Labor Force Development GIS Platform

Scenario
To know more about labor markets in Taiwan and enhance competitive capacities of regional talents and labor force development decision, ‘Taiwan Training Center Bureau of Employment and Vocational Training’ has built “Labor Force Development GIS Platform” which integrates with GIS technology and widely collects related information of labor markets. The platform is supposed to consider both time and spatial aspects and integrate map with database to conduct data exploration and analysis. The information gathered are able to seize current situation, predict the future trend and execute logical policy discussion.

Goals
To realize utilization of “Labor Force Development GIS Platform”, the platform should not only display maps and the related attribute data instantly and correctly but also provide clear indexes and friendly user interface. Therefore, users would be able to gain the information with ease. As a result, the features of the platform should include:
1. Displaying Map Correctly and Instantly: Through this GIS platform, large quantities of labor market data can be displayed on the webpage correctly and instantly.
2. Containing Definite Subjects and Targets: The index types of the GIS database include industry development, population structure, labor supply, labor demand, demand-supply gap, unemployment population, etc.
3. Data Export and Management: “Data Export” allows users to export related statistic data in format of diagram or Excel. “Database Maintenance” consists of “index maintenance” and “statistics maintenance.” The former is the metadata of indexes, including code number, name, definition, class, unit, geographic level, query frequency and so forth. The latter means data generated by the system are able to be exported as excel format for users to apply on further analysis.

Results
‘Labor Force Development GIS Platform’ mainly features three functions, including “Start Page”, “Map Display” and “Data Export and Management.”

1. Start Page
Like Picture 1 below, after starting and logging in the system, users can see the main-map in the middle of the start page, bar charts, scatter diagrams, comparison of time, indexes and terrains, and descriptions on the right and left sides of the interface. Generated automatically according to default parameters, these graphs convey the newest data. Moreover, users are allowed to click statistic graphs on two sides of the page to zoom in the graph box and edit parameters in it. (Please refer to Picture 2 below.)

2. Map Display
“Map Display”, containing all the GIS navigation functions, shows spatial distribution of indexes. Toolbars on the left side of interface provides users with functions of “zoom in”, “zoom out”, “Pan”, “location query”, “full screen” and “layer management” from top to bottom. And the control panel on the right side of interface enables users to switch layers at different geographic level (“Country”, “Disappearance”, “County/City” and “Town”) and to change time (“Year” and “Month”).

3. Data Export and Management
“Data Export” enables users to save and print maps or graphs in image format. All the data generated by the system are able to be exported as excel format for users to apply on further analysis.

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System Benefit:
1. Labor Force Development GIS Platform”, successfully integrating related statistic data of labor market, enables users to query various themes quickly through setting indexes, time, geographic levels and so forth. Map rendering displays the spatial distribution of data easily. Furthermore, working with multiple and interactive statistic graphs increases analysis aspects, deriving a balance between beauty and convenience in the system. Also, users therefore can grasp the latest and correct information.

Currently, the system cooperating with research organizations performs related research results about construction of labor development decision index and gets many positive feedback and advices. Next, it will aim to offer more efficient and convenient information to decision makers, research organizations and civilians as well by integrating with existing statistic database.

Case Study
After starting the system, users are able to obtain the newest information according to the users and statistic graphs with different indexes displayed on the “Start Page”.

“Map Display” contains diverse GIS navigation functions such as location and query function.

“Data Export” allows users to export related statistic data in format of diagram or Excel.

Solutions
Adopting SuperGIS Server 3 as server software, “Labor Force Development GIS Platform” enables administrators to publish and manage current map data. In addition, by applying SuperGIS Server 3, administrators are able to build general map websites as well as those with interactive visual effects which fit users’ requirements through customizing functions and Flex system development.

Meanwhile, the system uses Microsoft SQL 2008 as database to save and manage relevant indexes and statistic data.

Supported Softwares
SuperGIS Server 3

SuperGeo GIS & Solutions