GIS | opening the world to everyone

Tree Management Using GIS
GIS Applications for Tree Management
Buffalo, New York, Urban Tree Management Evolves from Surprise Storm

• "City of Trees," the city of Buffalo has maintained a complete urban forest inventory since 2001
  - 68,000 trees and 108,000 locations included in the tree inventory
  - includes the issuance and management of
    - annual trimming, planting, and removal contracts;
    - handling citizen complaints regarding street trees;
    - inspecting contractor work;
    - and inspecting and updating information on each individual street tree in the inventory

• "October 13, 2006, a historic lake-effect snowstorm
  - forest specialists and GIS professionals collaborated to develop a GIS-based tree management program to answer the urgent and comprehensive needs of the city resulting from the weather disaster.
The tree management Web-based GIS allowed full editable access to instantly update tree records and complaint information.
Detailed view of customized ASP Web forms allowing updates while out in the field.
"Buffering" helps you to display required facilities/ boundaries within a specified distance from selected feature.

**Procedures:**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Make the feature for searching visible (i.e., turn on the existing estates layer visible) e.g., existing estates block</td>
</tr>
<tr>
<td>Step 2</td>
<td>Input the desired distance for searching in the following box, e.g., 500 meters</td>
</tr>
<tr>
<td>Step 3</td>
<td>Select the units from the dropdown list, e.g., meters</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click the following button to select features</td>
</tr>
<tr>
<td>Step 5</td>
<td>Select the desired feature for searching</td>
</tr>
<tr>
<td>Step 6</td>
<td>A green zone will be generated from the selected estate within 500 meters</td>
</tr>
</tbody>
</table>
Mobile Mapping System with GIS for Tree Planting Planning

GIS

Geodatabase

360° Video
Demonstration

Mobile Mapping System with GIS for Tree Planting Planning
GIS Technology
Different GIS Platform for Tree Management

Lets you use geographic information everywhere

Desktop
- Professional GIS
- Free ArcGIS Explorer client

Server
- Services
- Applications

Mobile
- Knowledge Worker
- Field Data Collection

Online
- Platform
- Services
- Sharing
- Browsers

A Complete Integrated System
Desktop GIS
Making Desktop GIS easier and more productive
Desktop GIS *Author Data and Advanced Analysis*

- **Built-in Read and Write for HK Lands Dept Topographic Map Data**
  - Ad hoc GIS Tasks
    - Create, integrate and edit
    - Analyze and model
    - Map and visualize
  - Charting and Reporting
  - Productivity tools for GIS professionals

![Map of Midwest USA](image.png)

![Population in Midwest USA in 2004](image.png)

![Data and Advanced Analysis](image.png)
Demonstration

Using the GIS System to help on Tree Inspection
(Create the Map Document using Desktop GIS)
Rich Internet Applications (RIA)

New era of Web maps
Sophisticated Web Editing

[Image: Diagram showing an online crop reporter with options such as Edit Lot Information, Actions (Split, Merge), and an Attribute Editor for a pool permit application.]

Draw a line through the selected parcel to split it.
Mobile GIS
When Choosing your Mobile GIS Device…

Capabilities
- GPS
- Camera
- Range Finder
- Bluetooth

Connectivity
- Always connected
- Sometimes connected
- Offline

Form Factor
- Phone
- Handheld
- Tablet
- Laptop

Platforms
- Windows
- Windows Mobile
- Apple iOS
- Android

Addressing many use cases, across many domains…
GIS with GPS for Mobile Data Collection

- Data collection utilizing automated date and time stamps
- Forms with data validation - Reduction of errors in field data entry
- NO NEED transcribe handwritten field notes
- Use data capture devices
  - GPS, rangefinder, and camera
Demonstration

Using the GIS System to help on Tree Inspection
(With aid of ArcGIS Mobile and ArcGIS Server)
GIS on consumer devices - GIS Apps for Smartphones

- iPhone/iPad (iOS) available now
- Access shared maps
- Explore, update, and share

- API for Windows Phone
- API for Android (later this year)
Demonstration

Tree Print Campaign (樹印計劃)
www.treeprint.hk
Thank You!