2011 International Conference on Information Management and Engineering (ICIME 2011)
IPCSIT vol. 52 (2012) © (2012) IACSIT Press, Singapore
DOI: 10.7763/IPCSIT.2012.V52.84

TheTravel Information System Research Based on SuperMap IS.NET

Gu yaqing [+]

Tourism and Resource Environment Department, Zaozhuang University, Zaozhuang, China

Abstract. SuperMap IS.NET is designed according to the travel development situation. This system can provide photo-illustrated instruction and interactive dynamic travel map. The construction of this system provide reliable information and grounds for travel management and travel industry, and means a lot for to the development of travel industry and people's outside entertainment.

Keywords: travel information system, SuperMap IS.NET, module.

1. Introduction

With the rapid development of our economy, the initiative tour is becoming more popular. It has become a trend that people travel on their own without any constraint. The dada of the traditional map has a long update period and a single form which can not meet different customer's need. The existent travel websites is generally backward and dependent on the exhibition of texts, photos and videos, and the applied the geographical information is not enough[1]. What's more, the traditional system is not powerful enough to be shared by more people conveniently.

For the above-mentioned reason, this essay attempts to show the travel information more accurately and visibly and provide the long-range interactive visits on the powerful grounds of SuperMapIS．NET while deserting the previous limitations. Combining these advantages with the customer's needs ,the informatization and networking of the travel system will be greatly improved because of the reasonable and effective low-cost share of the travel information.

2. The General Statement and Features of SuperMapIS. NET

2.1. General statement

The whole system is based on SuperMapIS. It adopts the advanced systematic design methods, is developed from NET technique , puts forward multilevel solutions and satisfies the application needs of Network GIS in an overall way. The users of SuperMapIS．NET products can not only connect the service websites of geographical information and the Internet based on map, but also develop their own service system rapidly. Its function is ideal, and is featured by many strong points, such as the data integration from many resources , large visiting quantity and web servers assemblage. The design of multilevel cache can support various map engine simultaneously.

2.2. The technical features of SuperMap IS. NET

2.2.1. The easily- managed modularization

SuperMapIS.NET takes the design thoughts of complete modularization of SuperMapIS. At the era of CO, SuperMapIS adopted COM technique, became a ripe WebGIS development platform,and found

[+] Corresponding author. Tel.: + 06323786737.
E-mail address: gyq06@163.com.

application in many fields. At the era of NET,SuperMapIS is upgraded into SuperMapIS.NET,and adopts the brand-new(.NET) technique to upgrade and reconstruct the platform.

2.2.2. Multisource data integration and large and rapid quantity visiting

The built-in GIS service engine use SuperMap to manage and deal with data. The multisource integration and magnanimity video data visit technique of of SuperMap can be applied in Internet.

2.2.3. The multilevel cache construction between client side and server

The application and cache of data can not find its expression in the way CGI or ISAPI, and each time the client needs to download the data, a new process will be needed, and the function of the server will be compromised. ASP can make the applicable cache in a certain way. But the programming and debugging is troublesome, SuperMapIS．NE T invites the multilevel cache mechanism，and the response and ability to handle the problems is improved a lot.

2.2.4. Strengthen the development platform of GIS

SuperMapIS．NET can support many popular application program devices， and has realized the drag-and-drop programming model，which fit in with the programmer's habits, and the application program in specific fields can also be explored even without experienced developer [2].

3. The General Construction Design of Travel Information Service System

3.1. The systematic construction of travel information

This application system is constructed within 3-level system based on B/S model. The surface level, logical level and data level can make it act as a server within 3-level C/S construction, and the client-side program will not be existent, and the page which can be browed by any browser and the "the slim client" will come into being in the real meaning. The server side is responsible for managing and allocating server program and client side program. Web server accepts the request and in the meanwhile returns the feedback to the client. All the map data and application program should be laid in the server side, and the client side can only make a request, and all the response should be dealt with in the server. It is very easy to maintain and upgrade because this system needn't client side software. It can also be manipulated cross the platform, and its openness and expandability is very convenient for the retail users' manipulation[3].

3.1.1. The server side design

SuperMap Is is a dependent map application server, which can distribute map data and integrate the third-party web server to work， such as IIS（Internet information server）, and in this way it will become more powerful. The system server can be divided functionally into : map application server, web server and data pool server an. These three ones can be installed and maintained by superMap IS uniformly，and put on the same working set server(hardware).

3.1.2. The client side design

SuperMap IS has defined perfect function model, including more than 20 JavaScript files（．Js file）. The defined function can be adjusted and modified according to the system's needs，and even the whole script file can be produced into relevant page files[4].

3.2. System function design

This system is divided into 4 function models: map inquiry model, map manipulation model, map analysis model and ticket reservation model. All of these will be shown in the following chart 1:

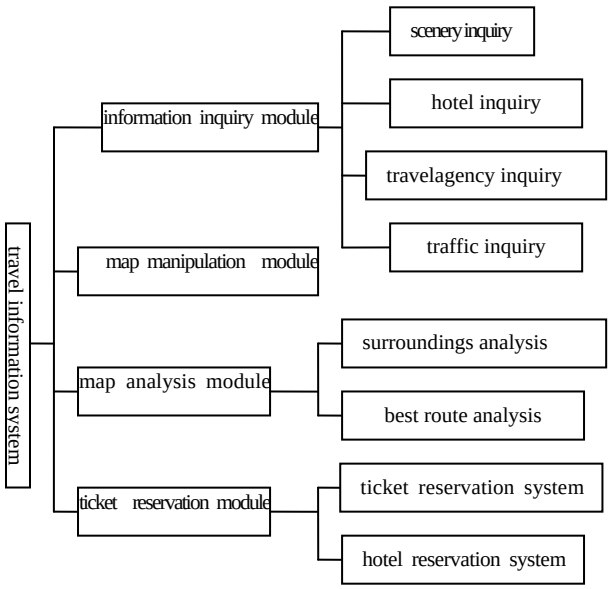

Chart 1 system function construction

3.2.1. Map manipulation module

The provision of the functions, such as: magnifying, reducing, shifting, showing, shifting forward and backward of the map, measuring of the distance, hitting and inquiring, printing the map and eagle-eyed map.

3.2.2. Information inquiry module

The travelers can make the inquiry through this way, including the city roads and bus routes, even the information such as the names between two stations. The address, opening time , runs of the bus, phone number, admission ticket, hotel and travel agency can also be found there. The new window will show the relevant information while inquiring the information.

3.2.3. Map analysis function

a) The surroundings analysis

If you type the names of the present situation into the map in the computer, the system will figure out the distance between the arbitrarily selected schools, hospitals, shops, bus stations, canteens or hotels, and all the relevant information will be shown.

b) The optimal route analysis

If we set the starting and the destination in the map or text, the system will figure out the distance, show all the stations alongside and all the relevant analysis of features.

3.2.4. Ticket booking module

Ticket reservation module is an important link in the tourist information system as well as an inevitable trend of development of information in the future tourist era.

a) Order generation

Choose tours when users login the network , selections of the partner hotels in seats of tourist attractions the system are offered for users to choose according to the travel route the users have selected. Then users can choose flight ticket, date, amount they want. After acknowledgment, they can choose to palace and began to handle the order.

b) Order processing

Order processing system receives the valid order of the user and implement the processing of tickets and hotel reservations through BPEL arrangement and calling of web service of tickets and hotel partners .As to the case for both tickets and hotel reservations, users may go smoothly only two are succeed.

If one reservation succeeds, another failed, or both failed then the user will unable to fulfill the plan. In order to protect the users from any possible damage, the system implement a transaction processing by a compensation mechanism, send e-mails to inform the agent to cancel the reservation, meanwhile, users are informed of the unsuccessful reservation by email notification [5].

4. Conclusion

As a development trend of WebGIS, it has a wide application prospect in tourism, the implementation of functions of the tourist information dissemination of data management, information query, and updated space analysis has been realized by using SuperMapIS.NET technological development and navigational information system. The development of the system makes the original relatively specialized GIS technology go to the mass which is vital to the promotion of GIS, and also carve out a new path for the development of tourism. It is a strong, forceful tool for the collation, aggregation, management and efficient use of tourism resources broad-survey results, for the realization of the tourism resources of automation of monomer building and visualization of statistics, analysis and planning. The system is endowed with those characteristics such as high starting point, sound functions and convenient upgrade. It provides a feasible measure for national tourism resources investigation and offers a good helper for the self- driving travelers, also is a living e-guide has a good applied foreground. But in the initial stage of application, many problems is in further discussions and studies, there is still much to be done. With the joint efforts of workers of the geographic information system and tourist workers, the tourist information system will develop and improve continuously [6].

5. References

[1] Liu Zhifang & Fu hua. The Travel Information System Construction on The Basis of WebGIS, [J].Measure Science,2009(1):162-163.

[2] Chen hua, Li Xiaobing & Xu Guanghui. The Design & Realization of the Geographical Information Service System Based on SuperMapGIS [J]. Computer Engineering & Designing,2009(8):2030-2033

[3] Yin Yanli. The Design Research of The Travel Information System on WEB Platform.[J]. Silicon Valley,2010(19):87.

[4] Fan Yanan, Luo Yiyong, Zhang Liting & Chen Zhuan. The Design And Realization of The Travel Information System in Ji nan City Based on WebGIS [J]. Hubei Agriculture Science,2009(12):3155-3158.

[5] Zheng Chaohong. The Design And Realization of The Travel Information System in Quan zhou City Based on WebGIS [J].]. Computer & Digital Engineering.2010(2):82-85.

[6] Jia fei, Zhang Xiaofeng, & Pang Yutai. The Research of The Travel Information System on GIS[J]. Information Science & Technology,2010(23):80-81.