Real-Time Mobile Field Data Collection, Visualization and Analysis

SiS Field Class Work 2012

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OBJECTIVE
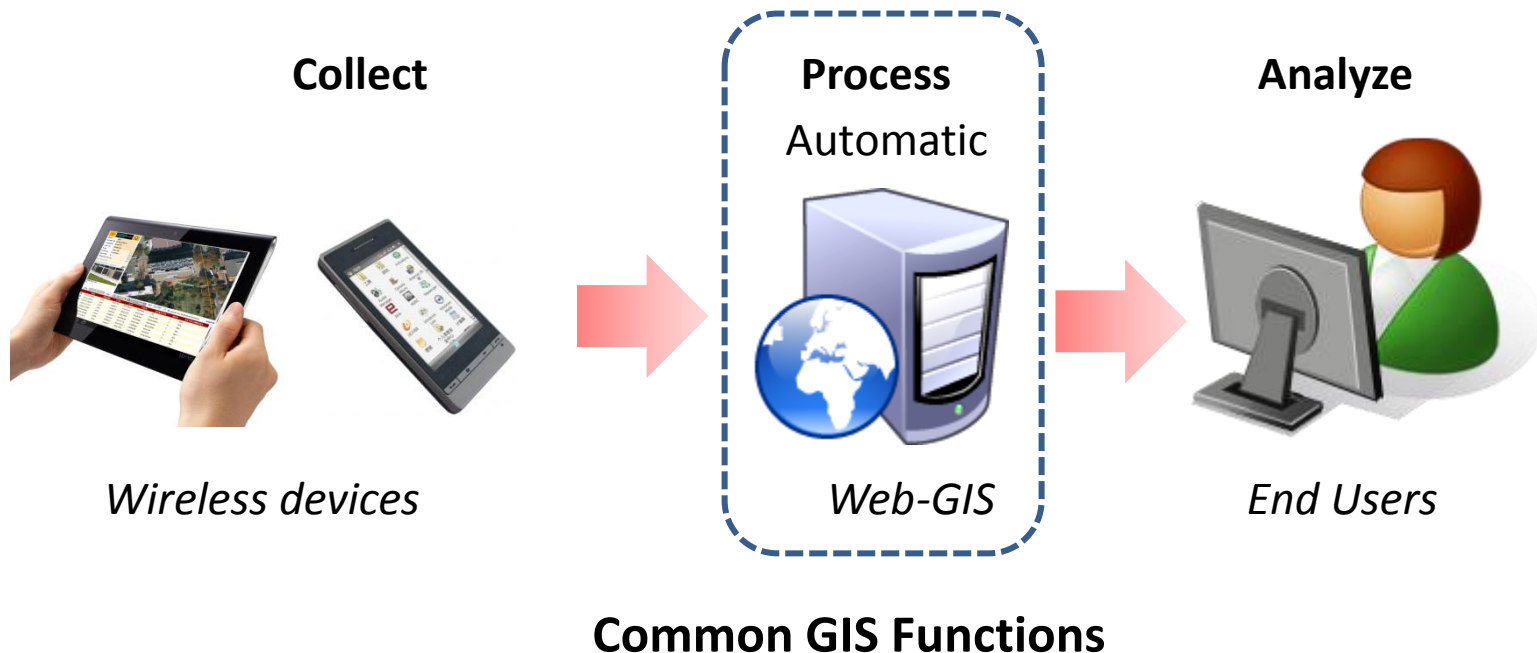
To practice real-time field data collection
To visualize and analyze collected field data
To demonstrate common GIS functions

Except Data Processing
Web-GIS will carry out all required data processing steps
Database creation, data injection, zoning, joining tables, intersecting features, etc....

Collect   **Process**   **Analyze**
                             Automatic

Wireless devices   *Web-GIS*   *End Users*

Common GIS Functions

FIELD SURVEYING

USER ACCOUNT CREATION

URL: http://land.geo.tsukuba.ac.jp/testbed1

1 Click on "**Create Account**" Tab

2 Type user name (minimum 3 digits)

3 Set passwords (minimum 3 digits)

4 Retype passwords

5 After finished, click "**Continue**" to Log-In

6 Type user name and Log-In

Mobile Field GIS Log-In and User Account Creation

Log In | Create Account **1**

User Name: john **2**

Password: ●●● **3**

Confirm Password: ●●● **4**

Create User

Mobile Field GIS Log-In and User Account Creation

Log In | Create Account

Complete

Your account has been successfully created.

Continue **5**

Mobile Field GIS Log-In and User Account Creation

Log In | Create Account

User Name: john **6**

Password: ●●●

☐ Remember me next time.

Log In

GETTING COORDINATES

Create a New Record

❶ Click "**New**" to create a new record

Get the coordinates from 3 sources

❷ Build in GPS

❸ Locate GPS positions in a map and Get from Garmin GPS (Manually enter)

❹ Read from a Map

CREATE A NEW RECORD

② Select **Type**

③ Select **Subtype**

④ Select **Quantity**

⑤ Set up attachment category

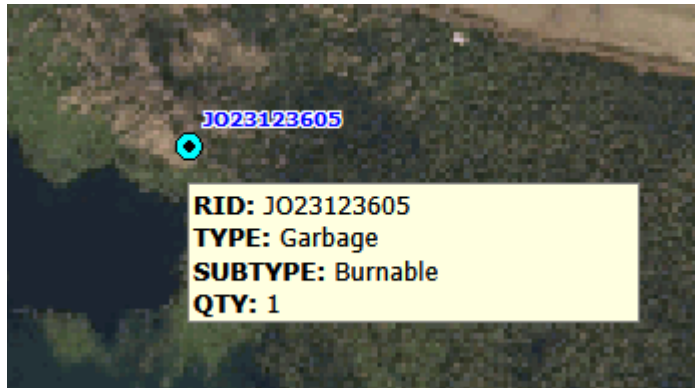**⑥** Click a **Browse** for file attachment

⑦ Click 📎 to upload (Attach)

⑧ Click "**Add**" to add a new record

MAP CONTROLS

1 Zoom In
2 Zoom Out
3 Pan or Move
4 Get coordinates from a map
5 Get Attribute Information (click 🛈 and move on a record)

6 Measure distance
7 Zoom to all records
8 Go to Home (SIS Building)
9 Refresh the map (Clear all points on a map)

10 Set up map scale (smaller number gives larger map)
11 Show attribute field for labeling a record
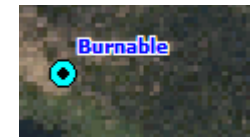
12 Check "**Zoom To Selected Record**" to see a point at map center

UPDATING AND DELETING A RECORD

1. Select a row to update or delete

2. Edit/modify Attribute

3. Click **Update** to update the selected record

4. Click **Delete** to delete the selected record

5. Click **Cancel** to return a new record creation

TO SEE WHAT OTHER PEOPLE ARE COLLECTING

Click link to see what other people are collecting

Log-Out to end the survey

AFTER FIELD SURVEY

Generate a Summary Report
Labeling and Symbolizing
Search records in a feature
Thematic Mapping (Choropleth Mapping)
Querying Attributes

Generate a Summary Report

REPORT OF FIELD DATA 2012
DATE: 11/23/2012 3:17:51 PM
SUMMARY BY ITEMS

TOTAL RECORDS: 74

Sum of Garbage: 50 (48)

Burnable: 34 (34)
Unburnable: 16 (14)

Sum of Parking: 149 (26)

Bicycle: 54 (12)
Motorbike: 54 (9)
Car: 41 (5)
End ....

SUMMARY BY ADMINISTRATION ZONES

Total Records By Zones

4	Hirasuna Residence Area
3	Art and Physical Education Area
15	Agri. and Fores. Research Center Area
4	Administration Center Area
5	Kasuga Area
4	Ichinoya Residence Area
6	Research Center Area
3	Area 3
5	Area 2
3	Area 1
6	University Hall

1

Generate a summary
report to see:
1. Sum of all records
2. Sum of records by
   administration Zones
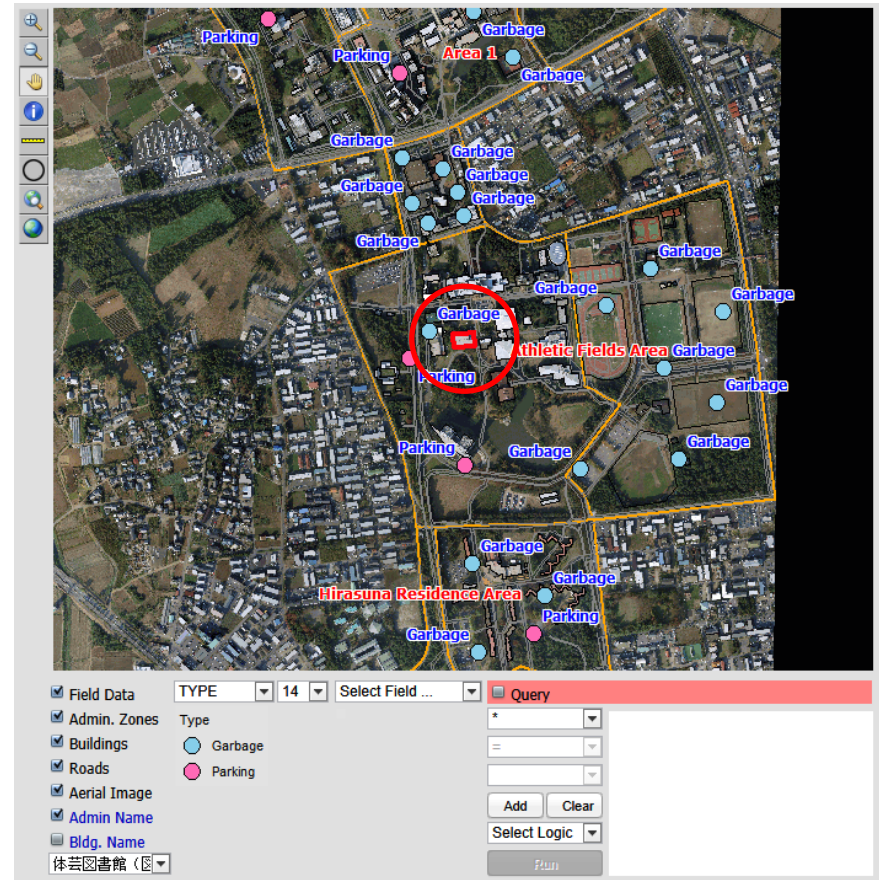
Labeling and Symbolizing Features

1 Map layer on-off
2 Select attribute field for symbolizing (Only Type and Subtype are available)
3 Change the symbol size (Point Size)
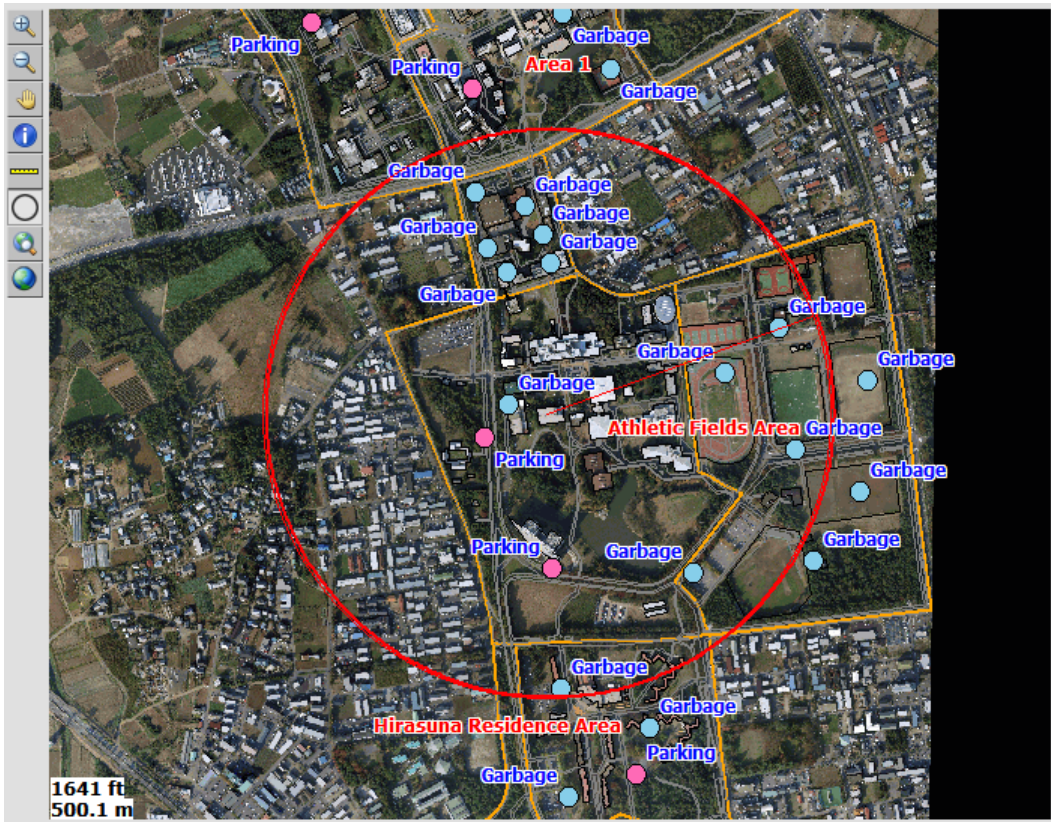
Search in a features
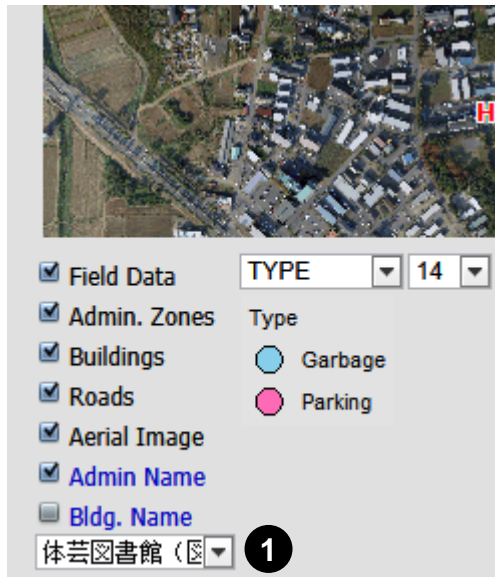
1

Search Building Name and show in a map. The search building will be displayed in a red polygon.
(Must turn on Building layer)

Search records in a features (Buffering)

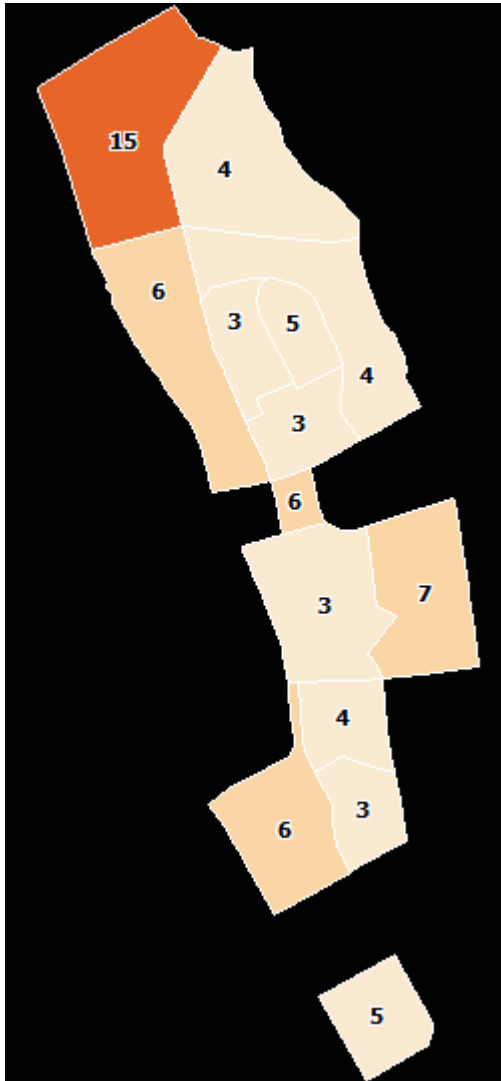**1** Click ⭕ Circle tool to draw a circle and find the records inside the circle
2 Search result will be shown in a text box
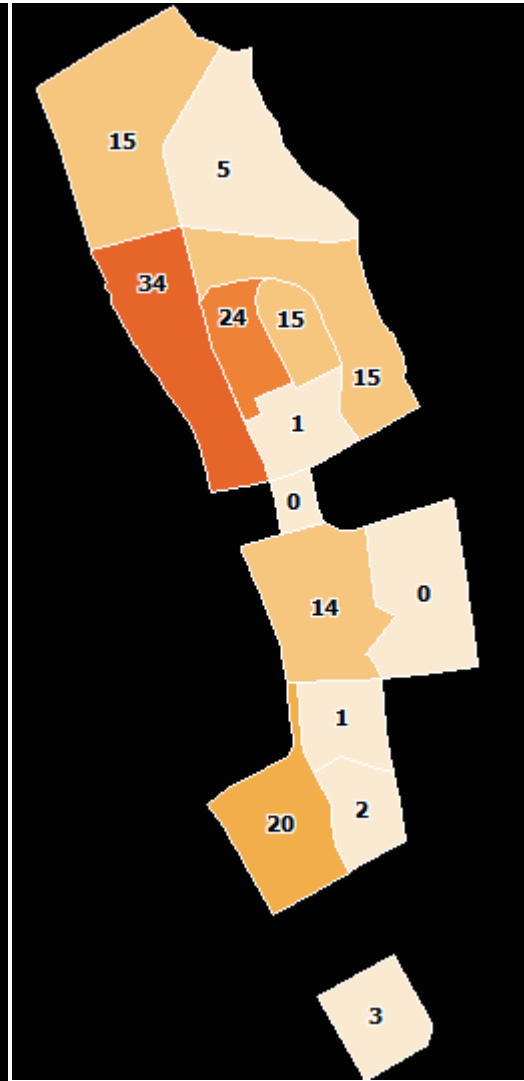
Thematic Mapping (Choropleth Mapping)
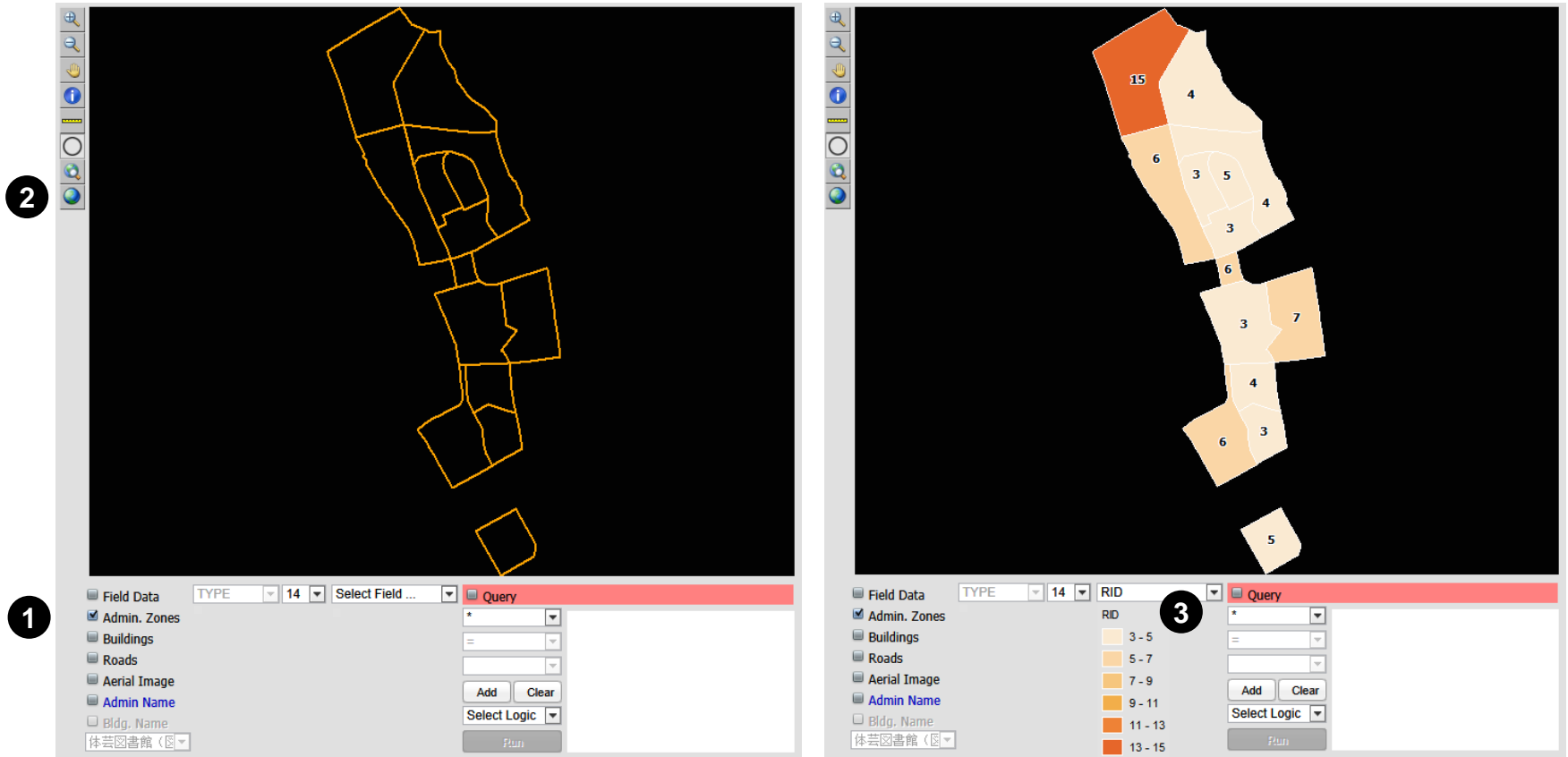
❶ Off all map layers except "**Admin. Zones**"
❷ Click 🌐 to zoom all map extent
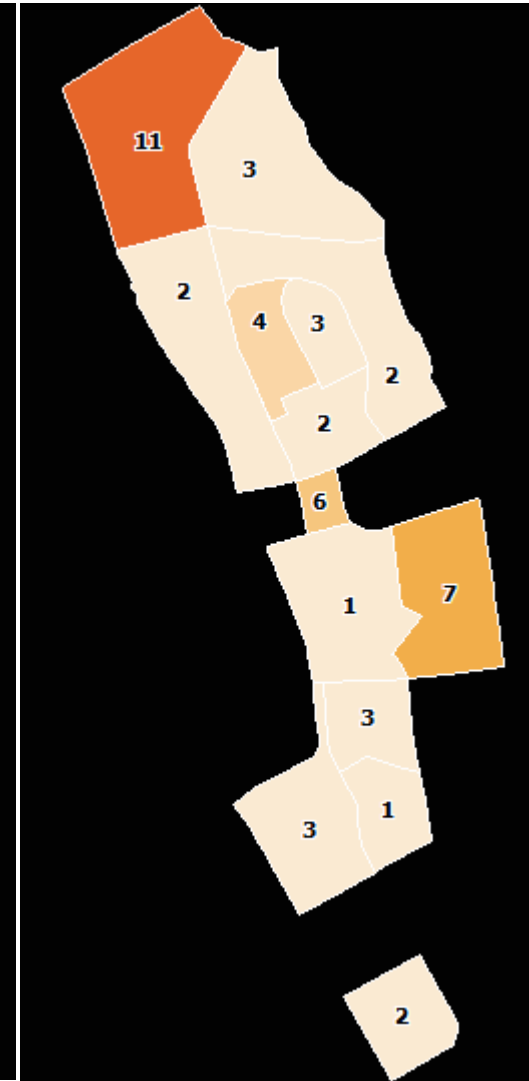❸ Select Attribute field for thematic values

Thematic Mapping (Choropleth Mapping)

Thematic map by total records
(* Note: Simulated data)

Thematic map by parking

Thematic map by garbage

Querying Attributes

1. Click "**Query**" Check Box to Start a Query Function
2. Select **Attribute Field** to query
3. Select **Condition**
4. Select **Attribute Value** to query
5. Click "**Add**" to build a continuous query string
6. Add **Logical Operator** for next query condition, Example:
   PNAME = 'john' **AND** SUBTYPE = 'Bicycle'
   Click **Clear** to clear the query string in a text box
7. Click **Run** to start a query process
8. See the query result in a map
   (The result will be highlighted by cyan color)

END OF DOCUMENT