SuperGeo®
GIS Software & Solution

Ancient Map Geographic Information System

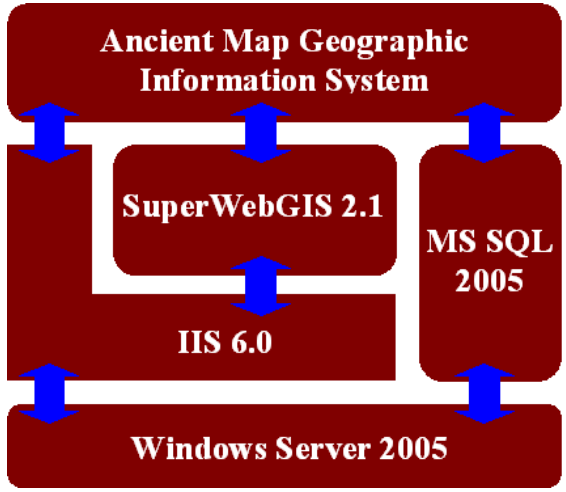
Scenario

There are more than 2,000 ancient Taiwan maps in National Museum of Taiwan History. In order to promote and integrate the research results of these ancient Taiwan maps, National Museum planned to establish a WebGIS. Hence, these ancient and present maps can be queried and viewed via internet browser by not only general public but scholars. By using the Ancient Map Geographic Information System, scholars will have an in-depth and solid reference of Taiwan geographic data while doing the research on Taiwan history, academic education and culture. Therefore, National Museum of Taiwan History can really demonstrate the research of the ancient map collection by applying Ancient Map Geographic Information System.

Solutions

Ancient Map Geographic Information System is a query system including a map management database and a WebGIS.

The software of the system adopts the internet map server-SuperWebGIS 2.1 as its platform for geographic information and Microsoft SQL 2005 as database platform. Not only the hardware is constructed in the server provided by National Museum of Taiwan History but the database of user accounts, ancient and present maps and related spatial information, etc. so that it can use centralized management. The software structure of the system can be viewed as the following picture:



Ancient Map Geographic Information System can provide the reference of map management for management personnel by integrating the GIS technology with the mass GIS data and the metadata. Furthermore, it is convenient for common users to view the difference between ancient and present maps and to apply the data to study and analyze historical research via the internet browser.

Solutions

- Use SuperWebGIS 2.1 as the platform of geographic information system.
- Users can do the online query, view the ancient/present maps, etc via the WebGIS.

Results

Ancient Map Geographic Information System uses Taiwan ancient/present maps as the major aspect to explain and compare the variation of human geography in Taiwan by using SuperWebGIS 2.1 to construct a WebGIS. For common users, they can link to the front-end of the system through internet browser to do the basic map manipulation. As for the museum administrators, they can manage the user accounts and maintain the database in the back-end.

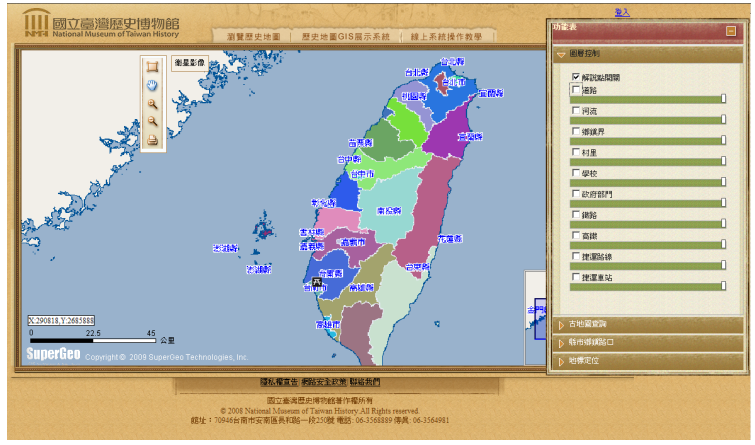
According to the function classifications, the system can be divided into the front-end for display and the back-end for management. The front-end includes two main parts: Browse Ancient Map and Geographic information system.

1. Browse Ancient Map: The user can follow his/her interests to query under different categories and browse the results. After clicking the map thumbnail, user can obtain the detailed information, such as publisher of every map, the size of the image, etc.
2. Geographic Information System: This function shows users an integrated interface allowing users to query the ancient maps along with the present administration sector maps and road maps. Thus, user can compare and do the research from the differences between ancient and present maps. Moreover, Geographic Information System contains the functions of Map Manipulation, Map Locating, Ancient Map Query, Transparent Management and Map Printing.

The back-end covers three models for museum users: User Management, Commentary Management and Map Management.

1. User Management: The user management adopts singular sign-in way and the user permission can be divided into common user, museum manager, and system administrator. The system administrator can add a new user via this model.
2. Commentary Management: Besides the ancient/present maps demonstrated on front-end, the museum user is able to dynamically add and categorize new commentary on the maps for common users to read.
3. Map Management: The museum user can scan, upload, categorize, and add metadata on ancient maps and electronic maps via this model.

Due to the establishment of Ancient Map Geographic Information System, the in-depth and solid reference of geographic information can be learned not only by general public but scholars to see the variation from ancient to nowadays. In short, Ancient Map Geographic Information System gives National Museum of Taiwan History the power to promote and share the geographic information in a more efficient way.



Ancient Map Geographic Information System provides users to reseaching the history in a easy way.

Results

- The construction of the WebGIS allows users to search and view the data via the internet browser.
- The mechanism of the user permission management can help to raise the efficiency of maintaining and updating the database.
- The integration of the geographic information system and map database can not only let users provide the information more convenient but increase the efficiency of data using.

Software Used

SuperWebGIS 2.1

Microsoft® SQL Server 2005

SuperGeo®
GIS Software & Solution