PT-MapLink™

USER MANUAL

A Geographic Information System (GIS)
for non-specialist users

Version 3.03 and higher

© Pear Technology Services Ltd. 2004-2005
Unit 31, Broadmarsh Business Centre, Harts Farm Way, Havant. Hants. UK. PO9 1HS
Tel: 023 9249 9689 Fax: 023 9247 8425
info@peartechnology.co.uk
Web:www.peartechnology.co.uk

CONTENTS

CONTENTS **3**

1. COPYRIGHT AND LICENSING **4**

ORDNANCE SURVEY COPYRIGHT 4
OTHER SOFTWARE 4

2. OVERVIEW **5**

2.1 TYPICAL APPLICATIONS: 5

3. INSTALLATION **6**

3.1 SYSTEM REQUIREMENTS 6
3.2 INSTALLATION 6
3.3 REGISTRATION 6
3.4 DE-INSTALLATION 6
3.5 HELP 6

4. TUTORIAL **7**

4.1 OPENING A MAPLINK 7
4.2 MAP VIEW 8
4.3 REPORTS 9
4.4 SHOW DATA FACILITY 11
4.5 PRINTING THE MAP 12
4.6 WORKING WITH THE MAP 13
4.7 EDITING THE MAPLINK 15
4.8 FIND OBJECTS 16

5. CREATING A NEW MAPLINK **17**

5.1 PREPARING THE MAP 17
5.2 PREPARING THE DATA SOURCE 17
5.3 CREATE THE MAPLINK 18
5.2 CREATING A MAPLINK THAT LINKS TO POLYGONS 22

6. EDITING/DELETING MAPLINKS **25**

7. LINKING TO PICTURES **25**

8. COLOURING A MAP **26**

INDEX **28**

1. COPYRIGHT AND LICENSING

This software is protected by both United Kingdom copyright law and international copyright treaty provisions. Therefore, you must treat this software just like a book, except that you may copy it onto a computer to be used and you may make archival copies of the software for the sole purpose of back-up and protecting your investment from loss.

By saying "just like a book", Pear Technology Services Ltd. mean that the software may be used by any number of people and may be freely moved from one location to another, so long as there is no possibility of it being used at one location while it is being used at another. Just like a book that cannot be read by two different people in two different places at the same time, the software cannot be used by two different people in two different places at the same time.

© Copyright 2004 Pear Technology Services Limited.

Ordnance Survey Copyright

The Ordnance Survey digital map data incorporated with this software are protected by Crown Copyright. They can only be used as demonstration/evaluation data with PT-MapLink and may not be copied, resold or distributed in any other form, without the prior written permission of Ordnance Survey.

All extracts of Land-Line Data® used in this manual are reproduced with the permission of the Controller of HMSO. © Crown Copyright 2004. All rights reserved.

Other Software

Microsoft Access, Excel, Sequel Server are registered trademarks of Microsoft Corporation. MAPS 7.0 is the registered trademark of Grafia sp.o.o. in Poland. All acknowledgements made.

This product uses the ESSMAP.OCX by Grafia sp.o.o.. Warsaw, Poland. The Whisky demo data and map is also supplied courtesy of Grafia sp.o.o.

2. OVERVIEW

MapLink is a system that lets link features on your map to related records held in Excel, Access, SQL Server or simple CSV text files and by linking your information with a map, you can create very easily a powerful and versatile management aid.

.For example, you can click on buildings or trees and immediately see the relevant records pop up on the screen. Links can also be made to images and to Word or PDF documents. You can circle a number of objects on the map and immediately view a report about those objects. This report can be edited and printed. MapLink can also be used as a "finder" - for example you could highlight on the map all those trees requiring urgent attention or all 3 bedroom apartments from a complete property set.

The principle is simple – using Pear Technology's MAPS or PT-Mapper software, you assign unique identifiers to the features on the map which need to be linked to data. In the data table, one column must have these same unique identifiers since it is these identifiers that provide the link between map and data. Some rules apply on the format of the spreadsheet or data table.

If you have a custom-designed database, it is possible to link it to a map. PT-MapLink contains a module which enables exchange of information between your data source and a map in both directions. So if users click on a map feature, for example a building, they can be immediately taken to the appropriate records within your database.

2.1 Typical applications:

Tree Management:
By showing individual tree locations on a map, you can quickly highlight those due for inspection, locate a given tree or trees, highlight one species vs another etc. You can produce a management report from the map, update your records from the map and print out the map at any scale on any size paper. Try the Trees example.

Property Management:
Clicking on a building on the map can immediately show who the tenant is, when the building was last maintained, when the rent review is due etc. Alternatively, you could choose to highlight on the map those properties for which rent is overdue and print a summary report. Or, if you are about to make a visit to the property, you could print out a map of that area at any scale and on any size paper. Try the Village example.

Customer Relationship Management:
With the optional Postcode to Grid Reference converter, you can show your customer locations on a map, plot a route, see which customers are within 20 miles of your route and print out a report listing those customers or prospects. Or you could highlight on the map the locations of those customers who have purchased a particular product and again, print out a report. Try the Football Stadia example.

Caravan Park Management:
Create a map of your caravan park using PT-Mapper and then use PT-Maplink to display occupancy details, highlight vacant plots, print report of vacancies, rents due etc.

Forestry Management:
Click on a compartment and immediately see your records for that compartment. Or choose to show on the map all the sub-compartments due for thinning this year and print the map.

3. INSTALLATION

3.1 System Requirements

Pentium 3 processor or faster, 2GB RAM, 100MB free hard drive space, good quality mouse (optical recommended for mapping work), Graphics card with a minimum of 64MB of on-board memory.

3.2 Installation

Insert the CD, wait a few seconds and PT-MapLink will automatically start to install, then follow the on-screen instructions. A short-cut icon will automatically be placed on your Desktop.

Note: PT-MapLink requires several pre-requisites to be installed, including Internet Explorer 5.1 or later. The installation process will check that these are present and if not, will automatically install them. Depending on the pre-requisites needed, installation may take up to 15 minutes.

3.3 Registration

To enable users to try out PT-MapLink before committing themselves to a purchase, the programme comes with a 14-day timelock on it. To continue using PT-MapLink beyond this time, a Registration Unlock Key is required which will be specific to each computer. The Registration Unlock Key can be obtained from your supplier, usually on receipt of payment.

3.4 De-Installation

From the Desktop, click on Start, Settings, Control Panel, Add/Remove Programs. Click on PT-MapLink and then on the Remove button. De-installation will be thorough and will not impact other programmes. If, as part of the installation process, it was necessary to update levels of Microsoft software such as Internet Explorer, these new levels will remain active on your computer.

3.5 Help

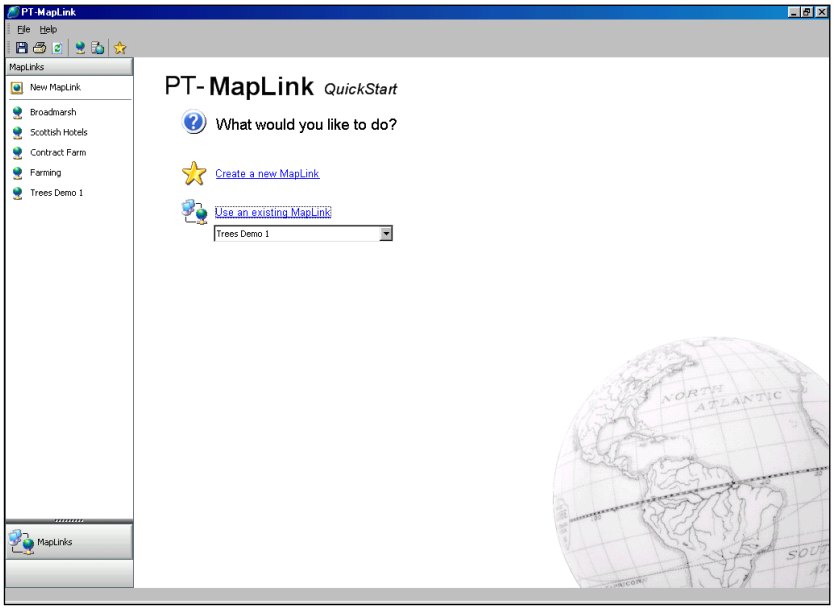
Please contact Pear Technology by telephone, fax or email. Contact details are:
Helpline Tel 023 9249 9689
Fax: 023 9247 8425
Email: Info@peartechnology.co.uk

4. TUTORIAL

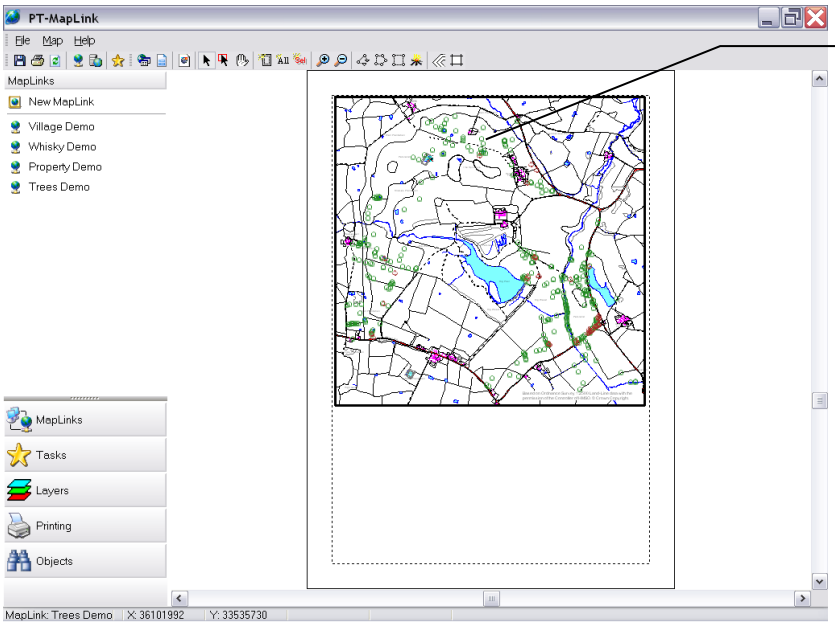
The program contains sample maps and sample data sources with links already made between them. We suggest you work your way through the Tutorial first before creating your own links (Section 5)

4.1 Opening a MapLink

Start MapLink from the short-cut icon on the Desktop to get this screen:



Select Trees Demo from the drop-down list and click on Use an Existing MapLink. The link will open with the map displayed. In this case, the tree symbols were placed by PT-MapLink as overlays on the specified map from co-ordinates in the spreadsheet.



Problem?
If tree symbols don't appear as shown here, click on the Tasks button, then select Change Symbols and de-select these check boxes:

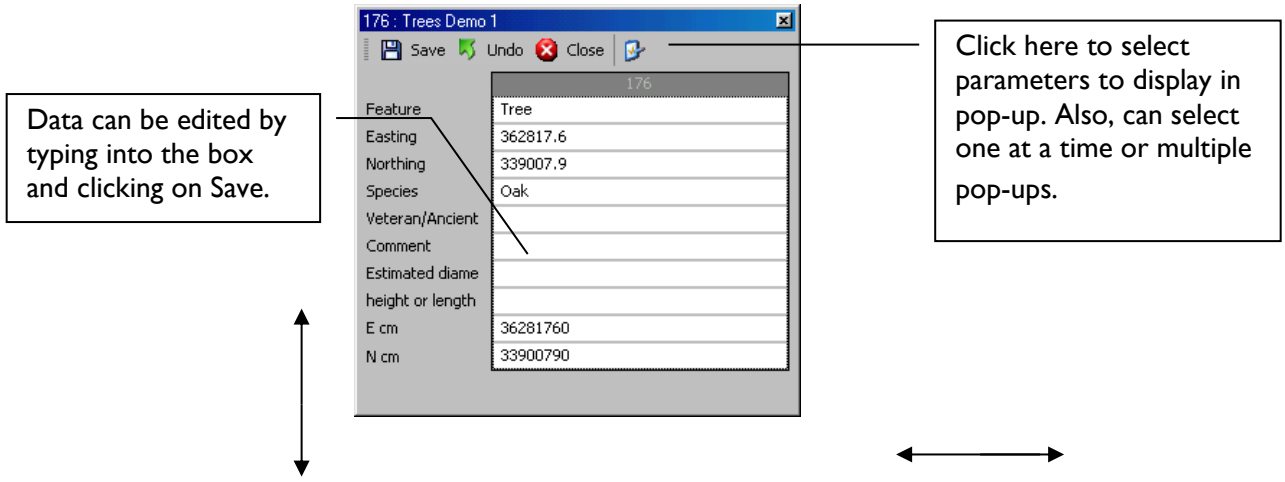
Flash when highlighted
Display Primary ID's
Display highlighted markers only

4.2 Map View

In the map above, tree symbols (green) have been overlaid onto the base map at locations given by co-ordinates in the worksheet called "Trees" in the Trees Demo Excel file. Tree symbols (brown) have also been added based on co-ordinates given in the "Stumps" worksheet of the same file. Therefore in this example, one map has been linked to two data sources.

4.2.1 Single Selection

Click on any tree and the records for that tree will show as a pop-up on the map:



The width and depth of the pop-up can be adjusted by dragging the edges of both the internal and the external box.

4.2.2 Edit Data from Map

Type into the relevant box, click Save and the record will be automatically updated in your source file.

4.2.3 Multiple Selection

Select the Highlighter tool and click on several trees so that they are all selected.
or

Select the Highlighter tool and drag a rectangle around an area of map to highlight all those trees within the rectangle.
or

Select the Draw polygon tool and draw a polygon around a group of trees. Now click on the Enclosed tool to select all those within the polygon.

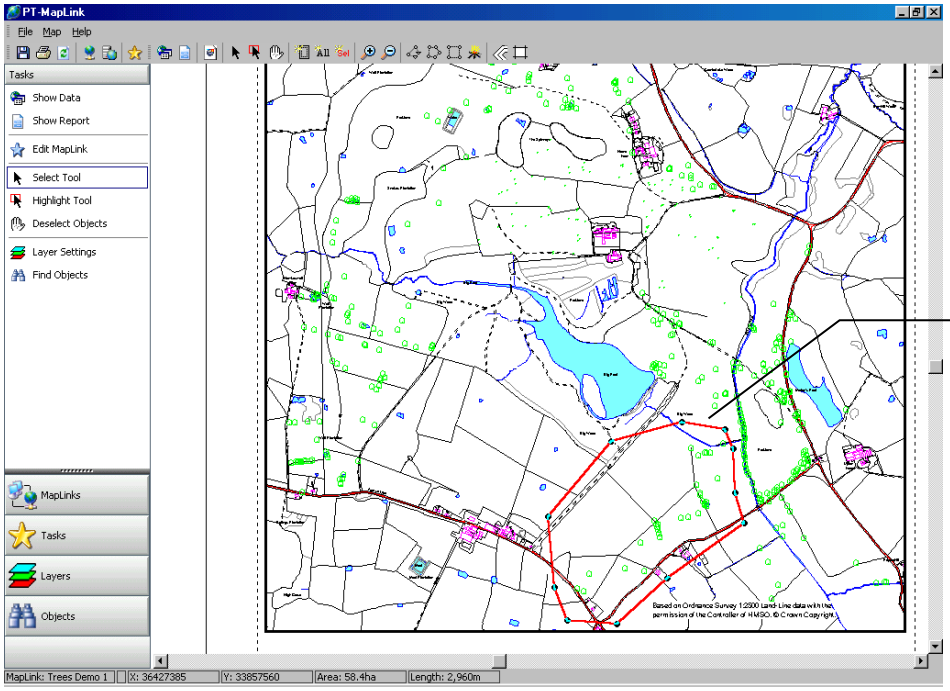
4.2.4 De-selection

Click on the De-Select tool to de-select all objects and set the map back to "neutral".

4.3 Reports

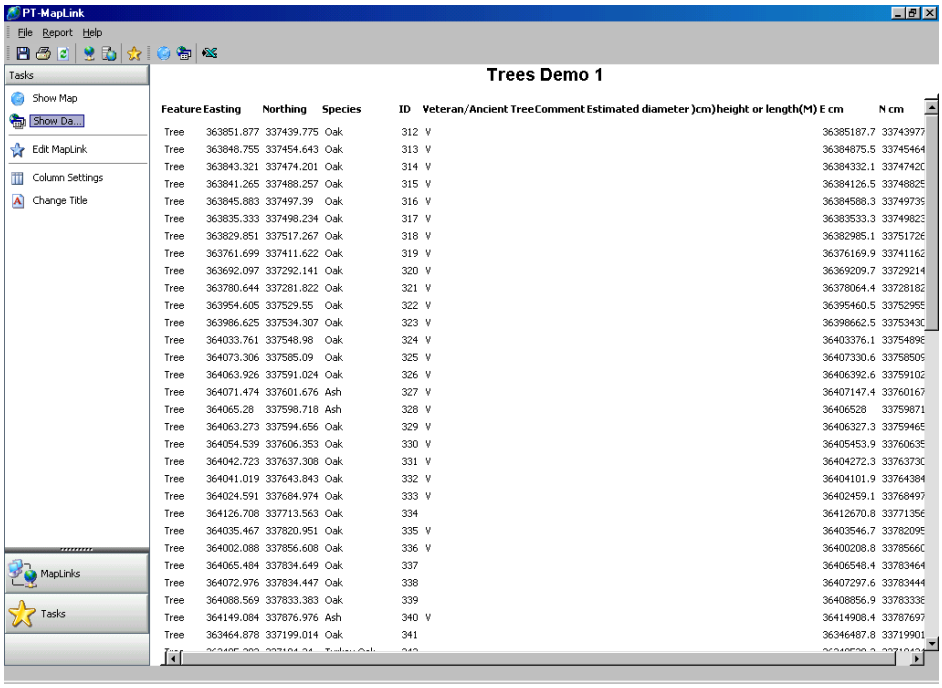
4.3.1 Creating a Report

Select the Draw Polygon tool and select a group of trees by drawing a polygon around them and clicking on the Enclosed tool.

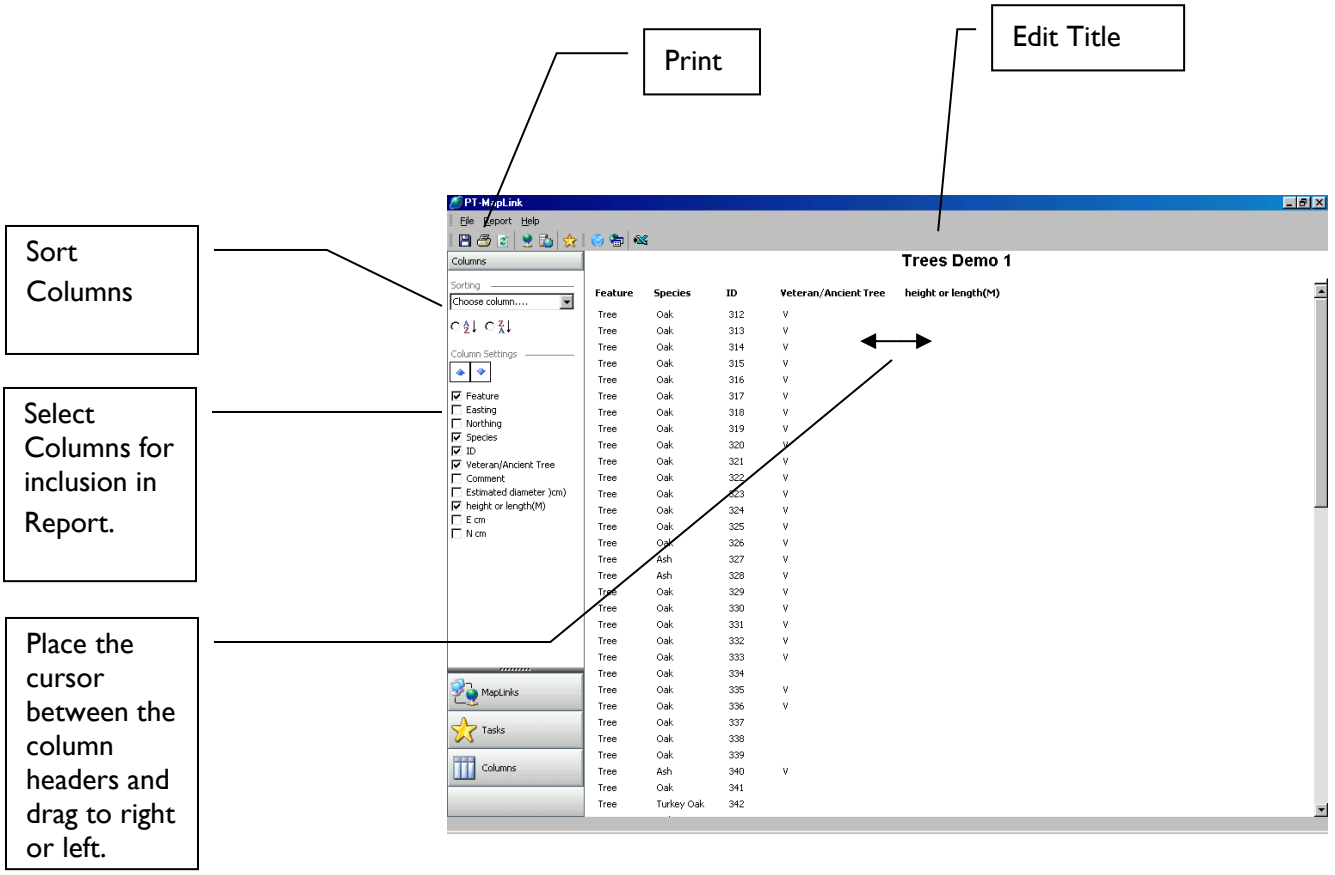


Polygon enclosing trees of interest.

Now click on Show Report at the top of the left hand panel to get this:



The report can be easily edited:



Reports can be quickly and easily modified to suit requirements.

4.3.2 Printing Reports

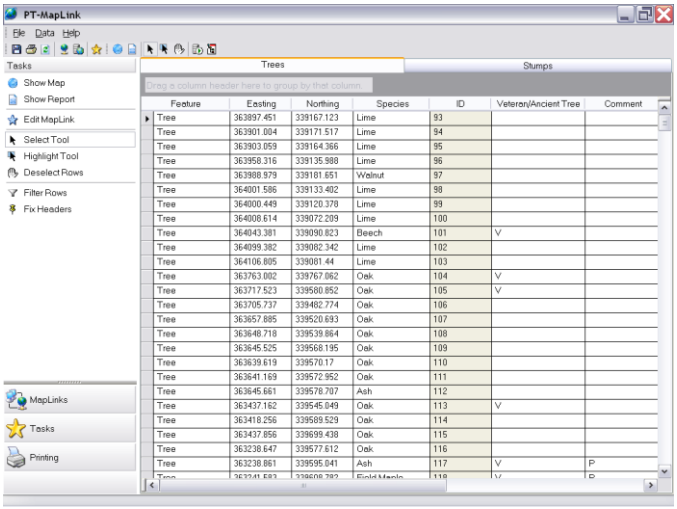
Click on the Print tool to change paper layout, paper size, and for Print Preview. One, two, four or six pages per sheet can be chosen.

Return to the map by selecting Tasks, Show Map.

4.4 Show Data Facility

PT-MapLink goes to the data source specified during the MapLink creation process and brings the data into an intermediate table. This table can be sorted, reports generated, entries highlighted and displayed on the map.

With the Trees Demo MapLink open and the map displayed in Tasks mode i.e. the entry point on opening the MapLink, click on the Show Data bar in the left hand panel to get this screen:



4.4.1 Filter Rows

For more advanced use, data can be filtered e.g. find all the trees with a height equal to or greater than 25m.

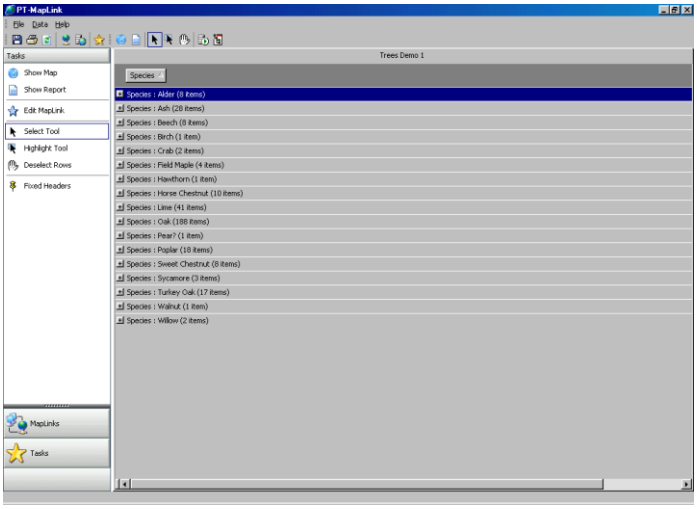
Click on the Filter Rows button and a Filter icon will appear at the top of each column. Left click on the column filter icon to get the menu.

4.4.2 Fix Headers

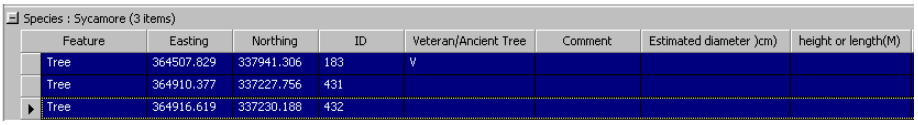
To facilitate viewing data spread over a large number of columns, a column view can be fixed (comparable to Freeze Panes in Excel). Select the Fix Headers tool and a push-pin icon will appear at the top of each column. Click on the column Fix Header icon and the icon will rotate and that column will be permanently visible.

4.4.3 Sort Data

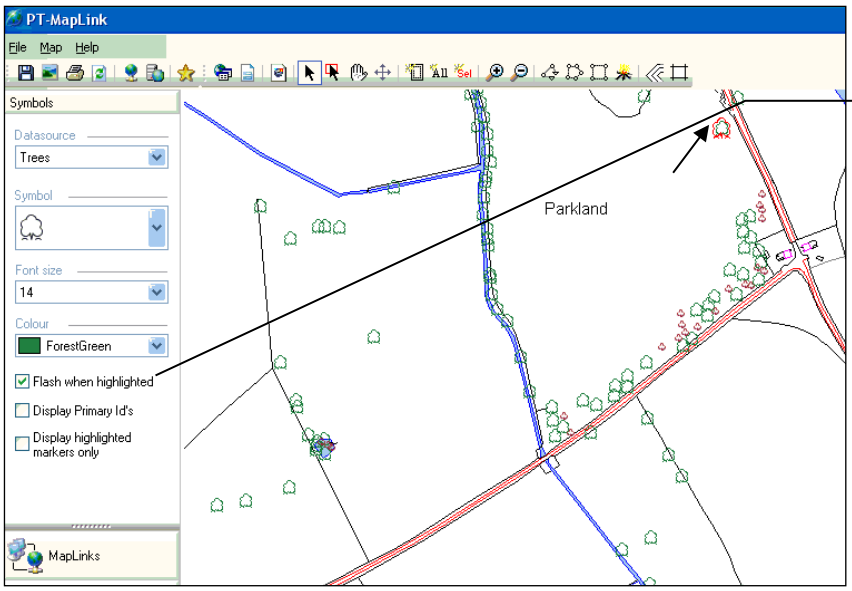
Click on the column header Species and drag to the space immediately above the table. The data will now be sorted by Species:



Let's find out where the 3 Sycamore trees are. Click on the + for Sycamores to expand that part of the list.



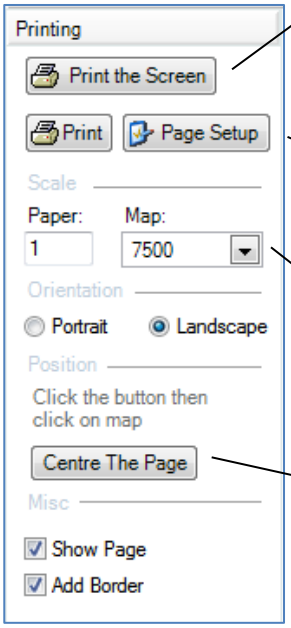
Highlight each of the 3 rows by clicking on the Row Selector button for each row on the left hand side then click on the Show Map button to return to the map. The 3 Sycamore trees will be highlighted in red:



Check these boxes to change the way the symbols are presented on the map. Switching on the Flash facility can make it easier to locate markers that are hidden within many.

4.5 Printing the Map

The whole map or the current view can be printed. Click on the Print tool in the tool icons at the top left of the screen to get the Printing controls:



Do a quick print of visible area, with any pop-up visible.

Change paper size, margins and scale here.

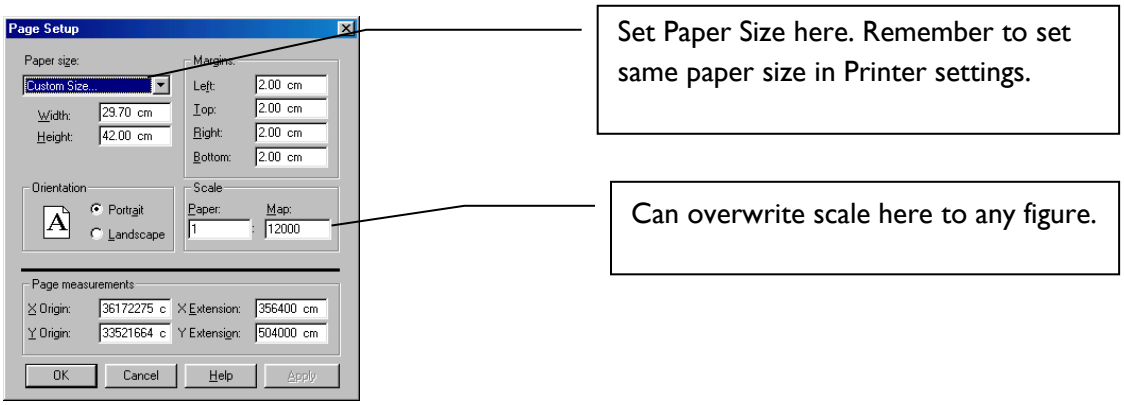
Choose scale here, but use Page Set Up if desired scale is not available in list.

Click here, then position cursor on map where centre of page is required and click. Check the Add Border box if frame required.

4.5.1 Printing Sequence

To use the same paper size as the master map, simply select the desired scale from the drop-down list in the Print panel.

If you require a different paper size and/or scale to those available in the drop-down list, click on Page Set Up to get the screen below and set the paper size and scale to the desired settings.



Click on the Centre Page button in the Print panel and then click on the map where you want the centre of the page to be. Fine adjust by repeated use of the Centre Page button.

Check the "Add Border" box in the print panel if you wish to have a frame outlining your map.

Click on the Print button in the Print panel. If you have changed the paper size, select Preferences/Properties (depending on printer model) and ensure that the printer is set for the required size of paper. Then print.

4.6 Working with the Map

4.6.1 Map Editing

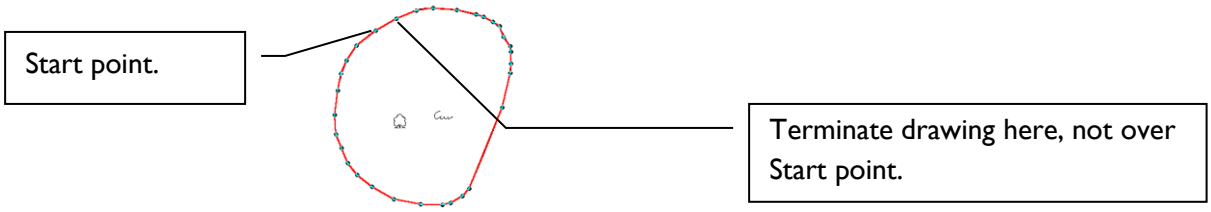
IMPORTANT: PT-MapLink is primarily a map viewer and it is not possible to edit, delete or displace the basic map. These functions have to be carried out using MAPS 7.0 or PT-Mapper.

However, it is possible to add lines, polygons and text to a map and to then save the map. PT-MapLink will automatically create new layers for these features so that they are easily identifiable when you return to using MAPS 7.0 or PT-Mapper.

You can switch to your map editor software by clicking on the Edit Map tool . If you do make changes whilst using PT-MapLink, it is essential that you save the map under exactly the same name. On returning to MapLink, you will have to switch to an alternative MapLink then back again in order to pick up the modified map.

4.6.2 Measuring areas

Select the Draw Polygon tool , zoom in around the area of interest and trace around the boundary. Remember: to draw a polygon, single click to start drawing, single left click for each change in direction and fast left double-click to terminate drawing. Always terminate the drawing operation at a point before you reach the start, not on the starting point itself. Right click to switch the Draw tool off.



The area will be displayed on the Status Bar at the bottom of the map screen.

Problem?
Status Bar obscured by Windows Task Bar? If so, minimise PT-MapLink, then maximise it again.

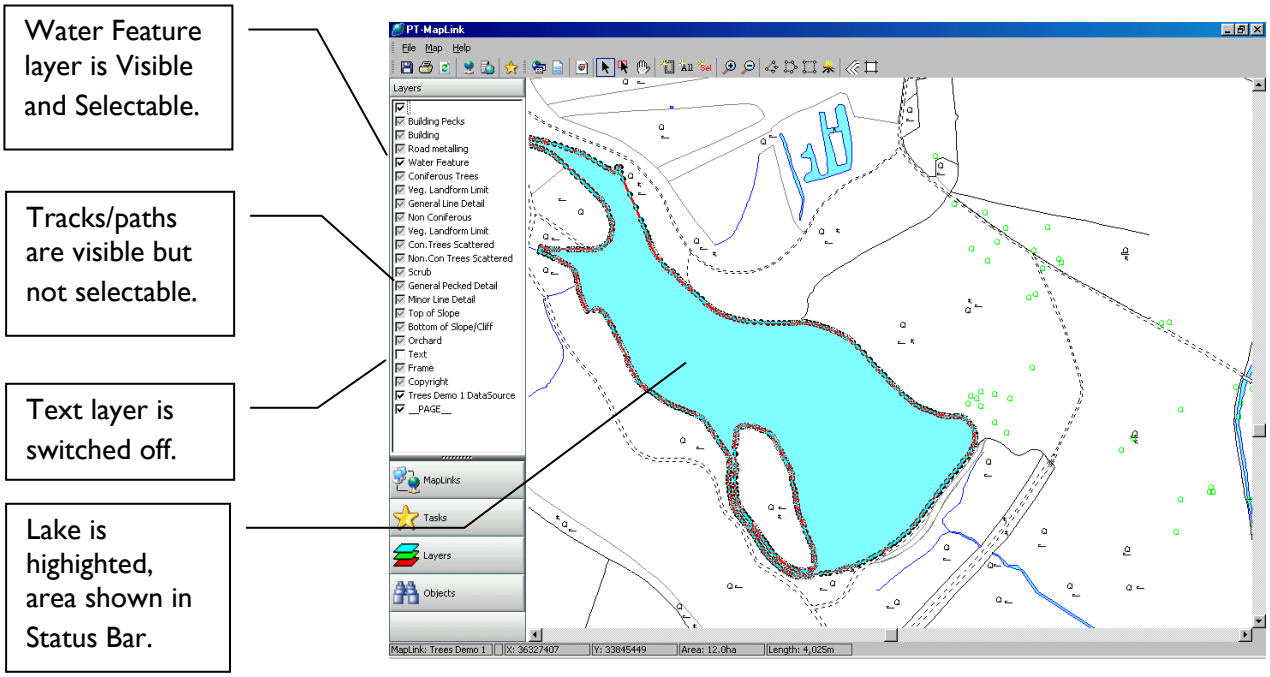
4.6.3 Measuring Distance

Use the Draw Line tool , single click to start drawing, single left click for each change in direction and fast left double-click to terminate drawing. The distance will be shown on the Status Bar at the bottom of the screen. Right click to switch the Draw tool off.

Problem?
Status Bar obscured by Windows Task Bar? If so, minimise PT-MapLink, then maximise it again.

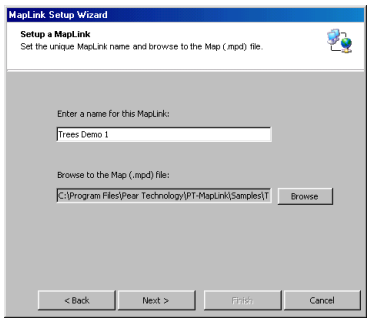
4.6.4 Map Layers

Click on the Layers mode in the left hand panel and a list of all the map layers will be displayed. Although you cannot edit objects on the map, you can switch layers on/off and make them selectable or not.

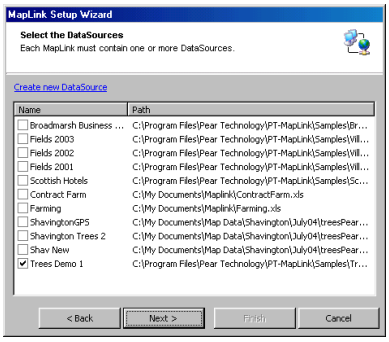


4.7 Editing the MapLink

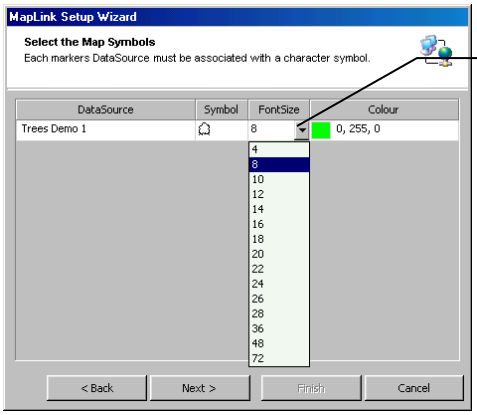
You can change the MapLink at any time – for example you may want to change the data source, link to a different map or change the size or colour of the symbols on the map. To Edit a MapLink, ensure you are in Tasks mode and click on "Edit MapLink" to get this screen:



Here you can change the MapLink name or the linked map. Click Next:

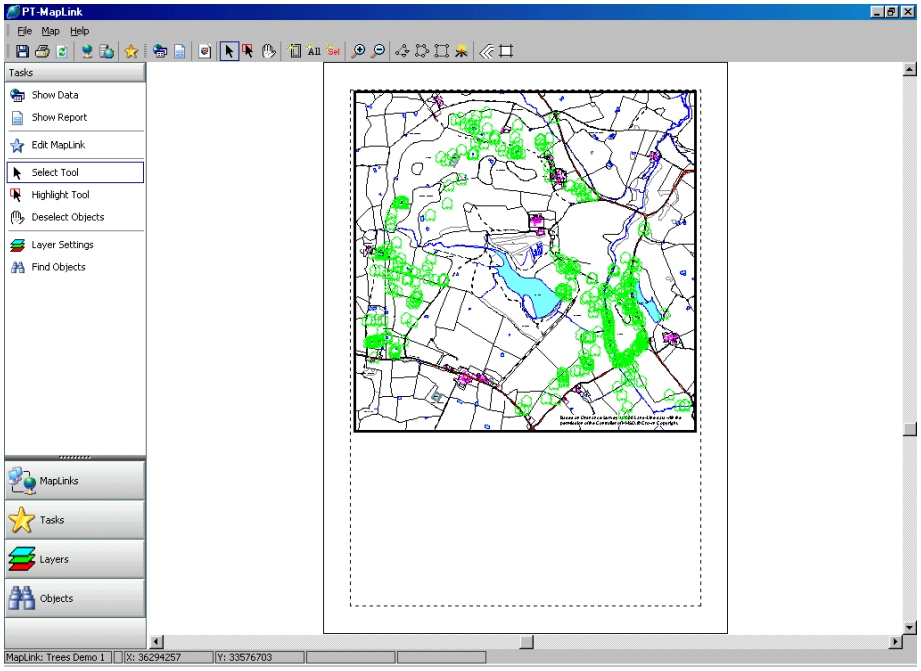


Here you can select a different Data Source or you can create a new one (see Section 5 for creating a new MapLink). In this example, we will keep the same Data Source. Click Next:



Click on the Symbol, Font Size or Colour cells to change a parameter.

In this case, we will change the Font Size from 8 to 16. Click on Next, then Finish to return to the map. You will notice that the Tree symbols are now much larger when looking at the whole screen:



4.8 Find Objects

When a map or a MapLink is created, each object or polygon on the map that relates to the Data Source must have a unique identifier. The identifier must also occur in the Data Source since it is through this that the link between the map and the data is created.

There is a useful "Find Object" facility in PT-MapLink. In Tasks mode, click on the Find Objects icon in the left hand panel and a list of all the Identifiers will appear. Click on an Identifier and that object will appear highlighted, centrally on the screen.

5. CREATING A NEW MAPLINK

5.1 Preparing the Map

5.1.1 Map Source
The maps used with PT-MapLink must have been prepared or saved in MAPS 7.0 or PT-Mapper software.

5.1.2 ID's
Polygons such as buildings, fields, woodland compartments, or any object which has an area, must be assigned an ID. If you are unsure how to do this, please consult your MAPS 7.0 or PT-Mapper User Guide – you will find that it is simple to do and takes very little time.

5.2 Preparing the Data Source

5.2.1 Data Sources
The data to link to your map can be an Excel spreadsheet, Access database table or Comma Separated Variable (.csv) text file.

5.2.2 ID's
One column in the table must contain the ID that relates to an object on the map. It is this ID which enables the MapLink to be created.

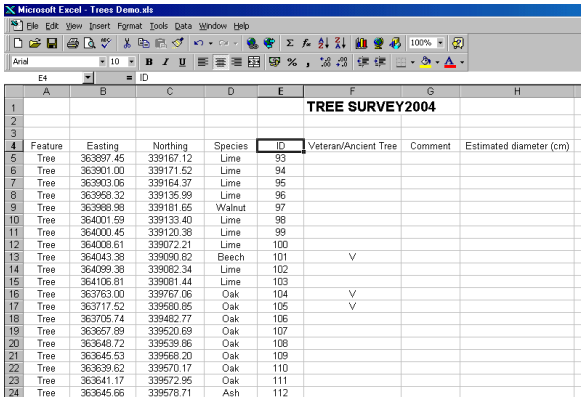
5.2.3 Co-ordinates
If you wish to place markers on the map relating to the positions of clients, trees, buildings, streetlamps etc., the data must contain full easting and northing coordinates in separate columns or text fields. These coordinates must match those of the map – in the example below, the Eastings and Northings columns were multiplied by 100 to create coordinates in centimetres rather than metres.

5.2.3 Linking to Pictures
If you wish to link objects on the map to digital photographs or other images, Images, linking tothere must be a column in the spreadsheet called, for example, Pictures. MapLink will populate the cells of this column with the file location/path for the picture.

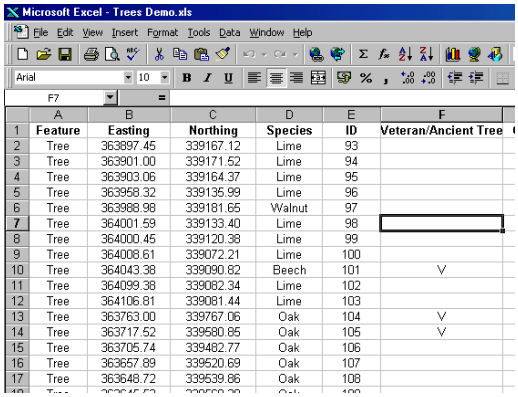
5.2.3 Comma Separated Variable (CSV) File Rules
Broadly the CSV file rules are the same as for Excel files, described below, however there is an extra rule about using mixed string and number data types in columns. If this is needed then use quotes around all entries in the effected column, for example:

```
TheID,TheData
"1",Data for item one
"2",Data for item 2
"2A",Data for item 2A
```

5.2.3 Excel Rules
1. Column Headers should not have spaces between words, or use grammatical characters such as , .) (: : - etc.
2. Worksheet names must not have spaces included.
3. Avoid having columns with no header.
4. In Excel spreadsheets, the column headers must be the first row:



WRONG

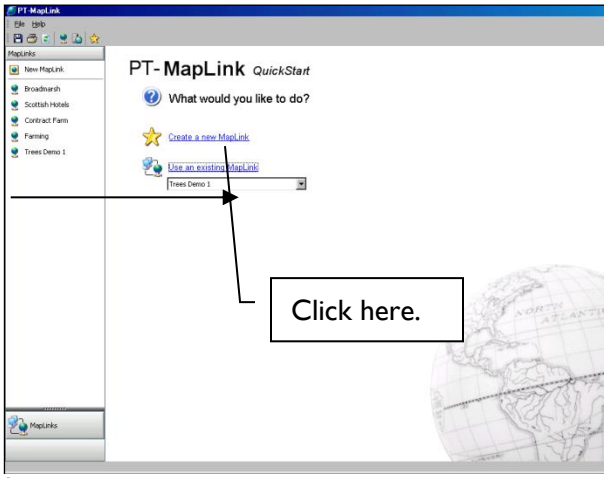


RIGHT

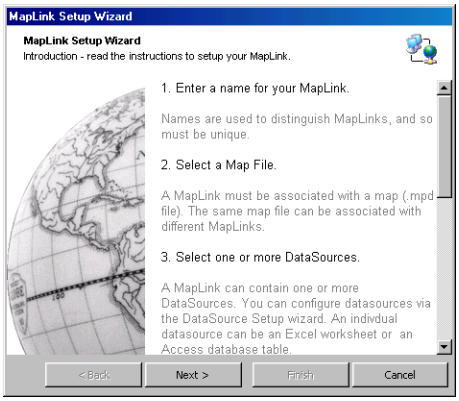
If the lack of top headers is a problem, use Page Set Up and use the Headers/Footers.

5.3 Create the MapLink

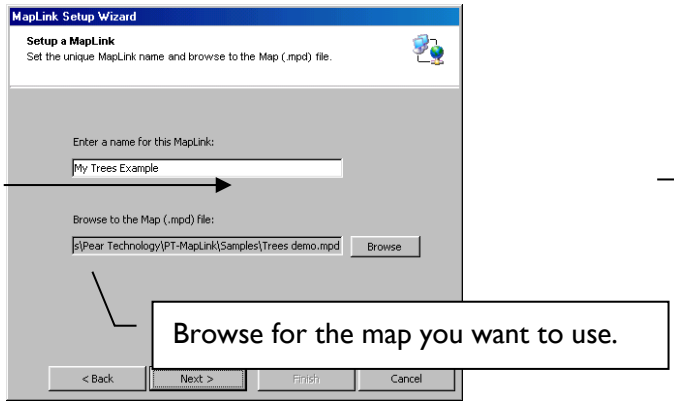
Start PT-MapLink to get this screen:



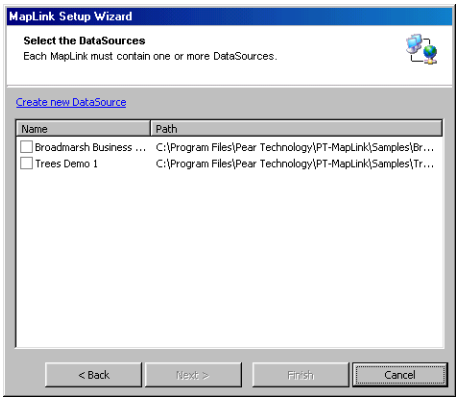
1.



2.

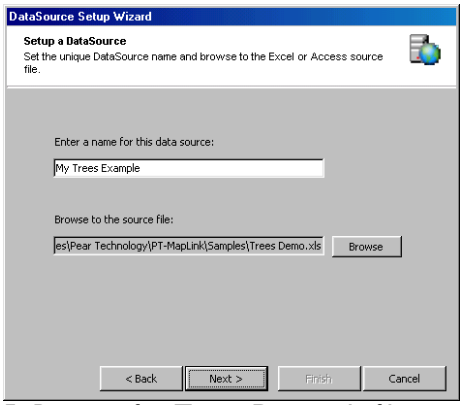


3. Specify map

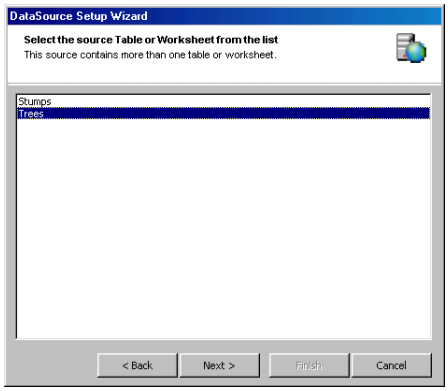


4. Click on Create New DataSource.

In this example, we will use the same data source and map that were used in the Tutorial (Section 4).



5. Browse for Trees Demo.xls file.



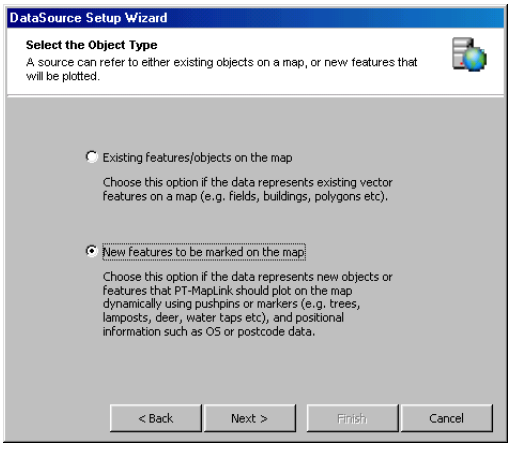
6. Select the Trees worksheet.

In this example, browse for the Trees Demo.xls file in the C:\Program Files\Pear Technology\PT-MapLink \Samples folder. This Excel spreadsheet has two worksheets, so we have to next select which one we want:

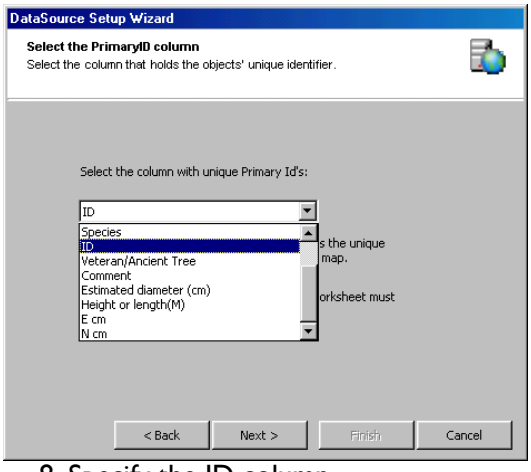
IMPORTANT: only one Datasource can be specified at a time, but a map can be linked with multiple Datasources.

We now choose the type of link required:

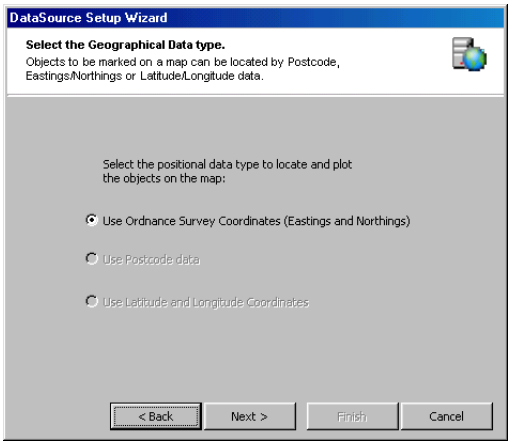
The first option below is for where polygons with ID's already exist on the map. In the second option, PT-MapLink will place markers on the map at the coordinates specified by the eastings and northings columns in the Datasource.



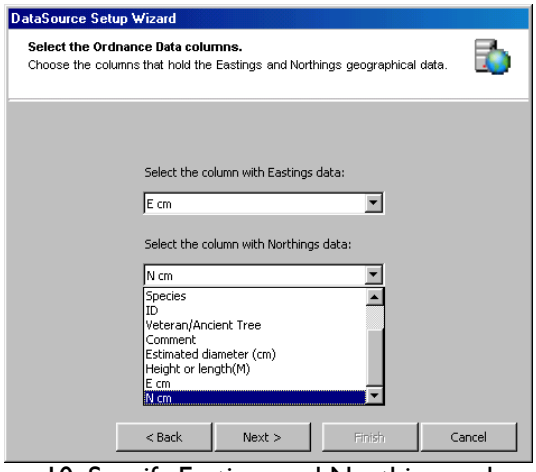
7. Select second option.



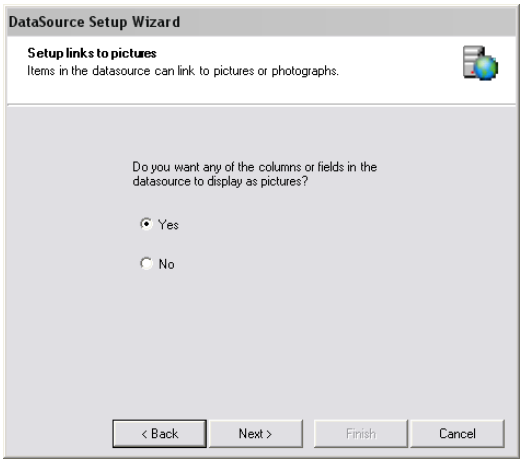
8. Specify the ID column.



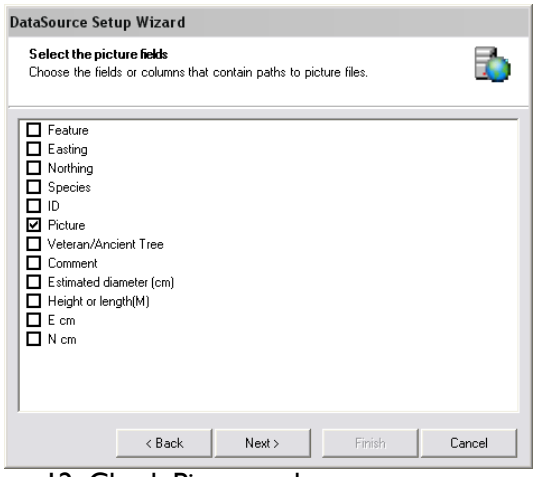
9. Specify the Coordinate system.



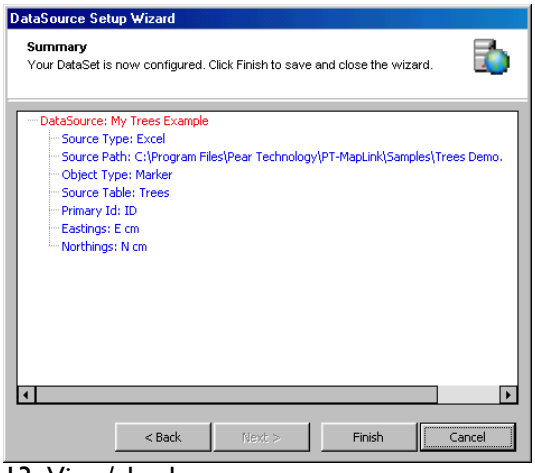
10. Specify Eastings and Northings cols.



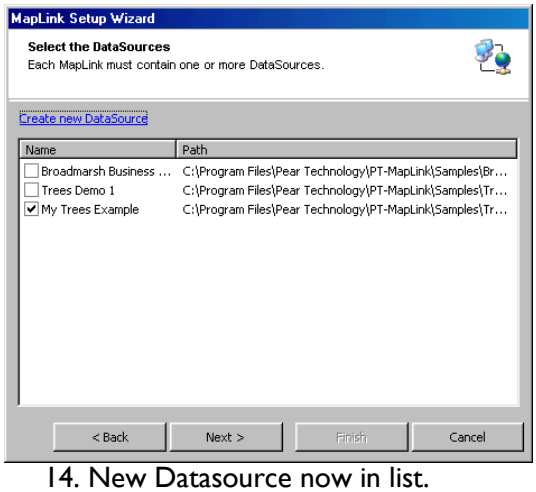
11. Enable link to pictures



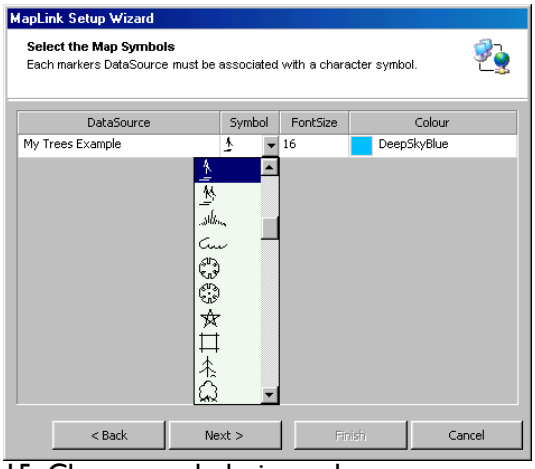
12. Check Picture column



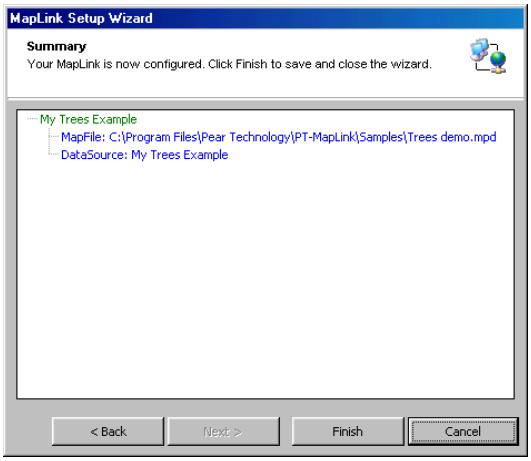
13. View/check summary.



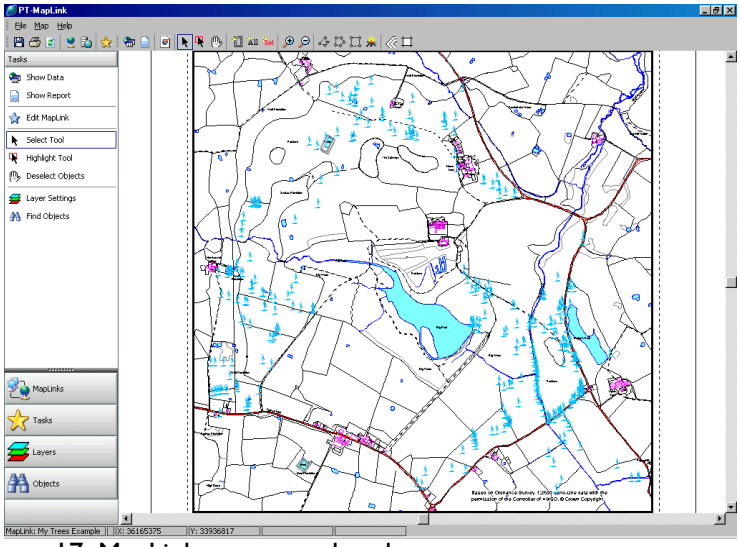
14. New Datasource now in list.



15. Choose symbol, size, colour.



16. View Summary.

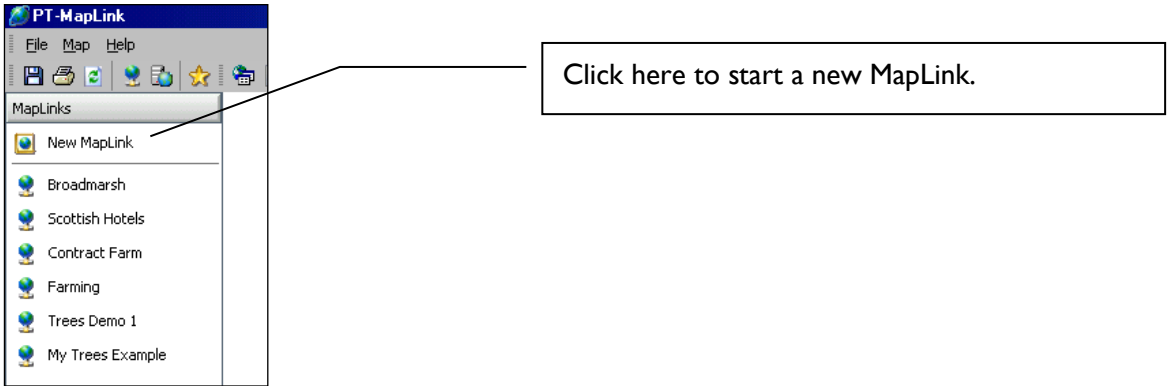


17. MapLink now completed.

Test your MapLink by clicking on a tree and checking that the relevant data pops-up. Your MapLink now appears in the list in the left hand panel, so that next time you start the program, you can select this MapLink and it will bring you straight to the screen above.

You can save the map if you wish by selecting File, Save. You can then also open the map in MAPS or PT-Mapper with the Tree symbols showing and ID's assigned.

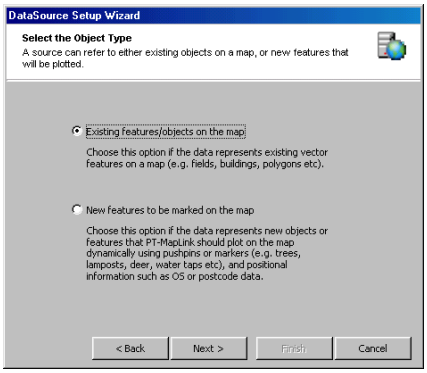
5.2 Creating a MapLink that links to Polygons

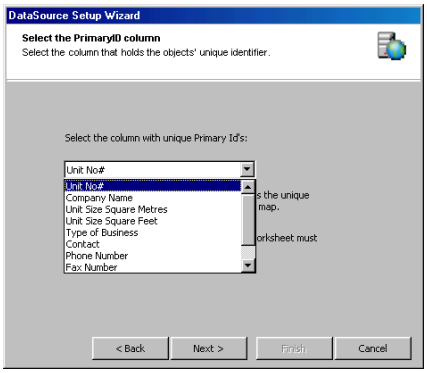


Follow the Wizard and give this new MapLink the name Polygon Tutorial. Browse for the map called Property Demo.mpd in c:\Program Files\Pear Technology\PT-MapLink\Samples.

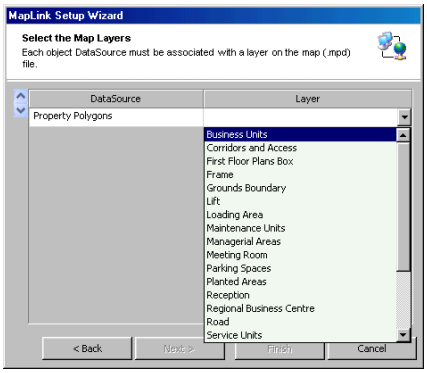
Step on to Create a New DataSource. Give this Datasource the name Property Polygons and browse for the Property Demo.xls file in c:\Program Files\Pear Technology\PT-MapLink\Samples.

The next step is where the process diverges slightly from that used for placing tree symbols on a map. In this case, the properties are already represented on the map as closed polygons with unique ID's. Therefore, when you get the screen below, select the first option:



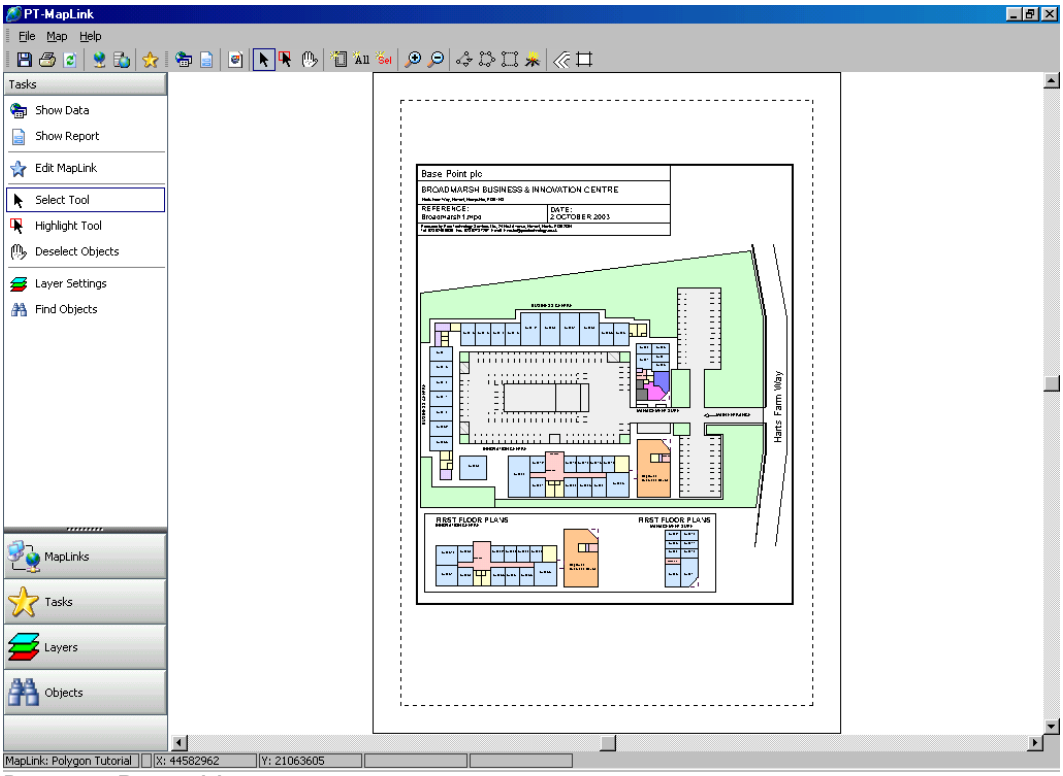


You will next see a Summary of the MapLink and the Property Polygons DataSource will appear already selected in the list of DataSources. Moving to the next stage, you will need to specify which map layer the polygons are on.



In this example, choose Business Units. If you are not sure when creating your own MapLinks, simply open up the map in MAPS or PT-Mapper and check.

Click Next to see a summary of the MapLink. On clicking Finish, you will see the MapLink that was open when you started the New MapLink procedure. Select the MapLinks tab – you will see Polygon Tutorial listed. Click on this and you will see this map appear:



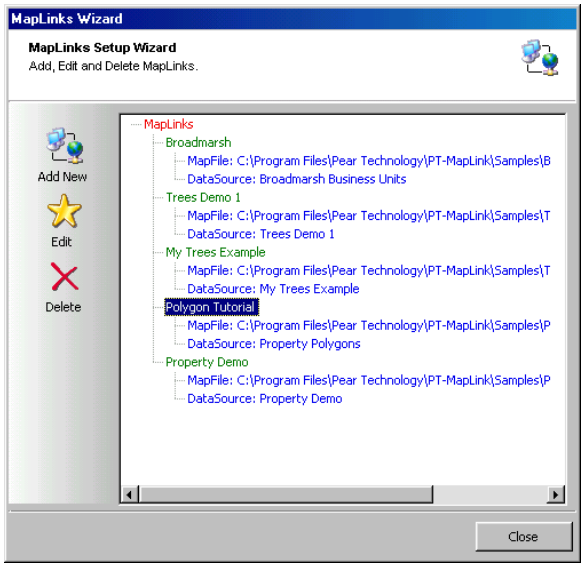
Property Demo Map.

Test your MapLink by clicking inside a polygon and checking that the appropriate records pop-up.

You can now multi-select properties (in this case, business units) by selecting the Highlighter tool and clicking inside each polygon. Reports can then be generated, the pop-up data edited and saved automatically at source, maps can be printed, properties due for rent review highlighted on the map etc. In other words, the functionality is now exactly the same as it was for the Trees example used in the Tutorial (Section 4).

6. EDITING/DELETING MAPLINKS

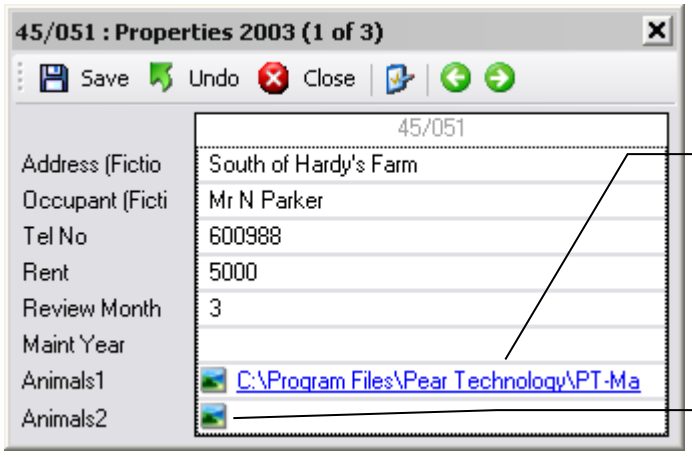
From the Map view, click on the MapLink Wizard tool at the top of the screen to get this:



Select the required MapLink and click on the Edit or Delete icon.

7. LINKING TO PICTURES

Provided your datasource table has a column that you identified when setting up the link, you can open any number of pictures from the pop-up (one column per picture in the datasource).:
res



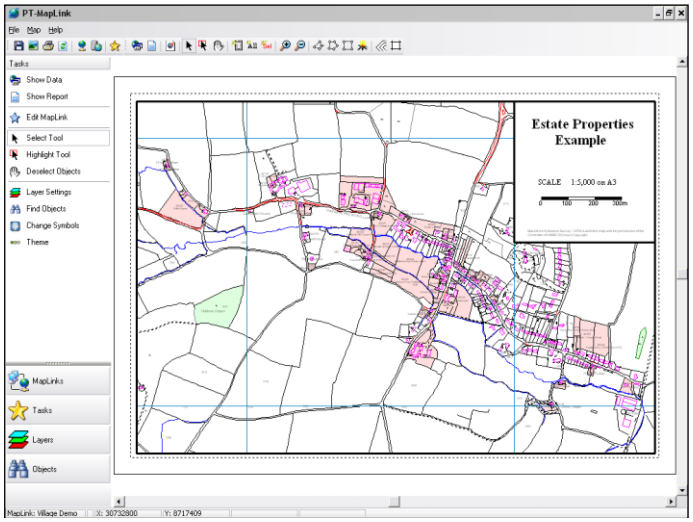
Here, the file path has already been entered, so clicking on this line will display the image.

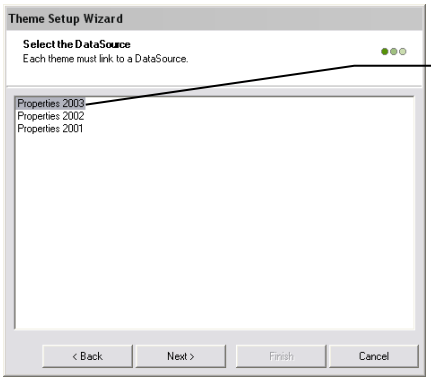
Click on this icon to then browse for the image. If you then Save the pop-up, this filename and path will be recorded in the datasource.

8. COLOURING A MAP

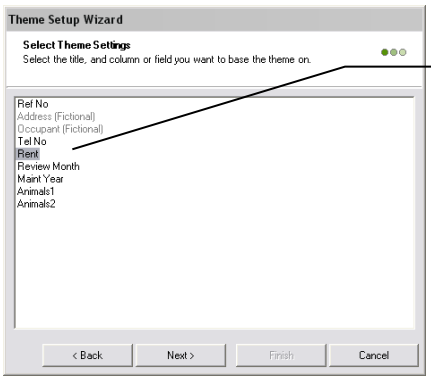
Maps can be coloured in according to your data – this is known as "theming". For example, open up the Village Demo map link and click on Theme in the Tasks control panel:

Click here for Theming.

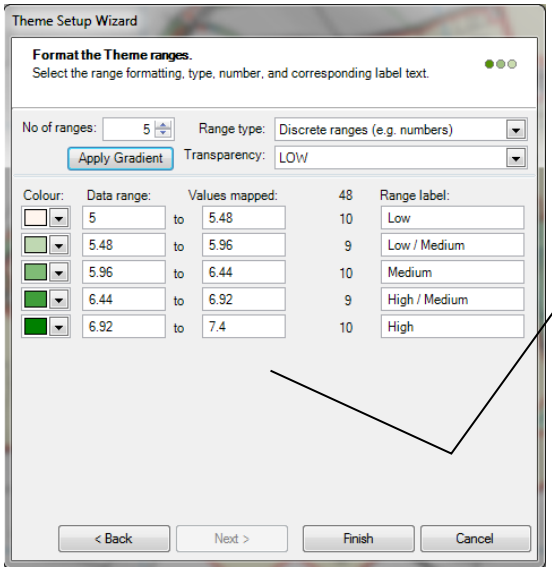




Select the desired worksheet if more than one.



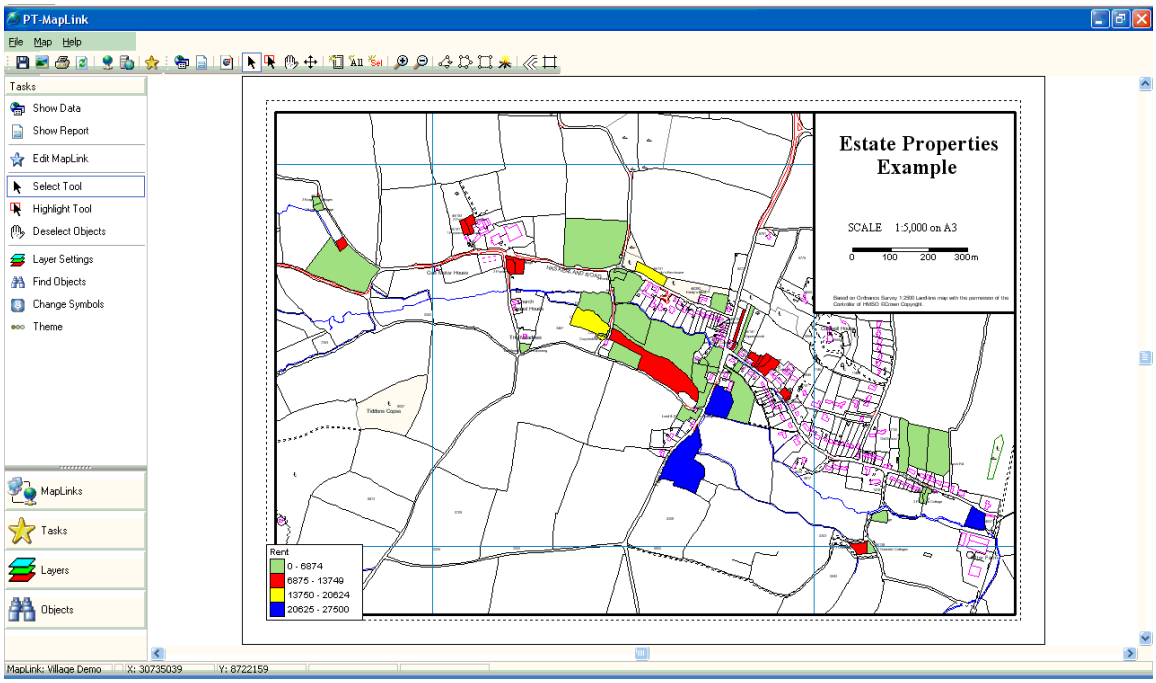
Choose variable from list of columns.



Change number of ranges, colours etc. to those desired and click on Finish.

Colour gradients can be set by choosing the first and last colour and clicking Apply Gradient.

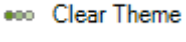
Transparency can be set for filled areas using the Transparency dropdown list.



Legend

Select the Move tool and the Legend will immediately be highlighted. Use the left mouse button to drag it to its desired position.

Clear Theme

The map can be returned to normal by clicking 

to remove the theme colours.

INDEX

A

Applications 6
Areas measurement 14

B

Border 13

C

Centre Page 13
Colouring a map 27
Contacts 7
Coordinates 18
Copyright 5
Create new MapLink instructions 19
Creating a new MapLink 18
Creating reports 10

D

Data grid 12
Data sorting 12
Data source types 6, 18
De-Installation 7
De-select tool 9
Distance measurement 15
Draw Line tool 15
Draw polygon tool 9

E

Editing a MapLink 16
Editing data in pop-ups 9
Editing maps 14
Editing reports 11
Enclosed tool 9
Evaluation period 7
Excel, correct format 18

F

Filter Rows 12
Find object on map 17
Fix Headers 12

H

Help 7
Highlighter tool 9, 25

I

Identifiers 17, 18
Images 26
Images, linking to 18
Installation 7

L

Layers 15
Legend 28
Linking to pictures 26

M

Map, editing 14
Map, printing 13
MapLink Wizard 26
MapLink, create instructions 19
MapLink, creating new 18
MapLink, editing 16
MapLinks, deleting 26
MapLinks, editing 26
Move tool 28

O

Opening a MapLink 8
Overview 6

P

Page Set Up 13
Picture linking 18
Pictures 26
Polygon drawing tool 9
Printing a map 13
Printing reports 11
Problems 7

R

Registration 7
Reports 10
Reports, editing 11
Reports, printing 11

S

Sample maps 20
Save, map 22
Scale 13
Selecting multiple objects 9
Show Data 12
Sorting data 12
Symbol colour 16
Symbol size 16
System requirements 7

T

Task Bar 15
Thematic mapping 27
Timelock 7
Trouble-shooting 7