Technical Affairs Department

Survey Section

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Why DLD uses AutoCAD & Microstation?

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Welcome to Dubai Land Department (DLD)

Technical Affairs Department
Old Surveying Techniques & Resurvey Sketch

- Traditional Way
- Time Consuming
- Loss of Accuracy
- Wastage of stationeries
**Digital Resurvey Sketch**

Community drawing is automatically selected based on:

The parcel number & Zoomed to that parcel location
Re-Survey Sketch Template

• Re-survey sketch template used for drawing the survey sketches

• Templates are saved in dgn file format
Final Re-Survey Sketch

Required parcel is extracted from the community map and inserted within the template to prepare the final re-survey sketch.
Amalgamation & Subdivision Process

Community drawing is automatically selected based on the parcel number & Zoomed to that parcel location.
Amalgamation & Sub-Division Final Sketches

Required parcel is extracted from the community map and inserted within the template to prepare the final amalgamation or sub-division sketches.
Surveying Instruments

Sokkia Set3C

Sokkia Set3100

Sokkia Electronic Field Book

Trimble GPS Rover
Surveying Software's

- 12D Model
- Terramodel
- Trimble Geomatics Office
- Microstation
- GIS
Surveyor’s Procedure in Downloading Data
Surveyor’s Procedure in Downloading Data
What is GIS?

A Geographic Information System (GIS) links locational (spatial) and database (tabular) information and enables a person to visualize patterns, relationships, and trends. This process gives an entirely new perspective to data analysis that cannot be seen in a table or list format. The five components of a GIS are listed below.

**HARDWARE**
The hardware is the computer and peripherals on which the GIS operates. Today, this could be a centralized computer server running the UNIX or Windows NT operating systems, a desktop PC, or an Apple Macintosh. The computer may operate in isolation or in a networked configuration.
- Computers
- Networks
- Peripheral Devices
- Printers
- Plotters
- Digitizers

**SOFTWARE**
GIS software provides the functions and tools users need to store, analyze, and display geographical information. The key software components are:
- GIS Software
- Database Software
- OS Software
- Network Software

**DATA**
One of the most important components of GIS is the data. It is absolutely essential that data be accurate. The following are different data types:
- Vector Data
- Raster Data
- Image Data
- Attribute Data

**PEOPLE**
GIS technology is clearly of limited value without people to manage the system and to develop plans for applying it. Users of GIS range from highly qualified technical specialists to planners, foresters, and market analysts who use GIS to help with their everyday work.
- Administrators
- Managers
- GIS Technicians
- Application Experts
- End Users
- Consumers

**METHODS**
Methods are well designed plans and application-specific business rules describing how technology is applied. This includes the following:
- Guidelines
- Specifications
- Standards
- Procedures
Where we can use GIS?

- Land Surveying
- Urban Planning
- Cartography
- Remote Sensing
- Utility Management
- Natural Resource Management
- Geography
- Emergency Management
- Navigation
- Localized search engines
Which products from GIS we are using?

• Desktop GIS
  - ArcInfo
  - ArcEditor
  - 3D Analyst
  - Data Interoperability

• Server GIS
  - ArcSDE
  - ArcIMS
Why DLD uses GIS?

• Saving Time
• Locate Lands
• Integrate with business DB (Oracle DB)
• Monitoring and Tracking DLD procedures to issue site Plans
• Field data collection
• Land Inspections
• maintenance and operations
Why DLD uses AutoCAD & Microstation?

• Old Data for communities are in Microstation format.

• We Check the drawing for Property (unit, Villa,..etc) in AutoCAD.
Normal Site Plan & Rent Site Plan
Subdivision Site Plan & Amalgamation Site Plan
Unit Site Plan
Villa Site Plan
Building Site Plan
Building Common Area Site Plan

• Sheet 1 of 6
Building Common Area Site Plan

• Sheet 2 of 6
Land Common Area Site Plan
Volumetric Site Plan
What is Job Tracking?

It's a Customized application. This System database was developed by using Oracle 10g and the interface was implemented by using ASP.NET & AJAX Technology.
Why we use Job Tracking?

• Save Time to issue Plans
• Tracking the Jobs
• Statistical Report within period of time
• Number of Jobs for each job type.
• Accepted, Incomplete, Completed Jobs
• Get complete information for each job (Property Information)
Job Work Flow

There are three scenarios to issue map according to procedure type:

**First Scenario:** If procedure type is Property Cut Off, Owners Cut Off, Delayed Property Cut Off

Customer Service Æ Chief draftsman Æ Draftsman Æ Chief Draftsman Æ Customer service

Second Scenario: If procedure type is Property Annexation, Property Annexation Pre-Registration, Delayed Property Annex

Customer Service Æ Surveyor Æ Draftsman Æ Chief Draftsman Æ Customer service

Third Scenario: other procedures type

Customer Service Æ Draftsman Æ Chief Draftsman Æ Customer service
**Job Tracking Functions**

We have six groups of users using job tracking from two departments.

<table>
<thead>
<tr>
<th>Department</th>
<th>Section</th>
<th>Group Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service</td>
<td>Registration</td>
<td>Counter</td>
</tr>
<tr>
<td></td>
<td>Customer Service</td>
<td>Counter</td>
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<td></td>
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<td>Transaction</td>
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<td>Technical Affairs</td>
<td>Plans</td>
<td>Chief Draftsman</td>
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<td></td>
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</tr>
<tr>
<td>Survey &amp; Engineering</td>
<td>Surveyor</td>
<td>Senior Management</td>
</tr>
</tbody>
</table>

Each group has set of privileges in the functions.
Main Functions in Job Tracking

- Accept Job
- Send Job
- Revoke Job
- Release Job
- New Job
- Modify Job
- Deliver Job
- Split Job
- Process in Arcmap
- Search to Accept
- Search Jobs
- Track Job
- Display Attached Files
- More (Job Details)
- Print Site Plan
- Reports
What is LD Site Plan?

It's a Customized application. This System database was developed by using Oracle 10g and ArcSDE and the interface was implemented by using VB.NET & ArcObjects.
Steps to issue Map:

1. Accept Job
2. Check the Documents
3. Process in Arcmap
4. Choose Layer to display in the Map
5. Set Scale
6. Check the Land Details
7. Fill Site Plan Details
8. Send Job
What is Dubai Parcel Locator?

It's a Customized application. This System database was developed by using Oracle 10g and ArcSDE and the interface was implemented by using ASP.NET & ArcIMS.
Why we use Dubai Parcel Locator?

- To Locate Lands in the Map using
- Dubai Land Department information (LD Number)
- Dubai Municipality Information (Parcel ID)
- Master Developer Information (Developer Land Number)
- Projects Name
- Owner Information
- Coordinates
- To Locate lands for certain DLD procedure within a distance or near to Landmark.
- For Lands Evaluation.
- To get statistical Report within period of time for:
  - Active Lands, Block Lands, Lands by Area
  - Each DLD procedures, Highest Repeated Transaction
- To Get information for each land (LD Number, Owner Name, ..etc).
- Print Maps
Main Functions in Dubai Parcel Locator

• Search by DM

• Search by LD

• Search by Developer Information

• Search by Owner Information

• Search by Coordinates
Buffer (to get all lands within a Distance or within a distance of landmark)

• Search for the land

• Click On buffer function

• Choose the criteria for the buffer (procedure type, dates).

• Click on the Lands
Eval Function to Evaluate the lands

• Search for the land
• Click On Eval function
• Choose the criteria for the Eval.
• Click the map
• Report will appear
RED Function to Evaluate the lands

Price is (+) or (-) 25% than market price

• Search for the land
• Click On RED function
• click the map
• Report will appear

Difference between RED & Eval Function

Land Price in RED Function = Greater than or less than Price in Eval Function about 25%
• **Reports**

• Click on Reports Function

• Choose report form report list

• Set the report criteria (Zone, community, Date, ..etc)

• Click Generate report

• Report will appear
• Print Maps & Email Maps
Issue Maps

Prepared by: Survey Section
GIS Team
Issue Map Contains 4 modules

- **Print Map**
  
  This module is the Interface of the application and from it we can send request and print maps.

- **Thread Lunch ArcMap**
  
  This Module takes all the request from table in the DB and execute LunchArcmap.exe

- **Lunch ArcMap**
  
  This Module Open the ArcMap application

- **Issue Map**
  
  This Module prepare the template and export it to image.
Advantages of issue Map

- Save Time
- Use only one license instead of many licenses
Print Map Module

There are many ways to get Unit Information:

1- By Unit Details
   a- By LD Information
      1- Choose Community Name
      2- Enter Land No. & Sub No.
      3- Press on “i” Button to get buildings
      4- Select Building Name from Combo box
      5- Enter Unit No.
      6- Press on “Issue Map” button
      7- When “Print Map” Enables Press on it.
Print Map Module

1- By Unit Details

a- By Developer Land No.
   1- Enter Developer Land No.
   2- Press on “i” Button to get buildings.
   3- Select Building Name from Combo box
   4- Enter Unit No.
   5- Press on “Issue Map” button
   6- When “Print Map” Enables Press on it.
Print Map Module

1- By Unit Details
   a- By Building Name.
      1- Enter Building Name or .
      2- Press on “i” Button to get buildings.
      3- Select Building Name from Combo box
      4- Enter Unit No.
      5- Press on “Issue Map” button
      6- When “Print Map” Enables Press on it
Print Map Module

2- By Procedure Information

a- Select Procedure Type from Combo box.
b- Enter Procedure Year in the Textbox.
c- Enter Procedure Number in the Textbox.
d- Press on “Issue Map” button.
e- When “Print Map” Enables Press on it.
Print Map Module

Issued Map
Thread Lunch ArcMap (ArcMap Service Management Console)

- Enter User Name & Password
- Choose the Data Source
- Press On Ok Button to open Connection
- It minimize to Tray then double click on it.
- Press on Start button in order to issuing Maps