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One-stop Service Platform under the Background of Smart Campus Construction

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Abstract: In vigorously promoting the deep integration of information technology and education and teaching today, the construction of smart campus has become a new stage of the development of university information. In the context of smart campus construction, one-stop service platform can achieve the purpose of "data running more, teachers and students running less". This paper will elaborate from the perspective of smart campus, and analyze the construction requirements of one-stop service platform, the core characteristics of one-stop service platform construction, and the expected construction effects of one-stop service platform.

1.The Introduction

In accordance with the spirit of China's Educational Modernization 2035 and the 14th Five-Year Plan for Educational Informatization, China adheres to the principles of "service-oriented" and "Internet-based thinking", and follows the principles of "overall design, service-oriented, step-by-step implementation, and key breakthroughs", and takes the innovation of informatization work systems and mechanisms as the guarantee. Vigorously promote the deep integration of information technology and education and teaching [1]. One-stop service platform through feedback from application to deal with unified whole process monitoring, and accomplish the list standardization, guide to standardization, is not only the business to focus on a page, through a variety of information services capabilities (pieces of business systems, tools, processes, light application), flexible response and meet business needs change, In this way, the requirements of teachers and students "to handle affairs, go to the hall" and "let the data run more and let the teachers and students run less errands" are more satisfied [2].

2.The Ttheoretical Basis of Ssmart Campus

(1) Definition of smart campus

The so-called wisdom campus is in the process of school management and construction, make full use of artificial intelligence, cloud computing, Internet of things, such as information technology, build a new generation of intellectual education, intelligent management platform, promote data collection, management and sharing, efficient and accurate service for the teachers and students, improve the management efficiency and management level [3].

(2) Current situation of smart campus construction

Under the background of "Internet +", both home and abroad attach great importance to the construction of smart campus[4]. Many Western countries have basically completed the construction of hardware and basic software of smart campus, realized a safe and low-consumption interactive learning environment, and formed a platform for the analysis and research of smart courses [5].

Many universities in China have also basically realized full network coverage, and the degree of information resource sharing has been improved through the deployment of software and hardware [6]. The newly issued "Modernization of Education in China 2035" proposes that the new generation of smart campus should not only focus on technology, but also pay more attention to smart education and services [7]. Although colleges and universities at home and abroad attach increasing importance to smart education, there are still many problems in the construction process [8]. For example, the system is not perfect, personnel informatization ability needs to be improved, personalized needs can not be met and so on [9].

3.The Construction Demand of One-stop Service Platform

The content of informatization construction in most colleges and universities basically covers various fields of schools, such as network infrastructure, network security technology, data security, and campus one-card, providing functional applications with high service value for teachers and students [10]. In the digital campus era to complete the digital campus basic platform and application; Under the support of the public basic platform, colleges and universities have built various information application systems [11]. Although some achievements have been made, most universities still have the following problems:

(1) The whole informatization planning only stands at the business-level, the top-level planning and design of the university is insufficient, and the unified organization-level platform software is lacking [12];

(2) The lack of university-level data standards, and the simple construction of university-level data centers, there are problems such as long cross-system data governance cycle, slow performance, difficult data sharing, and high cost; Moreover, due to the lack of high frequency scenarios of data sharing, the performance of data centers is further limited [13].

(3) Informatization work mainly focuses on management informatization, which mainly serves the management needs of business departments. Teachers and students lack a sense of gain from informatization, and there is a huge gap between campus informatization and social informatization;

The construction of smart campus informatization aims to completely solve the above problems existing in the current school informatization construction, truly realize the integration of management and service, service and data, PC mobile integration, and provide information services for teachers and students in a multi-channel and all-round way [14]. It is necessary to reconstruct the information infrastructure and eliminate information islands by means of unified planning, reasonable structure and step-by-step implementation.The one-stop service platform can work on

both PC and mobile terminals through a unified entrance to improve work efficiency [15]. The overall architecture includes interface layer, business logic layer and data layer, as shown in Figure 1.

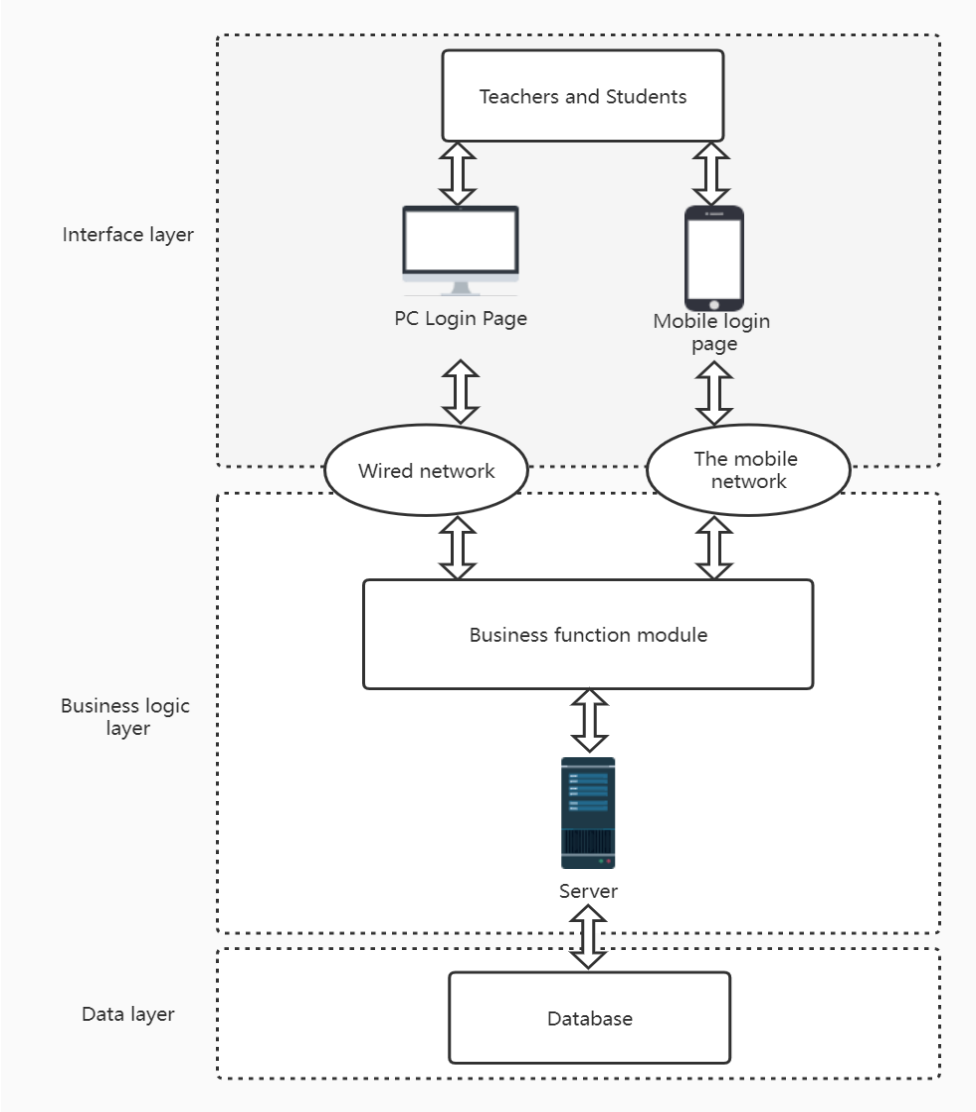

Figure 1. System Architecture diagram

4. The Core Characteristics of the Construction of a One-stop Service Platform

(1) Application as the core, quickly reflect the business value

"Big platform, light application".through the field information services that wraps, through configuration change means to quickly build all kinds of lightweight business application (including the process of examination and approval, data reporting, data management and analysis, resource reservation, project management, add and subtract points assessment, information sharing, etc.), first to quench thirst, let the leaders and the teachers and students really experience the convenience of informatization, improve the sense of "get" [16].

(2) Integration of data services and realization of two data closed loops

Data quality is the first closed-loop loop, as shown in Figure 2. from the establishment of standard data, to construct data model based on standard, to fully comply with the standards of light application building, produced strictly conform to the standard data, to the compliance of the clean

data by directly back to write data to a central visual collection way, forming a closed-loop [9] the high quality of the data [17]. The second closed loop is the data service closed loop. The data service closed loop refers to the whole process from collection, filling, management to analysis of a business data, forming a complete instrumental support closed loop, which is fully configured and realized without programmer participation and zero code development [18]. It supports data filling in the form of active tasks, data sharing in the form of Internet, and self-configurable simple data analysis for service managers, as shown in Figure 3.

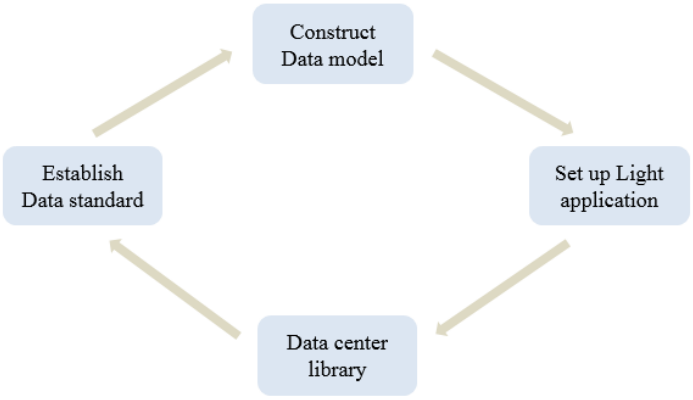

Figure 2. Data closed loop

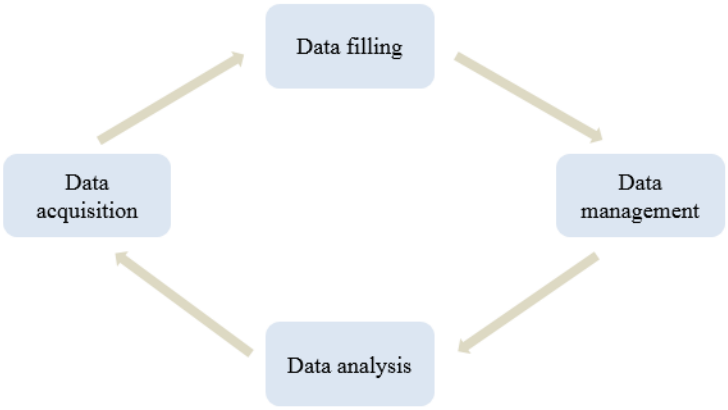

Figure 3. Data service closed loop

(3) Omni-channel support, social communication, and rapid implementation

Only need to build a platform to provide all the business, you can implement integration application in PC and mobile terminal, mobile terminal is widely supported WeChat enterprise, WeChat applet, ali nailing, easy class mainstream mobile platform or channel, through the channels of the mainstream social communication ability, can realize fast landing platform, quick construction value.

5. Expected Achievements in the Construction Of The One-stop Service Platform

"With service as the core and management as the support", as the construction concept of smart campus, its ultimate goal is to "deeply integrate" it with campus activities of colleges and

universities, and provide good online and offline services for teachers and students to achieve "one window acceptance, centralized service, run at most once!" .

Data sharing, reduce the waste of resources. According to the survey, as shown in figure 4 the offline one-stop service hall has reduced application materials by more than 60% through online data sharing. The integration of online and offline makes it possible to share data across departments, levels and regions. The submission of materials will be realized through the one-stop service platform, and even some matters can be handled with "zero materials" only through identity authentication, which saves office supplies for the school [19].

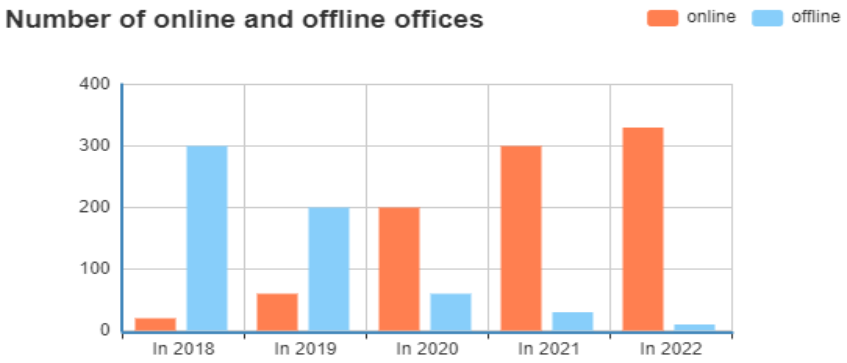

Figure 4. Number of online and offline offices

Break departmental boundaries and provide personalized services, as shown in Figure 5. "Thematic" services provide a package of services by integrating all related services around specific needs such as awards, assistance, loans, services and compensation [20]. The "package type" service realizes the one-time filling of application forms and charge forms of multiple departments through information means, and the filled information is automatically related. Teachers and students can truly feel the convenience brought by the one-stop service hall, so as to improve the sense of gain of teachers and students, and the core competitiveness of the university.

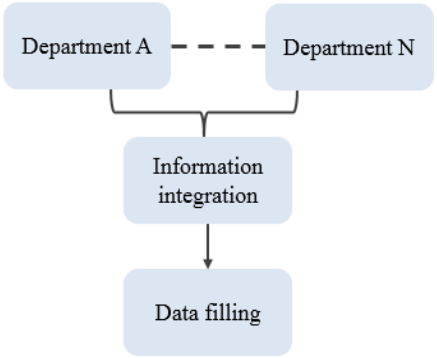

Figure 5. Information integration

6. Conclusion

Under the strong support of national policies, colleges and universities have been actively promoting the construction of smart campus. In the early stage of the construction of the one-stop

service platform of smart campus, from the form of online affairs, focusing on meeting the requirements of teachers and students "to do things, to the hall", "let the data run more, let the teachers and students run less errands". Its essence is to comb through the business, optimize, reengineering, open, realize service management, and lay a solid foundation for the school's future information service development.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1] Education Informationization 2.0 Action Plan. Teaching Technology [2018] No.6.

[2] Li Shuhua. Research on University Archives Management Mechanism Based on Smart Campus Construction . Archives Management,2020,No.243(02):82-83. DOI:10.15950/j.cnki.1005-9458.20200313.032

[3] Zhu Xinxiao, Li Jianjun. The Scientific construction of the "one-stop Service" network platform of university student affairs . Ideological Education Research,2013(9):98-101. DOI:CNKI:SUN:SIXI.0.2013-09-023

[4] Jiang Dongxing, Fu Xiaolong, Yuan Fang, et al. Design of Smart Campus Technology Reference Model in Colleges and Universities . China Audio-Visual Education,2016(9):108-114. DOI:10.3969/j.issn.1006-9860.2016.09.017

[5] Wang Xuan-lin, Sun Lingjie, Su Guanxian. Analysis of Business Process Construction of One-Stop online Office Hall in Colleges and Universities. Modern Information Science and Technology,2018(8):5-7. DOI:CNKI:SUN:XDXK.0. 2018-08-003

[6] Zhu Houfeng, Xu Guangchao, Shi Changling, et al. Design and Implementation of Smart Campus Application System . Fujian computer.2021,37(2):106-108. DOI:10.16707/j.cnki.fjpc.2021.02.033

[7] Peng Li. Comprehensive booking platform for University Public Services based on Smart Campus. Electronic Information,2021(2):102-103. DOI:10.19392/j.cnki.1671-7341.202106049

[8] Sun Yu, Hao Caijuan, Luo Zheng. Research on mobile Smart Campus Construction Based on Tencent Micro School . China Management Informatization, 19,22(14):210-211. DOI:CNKI:SUN:GLXZ.0.2019-14-100

[9] Chen Jun. Exploration and Construction of "One-Stop" Student Affairs Hall in our University . Universities and Economics,2011,(4):38-41. DOI:CNKI:SUN:GYYJ.0.2011-04-013

[10] SHU Qianqian, TU Qinghua, Chen Si, et al. Practice and Exploration of online One-Stop Service Hall Driven by the Concept of "People-Oriented" -- A Case Study of Nanjing University of Science and Technology . Education Modernization,2017,4(46):255-256. DOI:CNKI:SUN:JYXD.0.2017-46-114

[11] Wang Shuxian. Research on the Management of College Archives Information Resources Facing the Construction of Smart Campus. Archives and construction, 2019. DOI:CNKI:SUN:DAJS.0.2019-12-013

[12] Zhan Wenhan. The Construction and Exploration of the "One-Stop" Network Service Platform for College Student Affairs Under the New Situation -- The Background of the "One-Stop" Network Service Platform Youth, 2015, 000 (022): 177. DOI:10.3969/j.issn.1007-5070.2015.22.155

[13] Shi Zhongping, Ke Tiejun, Xue Chuanjia, et al Innovation of College Student Education Management Mode in the Context of Big Data -- Thinking Based on Yanshan University's "Yanyuan online" Network Comprehensive Service Platform. Academic theory, 2016 (7): 2. DOI:10.3969/j.issn.1002-2589.2016.07.082

[14] Xu Shaotong, Liu Yuwang. Research on the Construction of Intelligent Repair Reporting System Based on Tencent Microschools. Computer Programming Skills and Maintenance, 2021. DOI:10.3969/j.issn.1006-4052.2021.08.043

[15] Sun Yu, Hao Caijuan, Luo Zheng. Research on Mobile Smart Campus Construction Based on Tencent Microschool. China Management Informatization, 2019, 22 (14): 2. DOI:CNKI:SUN:GLXZ.0.2019-14-100

[16] Razzaq, M. A. , Mahar, J. A , Ahmad, M., Ali, I., & Roy, K. (2021). The 3-Axis Scalable Service-Cloud Resource Modeling for Burst Prediction Under Smart Campus Scenario. IEEE Access, 9, 116927-116941. DOI:10.1109/ACCESS. 2021.3105539

[17] Study on the Status Quo of Smart Campus Construction in Higher Vocational Colleges: The Case of Z School of China's Guangdong Province. DOI:10.5296/IJLD.V11I2.18500

[18] Hybrid Auto-Scaled Service-Cloud Based Predictive Workload Modeling and Analysis for Smart Campus System. DOI:10.1109/ACCESS.2021.3065597

[19] Enhancing the Transparency of Student Merit System Using QR Code Technology: A Smart Campus Initiative. DOI:10.17762/turcomat.v12i3.1072

[20] The Development Strategy of Smart Campus for Improving Excellent Navy Human Resources. DOI:10.30574/GJETA.2021.6.2.0011