SuperGeo
GIS Software & Solution

Private Forest Land Management System

Scenario

Taipei is a basin surrounded by mountains. However, the natural factors, like soft soils of mountainsides, shallow soil, steep slope, the increased typhoons and heavy rain, and over-development cause landslides and some disasters quite often, so people's lives and properties have been threatened.

Given that, Taipei city government carries out the policies of "Taipei City mountain-side enhanced safety management project" to effectively manage the mountainside resources and reduce the forest disaster. Moreover, in 2004, the government started to thoroughly check the status quo of the public forest lands. Besides the public forest lands, there are a number of private forest lands all over Taipei. In order to effectively manage the status quo of the private forest lands, Taipei City government planned to build a complete Taipei city private forest land database and a GIS system to be the references for the related units to manage forest lands and policy decision. Therefore, it is expected that the threats from forest and mountains can be reduced and the damage on people's lives and properties can be avoided.

Solutions

The structure of the system applies SuperWebGIS, the Internet map server, to be the electronic map engine to build a system consisting of database management and WebGIS, "Private Forest land Management System." In addition to SuperWebGIS used as the electronic map engine, Windows Server 2003 and Microsoft SQL Server are applied respectively for the server operating system and the database of the system.

Through the system structure of WebGIS, the related staffs can display the maps and charts, query data, and position online by using WebGIS without installing any other object of internet browser.

Private Forest Land Management System Interface

Solutions

- Apply SuperWebGIS to build a set of WebGIS system.
- With the set of WebGIS, users can display the data, query, export the statistics online.

Results

"Private Forest Land Management System" uses SuperWebGIS to construct a WebGIS system to enable the related staffs to query the private forest land data in Taipei City and GIS position; meanwhile, the powerful statistic, analysis, and data export functionalities can improve business operating efficiency. The structure of the system contains 3 parts, Basic Map Manipulation, Query Function, and Statistic and Export.

1. Basic Map Manipulation: Private Forest Management System provides numerous map navigation tools with which users can zoom the map to the full-extent, zoom in, zoom out, pan, measure, and more the map.
2. Query Function: The system provides a number of query functions, such as private forest land query, protection forest query, benchmark data query, etc. Users can input the query condition or the sorting condition, like owner, types for land use, and more in the dropdown list or the text box, and the system will list the search results of the private forest lands, benchmarks, etc which meet the query conditions.

   In addition to the related data display, the integration of data query and map services can display real time location map and also overlay cadastral map, network map, map of the status quo of land use, etc at the same time. Therefore, users can find out the location of the specific benchmark land or the private forest land.
3. Statistics and Export: In terms of statistics, the system cooperating with data query and statistic interface enables users to input the sorting condition, use the dropdown lists, check box, etc to export the statistic report with the compound conditions, such as the cadastral list of protection forests, the statistics of the area of private forests, the statistics of the status of public and private forests, and so on.

   As to the report export, the system can export the complete report, and the highly flexible output method enables users to choose the fields for output and transfer to EXCEL table format, so it would be convenient for users to process the report with other Office tools.

Private Forest Land Management System provides a number of query functions

The establishment of Private Forest Land Management System can assist the local government staffs in managing the status quo of each forest land and can also be the references for Taipei City to protect and manage the forest land and strictly manage the inappropriate use of forest lands. Moreover, Private Forest Land Management System provides a cross-unit service platform integrating geographic information and system to simplify the business procedure, largely reduce the administrative cost, and also improve the efficiency of forest land management.

Results

- The structure of WebGIS allows the associated staffs to query the data, position, etc via a common internet platform to improve the working efficiency.
- Highly flexible statistic export functionalities are provided; users can export the statistical report according to their own needs and make statistics be applied in the future.

Software Used

SuperWebGIS 2.1

Microsoft® Windows Server 2003

Microsoft® SQL Server 2003

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