reserved on the form. Off campus users can also receive timely notifications of service processing results. At present, our school's service processes such as appointment and file search applications, appointment and admission applications, reissuing academic qualifications for regular undergraduate and junior colleges, and application for degree certificates have all adopted this method for users outside of school, and have achieved good results.

#### 5. The idea of launching process business

Our school's online service hall ultimately requires the design and construction of all business departments' processes and businesses throughout the school. Our overall construction philosophy is to do a good job of publicity, assign dedicated personnel to be responsible, train and learn, demonstrate well, and build in batches.

The first is to draw attention. The school dean's office led a mobilization meeting for department leadership construction, emphasizing the importance and convenience of online service hall construction for school business processing, allowing each department to have an understanding and value of the online construction of their own department's processes.

The second is the responsibility of a dedicated person. We have each department dispatch a teacher

as the department administrator to coordinate and be responsible for the collection and coordination of requirements for the department's processes. The information center only needs to be responsible for coordinating with the department administrator, reducing communication time costs and improving work efficiency.

The third is training and learning. The information center organizes a training meeting for department administrators on business process design and construction, which provides them with a clear understanding of process construction through explanation and operation. During actual construction, after one or two more processes, one will be more familiar with the materials and processes required for process construction, which plays a good role in laying the foundation and promoting the design and production of the entire department's processes.

The fourth is to do a good demonstration. We will use the Personnel Department, Information Center, Student Work Department, and Security Department as pilot departments, and sort out, design, and construct the processes of the first batch of the five departments. Then it will be launched online for use by teachers and students. Because these five departments involve a wide range of areas and processes are frequently used. This serves as a good demonstration for the promotion of online service halls.

The fifth is batch construction, and we will conduct department visits and research based on the management needs of each department. The special plan is to prioritize departments with high enthusiasm and strong needs. We should organize the offline service processes of each department in an orderly manner for different users, application scenarios, and needs, and incorporate them into the online service hall one by one.

## 6. Service effectiveness and considerations

At present, the online service hall of Guilin Medical College has been under construction for over a year, and 92 process services have been launched and used, covering various business processes from 15 business departments such as the Information Center, Personnel Department, and Security Department. In 2022, the entire school's teachers and students visited various process services a total of 87800 times, with over 34700 people visits.

After preliminary construction and promotion, the construction of our school's service hall has achieved some results, and teachers and students have gradually become accustomed to the thinking of "going to the hall to handle affairs". However, there are also some considerations during the construction process, such as how to better manage and apply process data; How to better integrate the online service hall with the offline hall, and achieve collaborative development between online and offline; We need to conduct further research and analysis on whether there is a better solution for the certification process that requires stamping. The future direction of our school's construction is to continue to follow the batch construction requirements of the fifth step of construction, deepen publicity, continue construction, and gradually enter the full coverage of the school's business processes on a departmental basis, in order to incorporate all school service matters into the online service hall, and move towards a more satisfactory direction for teachers and students.

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