

Taipei Bus Information and Transit System

Scenario

Along with the rapid development of information and communication technology, Intelligent Transportation system (ITS) has become an efficient tool to solve urban transportation problems. Advanced Public Transportation System (APTS) based on the WebGIS technology is a subsystem in ITS. APTS applies electronic, communication, computer technologies to assist public transportation operators in raising efficiency and service level.

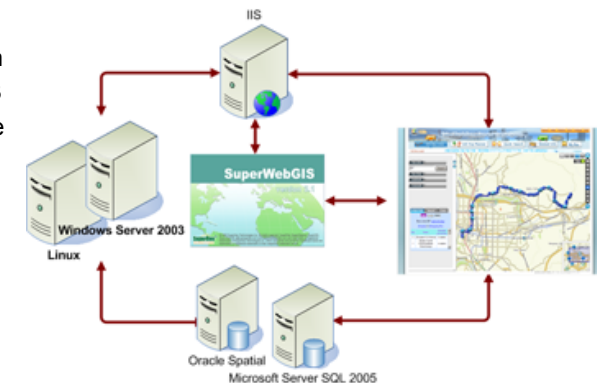
Taipei Bus Information and Transit System, constructed by Public Transportation Office, Taipei Government, is one of the best examples of APTS. The system can help bus users easily gain real-time bus dynamic information and improve the convenience and users' willingness of taking a bus. Moreover, with the system, bus operators can better manage and raise the operational efficiency of their fleet by bus dynamic information and dispatch mechanism.

Solutions

Taipei Bus Information and Transit System is a system based on WebGIS technology. This WebGIS applies SuperWebGIS as the map server to publish maps and information about the movement of vehicles.

The published information is collected from the devices on the buses and analyzed with the backend software. The devices on the buses record the movement information, such as coordinates, speeds, directions, time, etc. and send the data to the databases according to the its property. Then, various kinds of software on the back end would analyze the information and transit the analysis results to the front end for users to query.

In terms of server, the system adopts Windows Server 2003 and Linux as the platform; the system also uses Microsoft Server SQL 2005 and Oracle as the media for saving the digital data.



Solutions

- Utilize SuperWebGIS software as the map server to build up a WebGIS to delivery map services for the public through the Internet.

Results

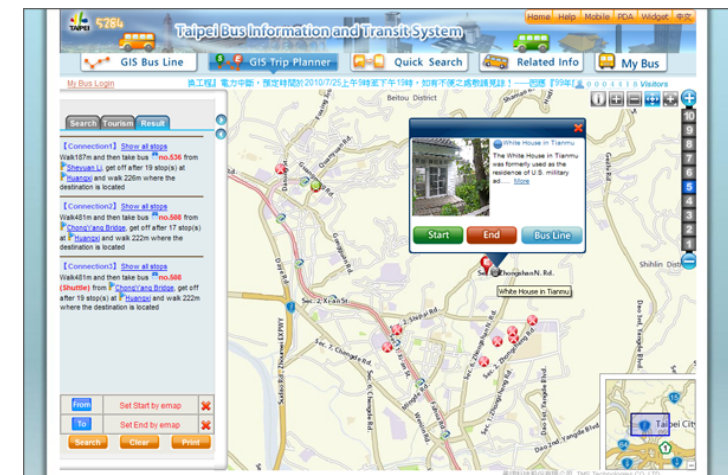
Taipei Bus Information and Transit System is an integrated platform providing real-time bus information based on WebGIS technology. It has basic GIS tools and easy-to-use interface to allow bus users to easily and intuitively query the dynamic bus information before taking a bus.

As to the functions, Taipei Bus Information and Transit System provides five functions that bus users can use.

1. **GIS Bus Route:** The function mainly provides four query conditions, including Bus line, bus stop, landmark and crossroad, to assists bus users in querying complete bus routes. Users only need to key in the query condition, and the system will show users the complete route with text and map.
2. **GIS Trip Planner:** This function integrates many scenic spots, such as historic sites, museums, hot springs, hotel, bikeway entrances, etc. It's very convenient for bus users and tourists to clearly understand the locations, information and bus lines of scenic spots by checking the options. In addition, this function also helps users to plan a route from the assigned start point to destination. Users can choose the best solution according to their needs.
3. **Quick Search:** Quick Search provides two functions for users to query the bus route. Trip Planner, one of the two functions, provides five query conditions, including Stop, Landmark, Address, Crossroad, and MRT & Bus, for users to set the start point and destination; therefore, the system will display the route results with text and map for users to choose. Besides, in order to meet users' various demands, Quick Search is also available for users to query complete bus routes by stop name, bus line or district.

4. **Related Info.:** The function mainly provides complete information of all of the bus terminals and other useful transportation links for querying.
5. **My Bus:** Before using this function, users have to have the account to log in. The function allows users to store commonly-used bus routes so that users can conveniently and quickly query the assigned routes at any time. In addition, My Bus also has a friendly function. Users can set the warning information which will show up when the bus is approaching the assigned stop; therefore, users can save the waiting time.

Taipei Bus Information and Transit System not only completely integrates Taipei bus information and scenic spots but also provides diverse and real-time information. Users and tourists are able to query bus routes and plan the best travel routes in a convenient way.



GIS Trip Planner can assist bus users and tourists to clearly understand the locations, information and bus lines of scenic spots.

Results

- Taipei Bus Information and Transit System is an integrated platform providing real-time bus information based on WebGIS technology.
- With the establishment of Taipei Bus Information and Transit System, users and tourists are able to query bus routes and plan the best travel routes in a convenient way.

Software Used

- SuperWebGIS
- Windows Server 2003 and Linux
- Microsoft Server SQL 2005 and Oracle Spatial