

# System for Field Survey of Land for Education Foundation Property

## Scenario

The origin of Land for Education Foundation Property (LEFP) can be traced back to the ancient times when enthusiastic people donated their own land for educational purposes. The earnings of the LEFP will be only used for educational grants and talents cultivation.

The Ministry of Education now owns 5,643 pieces of LEFP. Not only for improving the efficiency of the land management but knowing the usage, location and other relevant information of every piece of LEFP, the Ministry of Education planned to establish a WebGIS which is able to integrate the data of LEFP along with the relevant information efficiently. Moreover, the management efficiency can also be raised.

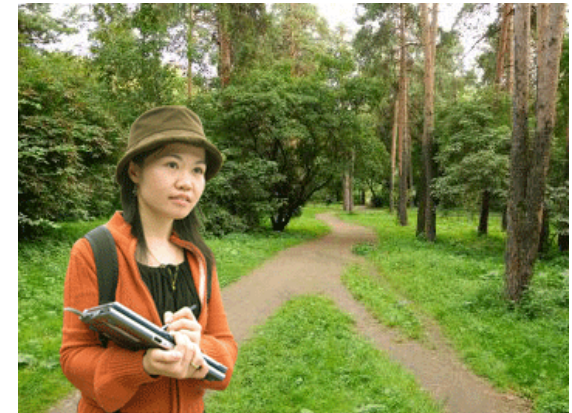
Besides, the routine field survey is very important to ensure the completeness and availability of the information concerning every piece of land; therefore, the Ministry of Education planned to establish a field survey system to help the personnel complete the task. This field survey system allows personnel to collect available data efficiently and the data can update to the database systematically.

## Solutions

System for Field Survey of Land for Education Foundation Property is constructed based on Land for Education Foundation Property Database Query and Manage

ment System.

SuperPad 2.1 is used as the developing platform in this system, whereas Windows Mobile 5.0 is the operation system in PDA. Various GIS tools are build-in SuperPad which assists survey personnel in collecting, editing, measuring, etc. in the field by using mobile devices or other handheld devices; therefore, the availability and validity of LEFP can be raised than before. Furthermore, due to the high flexibility of developing structure, SuperPad allows to easily customize mobile GIS applications according to the needs of survey personnel.



*Accurate and complete cadastral data can raise the quality and efficiency of land management.*

## Solutions

- System for Field Survey of Land for Education Foundation Property is constructed based on Land for Education Foundation Property Database Query and Management System.
- It uses SuperPad as the developing platform, whereas its high flexibility environment can easily customize toolbars, tables and other functions according to the request.

## Results

Field Survey of Land for Education Foundation Property Query and Report System is a powerful mobile GIS application which provides survey personnel the functions to do the survey easily and update cadastral data while surveying. Consequently, work efficiency can be highly raised.

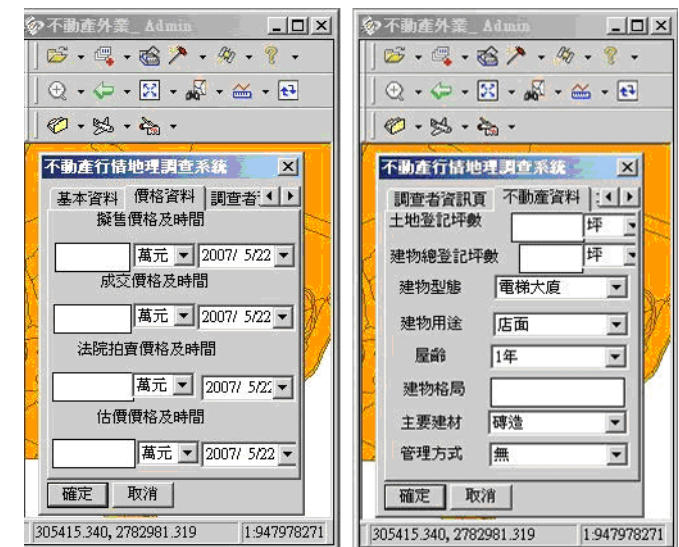
This system uses SuperPad as the developing platform, whereas the high flexibility environment of SuperPad can easily customize toolbars, tables and other functions according to the requests.

The functions provided by this system can be divided into six categories as follows:

- 1. Map Manipulation:** This function provides users can use basic GIS manipulation on the maps, such as zoom the map to full-extent, zoom in/out, pan, query, scale setting, selection, layer settings, etc.
- 2. Position Function:** Users can quickly position to the certain extent according to geographical conditions, such as cadastral information and road. In addition, this system can use GPS receiver to demonstrate the related map by centering user's position.
- 3. LEFP Query and Report:** In this function, survey personnel can record survey results on the system. The relative records might include: the usage of the buildings and affiliated things on the land, photo numbers, user info, and current using status etc.
- 4. Compared Case Survey:** Users can input the basic data, price data, investigator info, real estate info, etc. of every LEFP to form the cadastral information completely.

- 5. GPS Position:** With the function of GPS position, the system can display an individual's current position on the map. When a surveyor moves, this function will record and save the track logs in the device.
- 6. Data Synchronization:** Surveyor can upload the real time results and compared cases to the database to improve working efficiency significantly.

The LEFP distributed in Taiwan is about 887,535 square meters and worth about 60 billion USD. However, these lands couldn't be utilized well due to lacking proper management for a long term. But now, with the "Land for Education Foundation Property Database Query and Management System" and "System for Field Survey of Land for Education Foundation Property," the managers can not only manage the cadastral database efficiently but improve the accuracy of the cadastral data. In this case, LEFP can maximize the using utility and helps to develop the district and have income for education foundation.



Through Compared Case Survey, users can gain the cadastral information completely.

## Results

- This powerful mobile GIS application provides survey personnel the functions to do the survey easily and update cadastral data while surveying.
- Field Survey of Land for Education Foundation Property Query and Report System can not only improve the availability but ensure the accuracy of every piece of information of LEFP.

## Software Used

- SuperPad 2.1
- Windows Mobile 5.0