Research and Discussion on the Construction Planning of the Intelligent Campus

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Contents

1. Project description
2. Main functions and key technologies of the project
3. The shortage of project and the need to expand the direction
Project requirements

After many years of information construction, the construction of campus backbone network is completed at present. Has completed some application system construction, the construction of these information in the school has achieved many good practical application effect, but also for the school's information construction provides a good environment. The traditional information construction has the following problems:

1. Information isolated island

2. Lack of campus information technology focused application and display platform

3. Information systems of a single department (such as educational administration, library management, asset management, etc.), it is difficult to stand on their own this information set, the entire school's comprehensive information query and decision analysis
Project requirements

1. One stop service demand
The existing application of heavy management of light services is a serious phenomenon, the information service provided by the teachers and students is not comprehensive enough.

2. Standardization demand
Lack of unified technical system standards and detailed overall construction plan, is not conducive to long-term development

3. Open demand
Business system development and maintenance model is not uniform, update and maintenance difficulties

4. Demand for data sharing
Lack of data standards, data is difficult to share between business systems, to bring the various departments of collaborative business difficulties
Project description

The project started construction in the year 2012, has been initially completed. The project team has a total of sixteen people, I am responsible for the general framework of project, feasibility studies and project development, and the preparation, reserve of new technology.

- (1) Wuxi City College of intelligent design and realization of the three-dimensional virtual campus (supported by the key subject of The Department of education of Jiangsu);
- (2) the intelligent Campus information system (project supported by WuXi city college of vocational technology), The two topic is the kind of the intelligent information application system.
Main functions
key technologies

• Construction scheme

• 1. Design idea

• Through the idea of "management + service" to help the school to realize the traditional application system to manage as the core, to the front end to serve as the core. To achieve the integration and configuration of various resources of the school, improve the management level and efficiency of the school, so that the application of information technology in Colleges and universities to achieve a high level.
Main functions
key technologies

1. Design idea

Standard Specification + security system + unified platform + application service integration

Business and value
services and applications
Information Resources
Infrastructure

- 重应用，轻服务
- 只关注部门内部业务
- 以“自我”为中心
- 以“管理”为重点
- 重视绩效和满意度
- 重视资源共享和流程优化
- 以“师生用户”为中心
- 以“服务”为重点
- 分散的服务体系
- 单部门的局部应用
- 孤立的统计分析
- 重视资源和流程优化
- 以“师生用户”为中心
- 以“服务”为重点
- 统一的公共服务体系
- 跨部门的综合协同应用
- 多维度的决策支持
- 信息资源交换
- 信息资源共享
- 公共的基础设施
- 适应需求变化，快速构建
- 服务型教育信息化

Management education
service oriented
Education Informationization

Business and value
services and applications
Information Resources
Infrastructure
Main functions
key technologies

2. Overall architecture[ˈɑːkɪtektʃə(r)]

Comprehensive services including decision-making center, autonomous learning center, communication center, business center

Business applications include students, teachers, scientific research, finance, assets, service management system

Application support platform including information integration application integration platform, development

IT infrastructure layer includes campus network, radio frequency equipment, server storage, etc
Main functions
key technologies

2. Overall architecture

The wisdom of the campus is built on the basis of the existing IT infrastructure, the construction of the application support layer. Through the integration of the data of "business application", the sharing and exchange of the digital campus information resources is realized. And the support of digital campus application integration and development based on the integration of information, to achieve web portal, mobile client, SMS, e-mail and other digital campus information "integrated service show". At the same time, the need to build digital campus information standards and safety operation and maintenance system"
Main functions
key technologies

• Construction content
  • 1. Information standard

Information standard construction is one of the emphases of the construction of digital campus, which is of great significance to promote the construction of digital campus, guarantee the exchange and sharing of information.
Main functions
key technologies

• Construction content
  • 1. Information standard

After the completion of the university information standards have the following, as shown in figure:
Main functions
key technologies

• Construction content
  • 2. Shared data center platform

Shared data center platform is a unified data resource and exchange application service platform system, which is a platform for unified management of all kinds of structured data in digital campus.

Design by the shared data center will achieve the following objectives:

① To establish a school wide shared data center;
② To achieve a unified and consistent the information code;
③ Ensure no redundant data between any two business system;
④ Ensure "who produce, who maintain", all the data are only maintenance;
⑤ Ensure to provide comprehensive information to reflect the whole school;
⑥ Ensure required for the whole school decision support data;
⑦ The accumulation of data analysis for the school's future decision support system.
Main functions
key technologies

• Construction content
  • 2. Shared data center platform

Platform function:

① The management and monitoring data sharing center

Basic to regular of strict, management and monitoring system of sharing data center, carrying out management of basic data and model of data and monitoring management of data center
Main functions
key technologies

• Construction content
• 2. Shared data center platform

① The management and monitoring data sharing center
Main functions
key technologies

• Construction content
• 3. Data cleaning and integration platform

Data cleaning and integration platform to realize sharing data center data collection and distribution and offer to exchange information for cleaning, conversion, and inbound load such as data exchange service, namely, clean dirty data, completed the collation of data, to ensure data consistency, integrity and correctness.
Main functions
key technologies

• Construction content
• 3. Data cleaning and integration platform
Main functions
key technologies

- Construction content
  - 4. Unified identity authentication platform

  The identity authentication system will be an important part of the digital campus, and provide centralized authentication service for each application system, improve the security of digital campus application system.
Main functions
dkey technologies

- **Construction content**
  - 4. Unified identity authentication platform
Main functions
key technologies

• **Construction content**

• **5. Unified information portal platform**

The platform in digital campus architecture[^architecture] in the top, each application system of digital campus and the user's man-machine interactive service platform, is a concentrated display of digital campus information window.
Main functions
key technologies

- Construction content
  - 5. Unified information portal platform

  Platform function
  - Teacher portal
  From the perspective of teaching staff, to provide the full information service to meet their work, life, service, etc.
Main functions
key technologies

• Construction content
  • 5. Unified information portal platform

◆ Platform function
  ➢ Student portal
Starting from the point of view of students for students from freshmen to learn to live in the school to graduation and other various stages, to meet the personalized needs of the students information service.
Main functions
key technologies

• Construction content
• 5. Unified information portal platform

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• Construction content
  • 5. Unified information portal platform

◆ Platform function
  ➢ Leading portal
Standing in the whole school level, as the university is an organic unity of the whole, based on teaching, scientific research, management, and service in various fields, for colleges and universities to provide covering the entire campus related information and intelligence services.
Main functions
key technologies

- Construction content
- 5. Unified information portal platform

◆ Platform function
  ➢ Leading portal
Standing in the whole school level, as the university is an organic unity of the whole, based on teaching, scientific research, management, and service in various fields, for colleges and universities to provide covering the entire campus related information and intelligence services.
Main functions
key technologies

• Construction content
  • 5. Air wisdom campus platform

◆ The wisdom of campus aerial platform, is in the campus all kinds of information systems and information service integration based on, by operators of wireless communication network, 3G OR 4G network transmission. As the school faculty, students provide wireless digital campus service.
Main functions
key technologies

• Construction content
  • 5. Air wisdom campus platform

◆ Platform function
To provide students with a full range of services by means of mobile information technology, and improve the students' use of viscosity [ˈvɪskəsətɪ]. The students for admission to school leavers can feel convenient. Also realized the information service, the student's full life cycle cover.
• Construction content
  6. Comprehensive information inquiry system

  Integrated information query system to school shared data center platform based, will be scattered in various departments of the data together, and to the roles of the teacher and students as the main line, cross sectoral three-dimensional personnel, teaching, learning, research, equipment assets, financial funds letter integrated information service.
Main functions
key technologies

- Construction content
- 7. Student life cycle business system
Main functions
Key technologies

- Construction content
- 8. Teacher management and service system
Need to expand the function: center management decision analysis system is relatively weak, does not play a role, the hope can be combined with Middlesex university technology advantage, using the visual analysis techniques of decision analysis of new design and development.