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## Construction of national fitness information service platform under modular design philosophy

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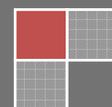
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### ABSTRACT

With the rapid development of the information era, network information has greatly impacted on the effectiveness of administration work. It also has a positive effect on the effective management of the national fitness, which leads to great-leap-forward development of management process and management direction in national fitness. From the service perspective, national fitness information platform involves itself in collecting and collating residents' fitness activities information, and, based on the modular information, the platform conducts effective analysis and synthesis for the collected information, which is able to reflect the specific existing problems in the shortest time and to comprehensively promote advantages of the fitness activities. In this way, the national fitness in communities will be comprehensively improved. This research mainly focuses on the construction process of the system and expounds the functions and individual functional modules in detail, which makes main factors in the system construction specified and scientific. Finally, on the basis of the development trend, the article makes further research on the design direction of the community fitness information system, which will enable the construction of community national fitness information service system to keep up with the time and provide strong support to continuously improve the management effectiveness. As main ideas in the research process where the purpose of the research lies in, it is hoped to lay a solid foundation for effective development of community national fitness work.

### KEYWORDS

Modularization; National fitness; Information service platform; Scientific construction.



## INTRODUCTION

According to the current situations of community national fitness, systematic and scientific construction of the information service platform is still in need, which can be realized through the modular design philosophy stressing the service function of the secondary platform. Focusing on design and functions of community fitness service information system based on web and the construction of new community fitness information platform, this article makes full researches on modular design philosophy, which will refine the research thought and routes and lay a solid foundation for the effective development of the further research.

## DESIGN OF COMMUNITY FITNESS SERVICE INFORMATION SYSTEM BASED ON WEB

### System framework analysis

Internet and B/S schema structure, mainstreams at present, are adopted to conduct the application development of the community fitness service information system, which breaks through the time and spatial limitation, and the Web browser is functioned as the exchange bridge between the local information and the distant information. In B/S schema structure, the user interface is realized by browser, part of the transaction logic is realized by Browser, and the other part of the transaction logic is realized by the server, which form a structure of three layers. The design takes the Web database as the center and the Http as the transport protocol, in this way, the client is able to visit the Web through the browser, which can not only simplify the load of the Client and reduce the workload for system operation and maintenance, but also lower the users' investment cost to the maximum extent<sup>[1]</sup>.

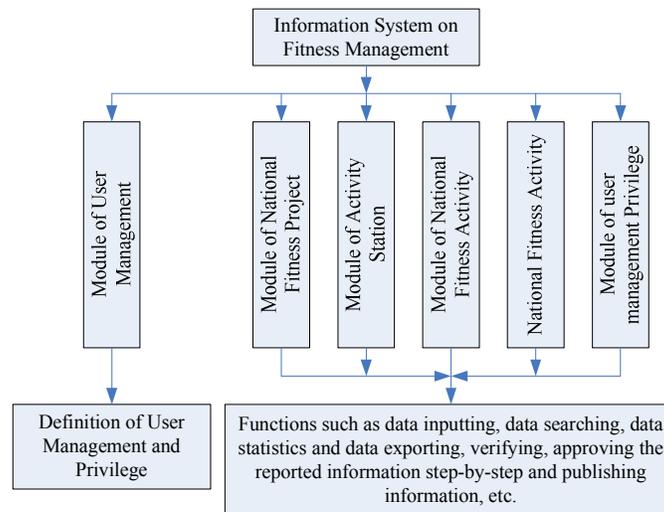
### System framework design

Based on Web, the community service information system is formed by a three-layer framework (Strus1.2+Hibernate3.1+Spring2.0), relying on which Model View Controller, MVC), the design is conducted and the system is further developed through Hibernate technique, JSP and JavaScript. As a typical model in software design, the software system of MVC is divided into three basic modules, namely, Model, View and Controller. The codes will be organized by separating business logic and data presentation. The community fitness service information management system adopts a frame structure of Strus1.2+Hibernate3.1+Spring2.0. During the design process, Hibernate is an open-source frame of object relationship mapping. Through lightweight object encapsulation, Java programmers are able to freely control the database by applying the object programming philosophy

## FUNCTIONS OF COMMUNITY FITNESS SERVICE INFORMATION SYSTEM

During its design process, the system is scientifically and continuously improved mainly through information technological method, which will improve the pertinence and scientificity of the management for the residents' fitness activities and lead the management process to a digital and informationalized development road.

It is obviously showed in Figure 1 that, the national fitness information service system in this community mainly includes several important parts, namely, module of users' information management, module of national fitness activity, etc. The construction of these modules will have positive effect on manager of fitness process of the community residents. Through the system, information on residents' fitness will be effectively collated and analysis and synthesis on the information will be gradually realized, which will enable the information to reflect specific situations of the national fitness in communities<sup>[2]</sup>.



**Figure 1 : Function structure of community fitness service information management system based on web**

### Privilege management module

The privilege module, from an intuitional point of view, refers to the safety module during the system construction process. In the operation process, this module will effectively limit the access scope of the users own, and, the main functions of the module are to effectively modify, verify and create the information of the users. See TABLE 1 for details.

**TABLE 1 : Function design of privilege management**

| Function | Function Description   | Class Name               |
|----------|--|--------------------------|
| Create   | The upper user creates lower user information  | Creste User              |
| Revoke   | The upper user revokes the information of the lower users                                | revoke User              |
| Modify   | The users modify their own information   | Modify Self Information  |
|          | The users modify the information and password of the lower users                         | Modify Lower Information |
|          | The users change their own password  | Chang Self Information   |
| Verify   | The upper users verify the information modification request submitted by the lower users | Verify Request           |

### Module of national fitness project

During the construction process of the system, this module is mainly functioned to collect and collate the specific fitness information of the community residents, through which, the main information of the system will be clearly presented. See TABLE 2 for details.

**TABLE 2 : Function design of national fitness project module**

| Function | Function Description   | Class Name         |
|----------|--|--------------------|
| Show     | Show the fitness project and it is required that the projects be listed in sort order  | Project show       |
|          | The default order is regional and the currentcondition of the project will be attached   | Lower Project show |
|          | The details of the project will be showed in form  | Details            |
| Modify   | Modify the project. When the project has not been reported yet, the information can be modified at will; when the project is reported, the information will not be modified; when the project is not approved, the project can be modified and submitted again | Project modify     |
| Count    | Count the fitness project. Count functions of all fitness projects in each community. After the counting, excel forms will be generated.   | Project count      |

### Module of social fitness supervisor

During the design process, this module is mainly used for social fitness supervisors in communities to collect and update the fitness information of community residents, which enables the comprehensively and well reflection of the system's function in information collecting and collating. See the specific functions in TABLE 3.

**TABLE 3 : Function design of module of social fitness supervisor**

| Function                     | Function Description   | Class Name              |
|------------------------------|--|-------------------------|
| Add                          | Refers to input the information of the social fitness supervisor   | Supervisor add          |
| Import the social supervisor | Input the information of the social fitness supervisors approved in former years in Excel and upload the information on to the system in bulk. | Supervisor import       |
| View                         | Show detailed information of specified social fitness supervisor   | Supervisor show Details |
| Count                        | The quantity of social fitness supervisor can be counted only on specified conditions  | Supervisor country      |

During the construction process of the system, in order to achieve the foundational aim of the service, information technique means are applied to sufficiently provide the information required by community residents in their participation of fitness activities. In addition, the module also satisfies the foundational requirements of the community residents to take part in the fitness activities, which provides adequate motivation for the system to improve its management level.

## CONSTRUCTION OF NEW COMMUNITY NATIONAL FITNESS INFORMATION PLATFORM

### Basic thoughts in construction of new community national fitness information platform: to strengthen the aim and embody integration, modularization and diversification

The key point in construction of new community national fitness information platform is to effectively change the aim of the construction, in which, a philosophy of integration should be effectively established and systematization and modulation should be embodied in construction schema and style. In this way, the ultimate construction philosophy of the platform, which is people-oriented, will be realized, and a solid ideological foundation for scientific development of the platform will be laid, with the help of which, the community national fitness will flourish<sup>[3]</sup>.

Integrated information service platform, can reflect the aims of community residents' involving in physical exercise on the one hand, and, will have certain positive influence on satisfying community residents' demands on physical exercise on the other hand. The integrated development structure is mainly formed through synchronous construction of community residents' fitness knowledge, capacity and so on.

Modularization of functions of the platform means to effectively divide the functional categories during the construction process of the information platform, which will sufficiently reflect not only the characteristics of these functions but also sub-modules such as elements, knowledge and specific sports of community residents and so on. In this way, the construction process of the information service system will be equipped with scientificity and rationalization.

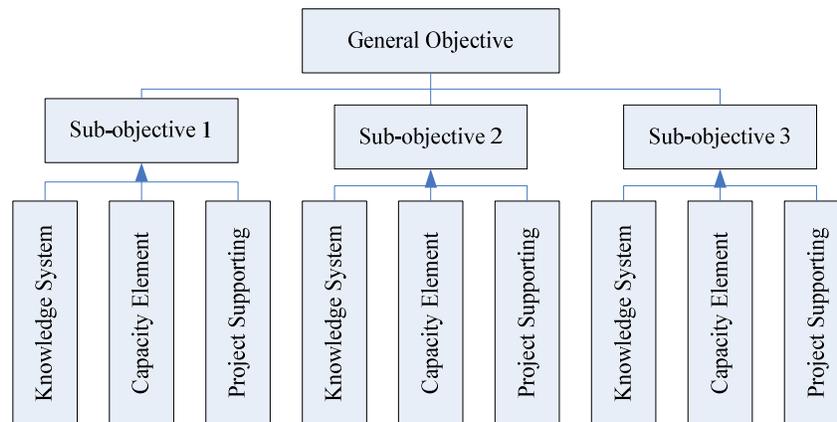
The diversification means to diversify the contents and forms of the platform in its construction process to motivate residents' enthusiasm in taking part in the fitness activities, which reflects the intrinsic value of the construction of the community national fitness information service platform.

### Structures, functions and characteristics of social fitness guiding platform

From the perspective of management, a platform is a main operational method to improve the management quality and to change the management mode. However, nowadays, the community develops rapidly, which also requires an improved platform for the community residents' fitness. Thus, the value of effects and functions of community national fitness information service platform will be maximized and a broader development platform will be provided.

The community national fitness information service platform should contain three parts: function system, supporting system and related safeguard mechanism, with which, each link of the platform closely connects and interacts with each other, and, a closely connection between the functional characteristics and the structural characteristics is formed<sup>[4]</sup>.

As the main part of the community national fitness information service platform, the functional system is also where the main system lies in. The functional system mainly includes several important modules such as, a system of basic construction knowledge, capacity element and corresponding sports and so on. These modules are independent yet coordinated with each other, which strengthens the adaptability of the system. See Figure 2 for details.



**Figure 2 : Structural model of the community national fitness information service platform**

Seen from the general trend of community fitness development in China, the key point is innovative cultivation for community residents' fitness consciousness, which will continuously improve the community residents' autonomous fitness consciousness and promote the overall development of the community resident's fitness activities. Therefore, the function modules for physical quality and health conditions of the community residents is quite important, based on which, the modules for leisure and entertainment fitness will be scientifically constructed. In this way, the integrated functions and structures of the platform will be achieved and the internal configuration between sub-modules will be continuously improved. Take the module of sports and competitions for example, which is showed in Figure 3.

In construction process of community national fitness information service platform, the safeguard system and the supporting system play an important role in providing effective security factors. The safeguard system mainly includes several aspects as hardware facility safeguard and information guidance safeguard and so on. The supporting system mainly

contains several aspects like operation mechanism and evaluation mechanism and so on, which effectively safeguards the operation of the whole platform.



**Figure 3 : Diagram of the sports and competition module**

It is showed, in Figure 2 and Figure 3, that two characteristics are embodied in construction process of community national fitness information service platform. The first characteristic is the highlighted modulated functions, which clarifies the general objective of the community national fitness and fully plays the internal connections between each sub-module and their functions<sup>[5]</sup>. In this way, the community residents' overall understanding of the national fitness and the development objective of the national fitness will be continuously clarified and a qualitative leap will be led to the community national fitness.

Secondly, in order to enhance the pertinence in community residents' fitness activities, the platform improves the choice perspective and capacity of community residents in their fitness activities. After scientific configuration for fitness objective, fitness functions, fitness programs and fitness capacity, the community national fitness information service platform broadcasts the contents above through means and channels of the service information, so as to achieve the foundational object, which is the community residents' clear and specific fitness objective, and to realize the effects and values of the information service platform.

### **Operation of community national fitness information platform**

The operation of the community national fitness information platform is to expand the spatial information in aspects of construction model, fitness contents and philosophies and so on, in which, the normal operations of the safeguard system and the supporting system take the pivotal role. The safeguard system and the supporting system effectively assist the normal operations of the functional system. During this process, two changes should be carried out.

Firstly, carry out scientific exploration for the breakthrough in guiding the physical and healthy consciousness of the community residents through service information expansion, which is the foundational method. By expanding the contents and patterns of the service information, the concept of fitness will be fully infiltrated into the community residents, the purpose of the community residents' fitness will be changed from short-term objectives to long-term plan and the diversified development of the service information will be basically guarded. Thus, the community national fitness service information platform will be changed from formalized structure into material and spatial structure<sup>[6]</sup>.

Secondly, a philosophy of people-oriented should be established during the construction process of the service information platform. Based on the general improvement of the community residents' physical quality, the service information platform should consider fitness characteristics of different residents, which enables the platform to realize the real "national fitness". In this way, the practicability and practical functions of the information service platform will be continuously enhanced, which will positively influence the scientific improvement of the platform and satisfy the real fitness demands of different community residents.

### **Construction of multidimensional examination and assessment system**

Further exploration for functions and characteristics of the community comprehensive fitness information service will be carried out on the philosophy of modulated construction. As an important part of this process, the examination and assessment system is the main method to provide the overall development process of the platform with effective feedback information. The examination and assessment system contain two parts, namely, assessment of the functions of the modules and assessment of the operations of the information service platform<sup>[7]</sup>. The former one is the process to effectively assess the results caused by interactions among sub-modules of the platform; the latter one is to scientifically assess the influence of operations of the platform systems on the community residents. In this way, the existing problems and the overall advantages will be able to be comprehensively analyzed and the healthy development of the platform will be realized.

## **CONCLUSION**

Above is the research and exploration process in this research, combining with the community national fitness information service platform under a philosophy of modular design, in which, the functions of the community fitness service

information system and construction of the new community national fitness information platform are used, as the key points, to put forward core effects of modular design philosophy. In this way, the research and discussion process in this research are more targeted and comprehensiveness and reasonability of the construction of the community national fitness information service platform are fully highlighted.

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