Community Management System Based on Embedded WEB Server Data Transmission Method

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Abstract. In this paper, we design a data transmission method based on embedded WEB server of the community management system, the system through the embedded WEB server hang community intelligent systems, intelligent community system within the family in all the various functions of subsystems such as uploaded information fusion and data processing, implementation of the intelligent management of community operating.

1. Introduction
At present, with the continuous improvement of people's living standard, community construction should meet the requirements of residence, comfort, safety, durability and economy, and provide efficient and high-quality technical means for property management to effectively carry out comprehensive community management. For example, with the help of the Internet and the Internet of things, the article [1-2] introduces the operation of smart buildings and smart homes in smart communities in detail. The article [3-4] introduces the operation of smart cities such as intelligent road network monitoring, intelligent hospital, and urban lifeline management. The article [5-6] introduces the food and drug management, ticket management and other operations of the pharmaceutical industry. The article [7-8] mainly introduces a lot of information such as residential care for the elderly in nursing homes, personal health and digital life. There is no doubt that through the Internet of things technology, radio frequency identification technology, two-dimensional code identification technology, network and information transmission technology to make people's travel, work, living and community management become smart and convenient, especially for the community smart management, the development is very rapid., however, the above mentioned intelligent management system, such as intelligent network monitoring system, intelligent hospital management, food and drug administration, urban lifeline, ticket management, intelligent building, intelligent household, property management, community management, community security system such as parking lot, they are all independent of a closed system, the management of the community and resident service inconvenience, therefore, this article through the design based on embedded WEB server operating system platform, to each subsystem of data fusion in the community to the platform system, focus on using, improve work efficiency, provide better property services for residents.

2. Overall Plan of Intelligent Community Operation Management System
Through to the family of intelligent community system, intelligent community system, key operation management system software design community, the community home intelligent systems, intelligent community system in the various subsystems monitoring equipment such as various types of sensors, RFID card, video monitoring equipment of all kinds of information collected through their corresponding gateway, ports, upload, after a total system platform information data processing,
integration, implementation of the intelligent management of community operations. The community management system based on the embedded WEB server data transmission method consists of three parts: the community basic network system, the home intelligent system, and the community intelligent system, as shown in figure 1:

![Figure 1. block diagram of the smart community system](image)

### 3. Design Principle of Intelligent Community System

Intelligence community operating platform system ultimate aim is to: the basic network system, home intelligent terminal system, community intelligent terminal system includes web portal system, content canal operations system, community information release system and SMS platform system and other subsystem integration to the intelligence community operating system platform, therefore, intelligence community server operating platform system design is very important. The intelligent community operation platform system server adopts an embedded Web server based on HTTP protocol (hereinafter referred to as Web server), which provides a friendly interface and a large number of information resources. A Web server is a content provider for the Web that responds to client requests and provides some form of data to the client.

The Web browser interacts with the user and sends the data through the form to the middleware (Servlet) program in the background to interact with the server. The browser and the server use the network to connect. The Web browser obtains the user's data and transmits it to the Web server through the network in the form of a form. The Web server analyzes the form file and calls the corresponding background program to complete the function requested by the user. The system model of the corresponding embedded Web system server is shown in figure 2 below:

![Figure 2. Web system server model diagram](image)

Community system operating platform system server adopts middleware (Servlet) technology, the basic principle of which is to select middleware (Servlet) technology to realize dynamic web pages.
under embedded Linux. Middleware (servlets) are called common gateway interfaces. Middleware (servlets) get the form files through the browser, extract data from the environment variables, and then call the corresponding applications on the server to achieve the corresponding functions. The final results are echoed to the browser through the web page. Middleware (Servlet) program can be implemented using a variety of programming languages, as long as the programming language has standard input, standard output, environment variables, JAVA language has a strong portability, so the system middleware (Servlet) program is written in JAVA language.

Middleware (Servlet) programs are designed primarily to enable users to interact dynamically with the server. The important role of middleware (Servlet) programs is that the user performs some operations through the browser, and the generated data is generated into form files. Middleware (servlets) use environment variables to obtain form file information and extract important information. Then through the software function to achieve the user's operation requirements, after this operation is completed, the final result through the web page HTML form echo to the browser. This middleware (Servlet) completes the communication between the browser and the Web server.

4. Embedded WEB Server Software Design Flow Chart
The system server adopts an embedded Web server based on HTTP protocol, and its system software design flow chart is shown in figure 3:

![Figure 3. System server software design flow chart](image-url)
5. Conclusions
This paper designs a community management system based on the embedded WEB server data transmission method, which realizes the following functions:

1. The system can be accessed through websites, mobile apps, community intelligent terminals, home intelligent terminals and other channels to improve efficiency;
2. The system has the functions of equipment operation status monitoring, system management, operation management and analysis;
3. The system can realize e-commerce, business (visual) consultation, information browsing and other functions;
4. The portal subsystem of the website can provide personal information service, community forum, convenient information inquiry, complaint management, property services and other functions.

At the same time for the first time in this paper, each family intelligent system data in the community, community intelligent IC card management system data including property management, parking system, video monitoring, patrolling security, and many other subsystems data fusion to the unified platform for the community system, convenient management, improve work efficiency, realize the technology innovation, application software system.

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7. References
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