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ARTICLE INFO	ABSTRACT
Article history:	In order to get the knowledge easily and quickly for the new countryside to meet the
Received: 11 April 2011;	requests on agriculture development by the advanced science and technology, emphasis or
Received in revised form:	the regional agriculture. We put forward an integrated platform model that provide the
21 May 2011;	demonstration and query on regional agriculture information. The solution is to set up the
Accepted: 28 May 2011;	regional multimedia system based on the comprehensive agriculture information system
	meanwhile, considering the current situations, including the network equipments and
Keywords	information system operations. After the analysis and design of the system function and
Platform,	structure, we introduce the operation and the realization of models in detail. It can achieve
Integration,	the general data by the demonstration system easily and the especially data by the query

Introduction

Model.

Regional Agriculture,

In china, new countryside development policies, such as the agriculture, the medical cooperation, provide the direct and comprehensive support to service region development and the peasant by the science and technology, especially the agriculture that the biggest manpower and material resources in it. With the vast investment to the agriculture, the emphasis on the development of the new countryside is to apply the advanced theory and method to guide the peasants how to operate and improve the productive forces. However, the current situation of the countryside is the handicap with the new countryside development though the strong desire to the knowledge of the peasants.

platform.

With the development the multimedia and computer network, it is practical and feasible to make full use of the latest achievements in information technology to instruct the peasant walk away from the traditional agriculture work mode. Meanwhile it is an important technology support for the modern agriculture. The information technology application is one of the crucial technology forces to the agriculture. In some areas, all kinds of agriculture management information systems have serviced in several agriculture part works and operations and have got a good effect. However, it is a big challenge to develop the comprehensive information system for most countryside for agriculture informatization and modernization because of characteristics of the agriculture, such as the various soil types, the complex crop strains, the frequent outbreaks and changing symptoms of all kinds of pests, also sorts of the external factors, for example the climate. All above will bring influence on the application of the information system. Moreover, it is not realistic to direct every peasant to plant and operate by the information system.

In view of the root causes, we design an regional integrated platform model that provide the agriculture information services by the multimedia demonstration system. Considering the

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facilities on the computer network and information development foundation, we put forward a regional model to suit the current

system, also the immediate data exchanging and sharing by the information exchange

countryside on the multimedia system and network platform. In the thesis, we put emphasis on the analysis of the system function, the design of system structure and the implement of the system platform. The study is based on the investigation and has the main characteristic of the regional.

System Analysis

China is a agricultural nation. With the joining in WTO and developing on the informatization, the agriculture information technologies begin to walk into the training in countryside. With the development of the computer and network, all professional agriculture information systems have been made by the different classes and types, so the countryside can touch with much information by system. But it is not effective because the difference of the emphasis and the surrounding of the systems designed based on the region characters or the corps strain characters. Another reason is the huge difference on the object of the system. In the developed areas, the good foundation and facility provide a basis on the use of the information system. In the poor areas, the income and the knowledge level of peasant limit the use and popularization of the information system.

How to develop the system for all classes of peasants easy to use and accept based on the existing software, our model take regional characters and peasant level into account. The region characters provide a simply data structure for us to easily gain the function and application.

The peasant level provide a classification method for us to design the platform. Combining the advanced software, such as the expert system, decision support system and other professional management information systems, the integrated platform has the function of information demonstration and information query, of course, the data exchanging and sharing can be achieved by the platform. All the operations on the platform mainly implement by the multimedia

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information service type. Of course, the network foundation is also one of the key factors to the system platform.

By the computer network, the peasant can easily gain their desire knowledge by the multimedia system. The multimedia can provide the information query and demonstration, also the exchange. Besides, the system provide a special function model that guide the peasant how to use the system by the multimedia method, so many peasant who are not familiar with the computer operations can easily learn to use the system just like watching TV. We mainly access the network ability by the telephone dial. In some developed areas, we access by the VPN that brings a better effect.

In order to improve the applicability, the integrated platform model not only set up the detailed function models for the reason of regional, also is a framework for other regions that is easy modified and duplicated according to the region difference.

System Design

By the analysis of the current situation and foundation of the countryside, it is feasible for the new countryside to popularize the agriculture knowledge by the information system. But it is not realistic to use the comprehensive and professional system directly for peasant to operate and grasp. According to the analysis, we design the platform as the multimedia system mainly by the way of demonstration for most regions of the china new countryside.

The multimedia system is a kind of demonstration form that combining the complex information with computer and network technologies. It presents the professional knowledge by different types that are easy to accept by the peasant. It is suitable for the new countryside of china.

The multimedia system has been designed to a general model by the C/S and B/S modes referring to the successful structure. One is the simply and static demonstration model with the introduction of the function, the other is the mutual and dynamic query model with the design of the operations. The demonstration model provides all kinds of information in the way of text, web, the sound, the picture and the video by the local server with C/S mode or the remote assigned database centre with B/S mode. It is adequate and accessible so long as the server or the data centre is big enough. Of course, we can update the model for the specific region application on the requirement. The query model also provides the similar function and mechanism, but it put more emphasis on the information access by the query condition. It is oriented to the individual request that by the C/S or B/S mode the peasant can get the data what they want. On this model, the peasant can get the exchanging data and draw on their experiences by the intranet or the internet.

The demonstration model has two sub-model, one is the information browser, the other is function demonstration. Neither of them involves the mutual operations and the interface is simply. It is acceptable for all classes of peasants not considering the level and ability. The information browser provides the direct and assigned knowledge to peasant. We classify the knowledge by the data storage into web information and database information.

The web information mainly demonstrate the news, the policies, the technologies, the cases and so on. They are stored in the computer by the file form. The database information mainly store the regular data structure with large scale, such as the pictures, the videos. Moreover we assign the data on the request of the region and peasant. The web will be updated immediately and the database will be appended with the latest knowledge.

Considering the characteristic of the operation, that is simply and direct, we put the information browser into an assigned method or a selective method. The function demonstration just like it. It demonstrates the system functions by the picture or the video, also the file, to all the people who operate the system. It also provide the simply exchanging method on the request of the peasant. We can play the process in an assigned or a simply selective sequence. The sequence can be recorded by the programmer or the administrator ahead of time, also we can mate the explanation by the sound with the process. The database is updated by the increment method.

The query model includes the common query and immediate query that are oriented to the peasants who have the ability to operate the computer. The common query provides the desire and individual knowledge of the peasant of all kinds of the professional function mainly based on the case data. The data are put into the local database and demonstrate to peasant by the query conditions. The effect depends on the data quantity in the database, just like the expert system. The immediate query puts emphasis on the function design that can not achieve the data from the whole system. It is an online model that provide the immediate mutual exchanging after you have registered by the remote server. Meanwhile it can provide the online exchanging platform for the peasant with the expert real and virtual.

System Results

From the system design, the data was composite by the demonstration data and query data. To the local request, we can get the data from the local database, otherwise, the immediate query data will be achieved much from the remote database or data centre. So the network is the key part of the system function design.

On the basis of the design, the system function structure can refer the network structure integrated platform solution. Besides the function discussed above, we implement it by inner network function and outer network function.

The detailed function model includes the agriculture region function and data management function. On account of the user level and operation ability, data safety is important factor in the design. By the analysis and design of the integrated platform model on the regional agriculture, we present a regional multimedia information service platform that the network structure design as the center. The detail of the platform design is shown in Figure 1.



In the structure figure, we divide the integrated platform into three levels: the multimedia system network platform, the application service platform and the middleware platform that link the network and application. The network level guarantee the connection within the whole system, including the function demonstration and query in the intranet and information demonstration and immediate query in the extranet or the internet. The application level is the interface that used by user, that is the comprehensive windows seen by the user. On this level, the user can gain their information, share their resource and exchange the question by their individual service. The legal user can get their different function by different selection but the uniform integrated platform. The middleware is a bridge linking the service with the implementation, by which we can easy extend our model without much modification. It includes the data exchange interface and data access interface that set up the mapping between the other two levels. The uniform safety mechanism model set up the data access protection on the platform application.

Thanks to the design of the network structure, the function models are easy to implement on the basis of the regional investigation. The detail of the function model is shown in Figure 2.



In the function figure, we can get the results of the design from the Extranet part which works as the main platform. In this model it has all the functions discussed above and provides a middleware platform as the common interface for the internet user and other local area networks.

Conclusion

In summary, we have proposed a regional integrated platform model for the agriculture information system according to the real-life investigation. The present method and process is very practical for the new countryside informatization. The analysis is direct at real difficulties during the application in the rural area with the information system. Combining the current situation and the network foundation we design the regional platform to popularize the advanced science and technology in countryside. By the multimedia platform the peasant can easy achieve their desire knowledge even if without the ability to operate the computer or the system. Meanwhile the platform provide a channel to share and exchange the agriculture information.

The development of agriculture information system is one of most important promotion to the peasant, the agriculture even the economy. Our solution is oriented to the regional development, and more suitable for developing area or the poor countryside. It is an effective mode for the new countryside agriculture construction. In addition, the model under consideration is a further study on the expert system and decision support system to apply in the new countryside. Finally, using our ideas one can model other agriculture management information system.

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