























## Space Watch pro 3.1 - Contents

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## Oops - No data!

No data has been collected! Space Watch pro works by collecting lots of space data before you carry out search, analysis etc. This can take some time, but once collected your searches and analyses can be much more sophisticated and perform much more quickly - you can also save your data for later use or for comparison to spot change over time.

To collect data:



first define starting paths with the Paths button on the main toolbar



then collect data with the Collect button.

Select the Help menu [Quick start](#) option for further help or consult the main [User Guide](#).

## My Space

My Space is a Space Watch pro Add-In that allows individual users to browse and manipulate their space data. My Space uses Space Watch pro data files previously created using the main Space Watch pro application.

### Getting started with My Space

#### Choosing a user

When you first start My Space you will be prompted for a data file to use - unless this was supplied to the program for you. Select a data file and, if this is of the right format, you will then be prompted to choose a user.

All users who own space listed in the current data file will be displayed - if you cant find the user you want, then please refer to whoever created the Space Watch data file. This means there is no space collected for that user, or the data was not collected correctly.

#### Space summary

Once you have chosen a user My Space will display your choice in the Summary panel, and on the main window title bar.

My Space will then carry out some initial analysis to determine basic information about your space use, e.g. where the space use is most concentrated; the programs belonging to you; file duplicates etc. Only information relating to your space use will be displayed - if you want to see space use for others you will need to choose the File menu option Change user, or alternatively use the full Space Watch pro product to see all users data at once.

The results of these analyses will be displayed in the Tree window, and on the various Summary tabs. Note how the folders in the Tree window are colour coded - red folders mean that directory (together with all below it) are taking up a large part of the total space found that belongs to you.

Click on a folder in the Tree window and all files belonging to you in that folder will be listed in the File Finder at the bottom of the main window.

#### Searching

The File Finder provides a quick and powerful way of searching for files. Simply click on the Search button to start. This will pop up a Criteria window to complete your search requirements. Simply click on OK in the Criteria window and any matching files should appear almost instantly in the File Finder.

If no files can be found, the File Finder list will remain the same and you will see a message on the bottom status panel telling you the results of your search.

\* \* \* \* \*

## Recycle Bin

The **DirWatch** menu contains a Recycle Bins option. This option allows you to see how much space you or your network users are currently using up with files stored in respective desktop Recycle Bins.

It is not unusual for novice users to forget that the Recycle Bin will need to be emptied from time to time if their hard disk or server allocation is not to fill up with deleted files. Even the most expert user may forget to clear the Recycle Bin periodically.

Taking all users on a server together, the amount of space potentially wasted via files left in Recycle Bins can be considerable. This option lists all these folders in the collected space.

A Recycle Bin is actually just a specially named directory - in the case of Windows 95 the directory is called Recycled and sits at the root of the drive. In the case of Windows NT v4 each user gets a directory called RECYCLER-xxxx where xxxx is the Security Identifier (SID). The SID is simply an internal reference to the user. All RECYCLER-xxx directories are stored in a RECYCLER directory at the root of each volume.

This option lists all Recycled and RECYCLER directories in the Directory finder. This lets you see instantly how much space is in each directory. Click on a directory to see who owns it - this information is displayed above the list in the Directory finder.

### Emptying the Recycle Bin

To empty a recycle bin simply double click on it to drill down to the File finder and list its contents - then select all the contents *except* the desktop.ini file (this is needed by Windows 95).

Now go to the Space created tab on the File finder window and make sure that the Send deleted to Recycle Bin option is *not* selected. Failure to remove this option will simply cause the deleted Recycle Bin contents to be moved to .... the Recycle Bin!

You may now delete the contents of the recycle bin.

Remember to check the Send deleted to Recycle Bin option again when you have finished, so you dont accidentally delete files elsewhere and are thus unable to take advantage of the Recycle Bin facility.

## Reports

There are a number of reports available directly from Space Watch pro the actually range of reports depending on whether you are using the Standard or Network editions. You can generate your own reports by copying data or graphs from Space Watch pro and pasting these into other applications. Alternatively, the Space Watch pro data files are in Microsoft Access 97 format and can be read directly by appropriate third party applications. These applications include Microsoft Access 97 itself or Microsoft Excel 97.

### **Dates and times**

If you are using the Space Watch pro data files from another application please note that all dates/times are stored in GMT (UTC). You will need to apply a timezone/localtime function to convert dates/times to your current local time format.

The internal use of GMT by Space Watch pro ensures that all data files are compatible across time zones and daylight saving changes. If this were not the case some analyses such as Comparison would potentially not function consistently.

## Changes Log

The Changes Log records all file and directory deletions, moves and copies. It is your record of the live modifications you have made to the space recorded in the current data file. Each time you delete, move or copy a file or directory (as appropriate) from the File or Directory finder a new entry will be made in this Log.

Note that when you delete or move files, Space Watch pro will actually try and place the selected files/directories in the desktop recycle bin. If the volume containing the files/directories does not contain a recycle bin the files/directories will simply be deleted from the system.

## Directory finder

The Space Watch pro Directory finder is a powerful general purpose tool for searching the directories collected in the current data file.

Whilst you can access the Directory finder directly from the main toolbar, it is also used to list the results from a number of drill downs from other data summaries.



Directory finder button.

The Directory finder window caption (the title at the top of the window) will tell you what information the finder is currently displaying. If you have selected the Directory finder manually from the main tool bar it will simply state Directory finder.

### Finding directories

To find the directories you want you must first specify your *search criteria* --- this simply tells Space Watch pro the limits to apply to your search. For example, you might want all large directories that have been created by user Fred.

In this example the search criteria to enter into the Directory finder fields might be:

Example search criteria.

Notice how I specified the directory size as greater than 5 [MB](#) to indicate that I only wanted large directories. I selected Fred as the directory owner.

This is a relatively simple set of search criteria for Space Watch pro! You can be much more selective, should you want to narrow your search further. For example, you might want all directories beginning with A and in the size range 1 to 5MB as well as the previous criteria. In this case the search criteria would look like this:

Narrowing the search.

There are more sophisticated [size criteria](#) that you can use to make your searches even more sophisticated. You can also use [wild card characters](#) to specify more closely the name of the directory you want to find.

If no directories are found that match the specified criteria, the results list will not be changed and a warning message will be displayed in the main status panel.

If any directories are found that *do* match the specified criteria, the results list will be cleared and these directories will be listed. The main status panel will detail how many directories were listed, and the total space that these directories are taking up.

### Deleting directories

By selecting a directory in the currently displayed list, then clicking on the Delete button, you can delete a directory *and all sub-directories and their contents* in one operation. If the volume from which the directories/files are being deleted contains a recycle bin, these files/directories will be sent there. All deletions will be recorded in the [changes log](#).

### Drill down to more detail

As with many other areas of Space Watch pro, double clicking on an entry in the results list will drill down to more detail. In the case of the Directory finder this detail will consist of all the files in the given directory, displayed in the [File finder](#). From there you can manipulate those files (e.g. delete/move them).

## User summary

The User summary is a feature available from the [UserWatch](#) menu for [Network edition](#) users only. It is used to summarise the file owners found during collection of the currently loaded data.


The User summary totals show:


- o The number of NetWare 3.x file owners found (these may also result from a NetWare 4.x network if you are logged in using bindery mode);
- o The number of Novell Directory Services file owners found;
- o The number of Windows NT file owners found.

Below these totals is a list of all users (irrespective of source) who are currently occupying 10% or greater of the total space collected - this figure can be altered. This list shows the user (and domain/context) together with total space consumed in MB and the % of total space that this equates to.

An icon on the left of the file owner name will identify the source of the owner - i.e.

 Windows NT

 NetWare 3.x ( or bindery login)

 NetWare 4.x (NDS login)

No source icon indicates an internal special account such as Not available.

You may [drill down](#) from the User summary list by double clicking on a user name of interest. This will cause the [File Finder](#) to list all files owned by that user that are recorded in the current data.



## Configuration

Space Watch pro can be customised in a number of ways, from where you store various configuration files to how fast data collection takes place. Most options are available from the [Configure](#) menu. Here is a summary of the various settings available to you on the Configure menu:

### o Starting paths

Each data collection requires you to specify where to start collecting data from. This consists of one or more directory paths. Data is then collected from that directory and all subdirectories. The starting paths may refer to paths on different servers or your local desktop. This is the same feature obtained by pressing the Paths button on the main toolbar.

### o Ignore paths

Ignore paths are directories, and all subdirectories, from which data *will not* be collected. Its usually best to collect as much data as possible, so that it will all be included in your analyses, however, in some circumstances you may wish to exclude large areas of data from analyses and this is the way to do it.

### o Edit config files

Config files are lists of filenames , e.g. in the case of Win95 Ignore files these are files that would be ignored from program and duplicates analysis when the Ignore Win95 box is checked. Another config file is the temporary files list, which defines file types that will be treated as temporary files in the Summary data window.

### o File locations

These options let you specify the directory and file that is used for each of the various config files. This is useful if you have a server-based installation of Space Watch pro and wish to store individual config files elsewhere.

## Altering data collection speed



When you are collecting data you will see a progress window. This allows you to monitor the current directory from which data is being collected, as well as stop collection early etc. One of the panels on this window allows you to control the effect data collection will have on the source system. Increasing the pain caused to the source system will speed up data collection.

Setting the effect on system to torture will cause Space Watch pro to collect data as fast as possible, but this may noticeably load your source system (depending on its capabilities and current loading from other users/applications).

## **Largest - Newest - Oldest - Unused - Just created**

The [FileWatch](#) menu has a number of options for quickly carrying out specialist file analyses. These use the [File Finder](#) to display their results. They are:

**o Largest**

The 50 largest files found in the current data.

**o Newest**

The 50 most recently created files found in the current data.

**o Oldest**

The 50 oldest created files found in the current data.

**o Unused**

Any unused files found in the current data. Unused is defined as any file with the same last access and creation date - i.e. any file that has never been accessed since it was created.

**o Just created**


Any files in the current data that were created in the last 24 hours.

### **Largest - Newest - Oldest**


The [DirWatch](#) menu has a number of options for quickly carrying out specialist directory analyses. These use the [Directory Finder](#) to display their results. They are:


- o **Largest**  
The 10 largest directories found in the current data.
- o **Newest**  
The 10 most recently created directories found in the current data.
- o **Oldest**  
The 10 oldest created directories found in the current data.

## Welcome to Space Watch pro v3!

 **Welcome!** ...to Space Watch pro v3 from SharpeWare - a program that lets PC and network users search and analyse disk space use quickly and easily; pinpointing unexpected and unwanted files and directories as well as important changes over time.

Space Watch v3 is the first program to provide space ownership search and analyses on both Netware and NT systems - at the same time. Using highly graphical presentation of space use, linked by single click 'drill down', finding - and acting on - the information you want becomes quick and easy.

 If you want the fast path to using Space Watch pro, select **Quick start** on the Help menu or follow the **Quick Start** window - and dont forget to try out the **Q&A** button!

 If you have any comments or suggestions about Space Watch pro --- please let us know. We are always keen to incorporate useful new features.

Keep an occasional eye on our web site for the latest updates, special offers and technical hints and tips.

*SharpeWare*

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Web: <http://www.sharpeware.com>

## Data Comparison

This analysis option compares the contents of the currently held analysis (whether from live analysis or a loaded data file) with a specified data file. The results are displayed in the Space Comparison window and show all file and directory changes, additions and deletions.

### Carrying out a comparison analysis

To compare the currently held analysis with a previously created data file, select the **Search!** menu option **Compare**. You will then see the Space Compare window.

Don't display contents of new/deleted directories

At this point you may click on the 'don't display contents of new/deleted directories' box to do exactly that: if this box is not crossed (default) then the entire contents of every new or deleted directory found will be listed, together with the directory itself.

#### Defining the comparison

Now press the **Define** button in the Space Compare window. You will be prompted for a starting path for the search. The comparison will proceed from this path downwards - i.e. including this directory and all sub-directories found in either set of data.

However, the start path **must** exist in both the current data and the file to be compared. If the path cannot be found in the currently held data the analysis will end with an error message highlighting this error. The path should be specified in normal DOS format, e.g.

C:\  
M:\USERS\FINANCE etc.

Having confirmed that the path you have entered exists, Space Watch will then prompt you to select the data file to compare with the currently held data. This file must be in a format compatible with the version of Space Watch being run and any mis-match will be highlighted. If the file is of valid format, Space Watch will confirm that the starting path also exists in this comparison data and will stop the analysis if it cannot be found.

Assuming the comparison file is of valid format, and the start path can be found in both the comparison file and the currently held data, the comparison analysis will commence. Depending on the quantity of files and directories at and below the starting point this could take some time.

The starting point and compare file are displayed in the status windows at the top of the Comparison window.

#### Starting the compare

Having defined where and what to compare, the comparison can start. Click on the **Start** button.

As changes, additions or deletions are found they are added to the Space Comparison window. The main status panel will confirm when the comparison is complete. The path currently being compared is displayed above the results list.

If you wish to stop a comparison early, simply click on the **Stop** button, which will appear once the comparison has actually started.


### Interpreting the results


The comparison results show:


- o The type of change (see below)
- o The path of the directory or file
- o The filename
  - This will show '(directory)' if the comparison highlighted applies to a directory
- o Data relating to the currently held files/directories:
  - for files: file size
  - last update date
  - for directories: creation date
  - total space consumed
- o Data relating to the comparison data file files/directories:
  - for files: file size
  - last update date
  - for directories: creation date
  - total space consumed

To sort the results by a particular column, simply click on the column title.

### Types of change

 If a file/directory is marked in this way it means the file/directory has been created in this location since the comparison data file was first created. In this case there is no data available about the file/directory from the comparison data file and so these columns are left blank.

 This icon means the file/directory has been deleted or moved from this location. In this case there is no data available about the file/directory from the currently held data and so these columns are left blank.

 This means the file/directory has changed in size and/or date. In this case data is available from both the comparison data file and the currently held data, hence all columns are completed in the results table.

### Saving or Printing the results

The results can be copied to another application using the [File](#) menu [Copy](#) option. Alternatively you can click on the Reports toolbar button and select the Comparison report to send a formatted report to your default Windows printer.

### Using the Space Comparison analysis

The Space Comparison analysis facility can be used in various ways. For example, you might wish to use it if a server shows a rapid increase in volume usage.

Create Space Watch data files for the server periodically, then when a rapid increase is identified simply load the current analysis data with a previous one and run Space Compare. Progressively older compare data files could be used to chart where the rise (or fall!) of data usage actually occurred at a file/directory level.

Alternative ways of spotting recent changes might be to use the [File](#) and [Directory Distribution](#) analysis: these will pinpoint newly created directories or updated files. However, they will *not* tell you about that old set of data someone has decided to copy from their PC hard disk on to the departmental server.

Another useful application of this analysis could be the identification of changes following the installation of a new application. Take a snapshot of the area of your system to which the new application is to be installed - e.g. the shared windows directory on a server and the personal windows directory with which the application will be installed.

Install the new application. Next run Space Watch analysis on the same areas and finally carry out a Space Compare. The result will be a list of all files/directories added, removed or changed by the installation process. Of course the actual changes (e.g. to INI files) that an application carried out are beyond the sophistication of this comparison, but copies of these could be made prior to the installation - at least you should then have a good idea about which ones to compare in detail.

## Getting support

**Electronic Mail** [sales@sharpeware.com](mailto:sales@sharpeware.com)

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Space Watch pro is fully supported by the authors during the 30-day evaluation period (shareware edition) or for the lifetime of the current major version, or three months (whichever is longest) for registered users.

Registered users may apply any minor upgrades free of charge. Please check our web site for details of minor upgrades, and how to obtain them.

From time to time FAQs (frequently asked questions) may be posted on our web site. Please refer to this before reporting any problems or queries - your issues may well already have been addressed and this will provide you with a potentially instant answer.

Since Space Watch pro users are spread World-wide, and we are in Scotland, if you need to contact us the preferred method is e-mail. If you cannot communicate with us via e-mail then please use post. You will normally receive an initial response within 24 hours and we will work with you for as long as necessary to resolve any outstanding issues you may have.

If Space Watch pro does not fulfill a function you require, please let us know and we will consider its inclusion in subsequent versions.

## Standard and Network editions

Space Watch pro v3 is available in *two* variants: Standard and Network editions. *Standard edition does not include UserWatch features* so file ownership (for example) is not available.

The shareware version allows you to try out the full features of the Network edition, but registered users will see the features appropriate to their registration level. You can upgrade your registration from Standard to Network edition at any time.

Other than the cost of registration, the main difference between the two editions is the inclusion of Space Owner features in the Network edition. This means that with the Network edition you can analyse, report and search collected space based on file owner, for example using the options of the [UserWatch](#) menu.

In the Standard edition the [UserWatch](#) menu and related features, together with User reports, are not available. In addition, file and directory ownership is not recorded in the data files created by Space Watch pro and hence this information is not available to third-party tools that you might use for further analysis (e.g. Microsoft Access).

Standard edition is designed to be a cost-effective desktop space analysis tool, whereas Network edition is aimed to more fit the requirements of network users and administrators.



## Q&A

The Q&A (tell me it in English) feature of Space Watch pro is designed to answer some simple questions quickly, and to the point. It is of particular use when you have just collected some new space data and want to get a feel for some of its more significant characteristics.

To ask one of the questions listed, simply click on the question. Normally a response will be given within seconds, although some questions may take longer to answer. The answer will appear as a pop-up box and will *also* be copied automatically to the Windows clipboard.

If you want to store the answer, simply switch to a second application (e.g. the Windows Notepad utility) and select File Paste. This will copy the answer stored in the Windows clipboard into your application, in the format shown in the answer box.

Q&A is a new feature and we are keen to increase its effectiveness. If you have suggestions for new Q&A questions that might be of general appeal, please let us know and we will attempt to incorporate them in future minor releases of Space Watch pro v3. [Registered](#) users are entitled to *free* minor upgrades.

## Hints and tips

This section summarises some of the ways you might use Space Watch pro and suggestions for getting the best out of this powerful utility.

### Searching for wasted space

The [Summary data window](#) can tell you a lot. The [tree view](#) is particularly useful - take a look at any trees that are highlighted in red or green, they are taking up a particularly large proportion of your space. Double click on them and see via the [Directory finder](#) which directories in the tree are particularly large - or look at the directory average file size to see where large files might be lurking. Double click again and see detail in the [File finder](#).

Another particularly useful tab is the [Types tab](#) - what type of file is taking up all that space? Again, double click to find which files are where within a particular type.

Want to know something specific, like recently created large files? Check out the [File finder](#).

You'll probably find lots of wasted space in [file duplication](#). Alternatively, you may have lots of files that haven't been accessed for a long time - see the [File distribution](#) analysis.

There are lots of other specialised functions - try out some of the options on the [FileWatch](#), [DirWatch](#) or [UserWatch](#) menus. They will each tell you something different about your space. As you become more familiar with each function you will be able to go straight to the one that best answers the questions you have at the time. If you are looking at a Windows NT v4 server you might try out the [Recycle bins](#) feature.

Don't forget that most graphs and lists can be copied to the clipboard by simply making the data you want the active window (click anywhere on the window) then using the [File](#) menu option [Copy](#) --- the results can be used elsewhere by using the [File](#) menu option [Paste](#) in your chosen alternate application (note that Paste Special may be required to choose a graph from the clipboard).

### Data files

The data files created by Space Watch pro are actually databases of all your space --- they have a wealth of information that can be used by other programs. These files are actually in Microsoft Access format and can be read from applications such as Office 95 or 97. You can prepare custom reports or link them to spreadsheets and work with the data yourself. Registered users receive a User Guide that outlines the database structure of data files.

### Collecting data

Don't forget, as well as specifying a range of starting paths (e.g. on different servers), you can also specify a [delayed start](#) to data collection.... Simply set a start time and collect the results the following morning!

If you want data to collect more quickly, at the cost of loading your system more, then click on the torture setting in the data collection progress window (this is displayed whilst collection is progressing).

### Strange results?

Occasionally you may see strange dates, files sizes, owners etc. and wonder if these are due to a Space Watch pro bug... they are most probably *not!* Here are some common problems with NT and NetWare that you may come across. If you want to check if they really are problems, check out the file/directory detailed with Filer (NetWare) or Explorer (NT):

#### *No Owner*

NetWare files can become owned by no owner, e.g. if the user who created a file is subsequently deleted from a server or the NDS. This can cause system problems, particularly when using large database files in NetWare v3.x. On NetWare v4 you may be able to set a console SET parameter to prevent the occurrence of such files.

#### *Invalid file dates*

If you see a creation date of 1-Jan-1980 or 1-Jan-1900 or similar absurd dates for last update or access, it is most probable that a problem has occurred in your OS and that these are the actual values being reported by the OS. This is particularly common with NT systems.

#### *Very large files*

On NetWare systems it is possible to find files that are some GB in size, but that you know to contain only a small amount of data. These sparse files can cause problems with system backup (amongst other

problems) and are to be avoided.

#### *Duplicate file names*

You may see the same file name more than once in the same directory. This has only been seen with NT systems and appears to be a feature of the POSIX sub-system. If you create files with programs written for this sub-system, they are case-sensitive.

#### *Volume space and file sizes dont add up*

On NT systems It is possible to have less free space reported for a volume than reported by Space Watch pro by adding up file sizes. This may be due to hidden files (e.g. those used by NT to store long filename information on FAT volumes) or due to other NT features such as users storing data in different non-default data streams. If the discrepancy is very large, the latter is probably the answer and an investigation via system audit should be carried out. Any files being created/modified with names ending :xyz (where xyz may be any string) indicates the probable unauthorised use of data streams.

### **Technical problems?**

If youve checked in the on-line manual and any FAQs (frequently asked questions) available on our web site (<http://www.sharpeware.com>) then registered users may contact us for technical support for up to three months after [registration](#), or for the lifetime of this version (whichever is longer). If you are evaluating the product, please feel free to contact us at any time during the 30-day evaluation period.

Contact via e-mail: [sales@sharpeware.com](mailto:sales@sharpeware.com)

Web site: <http://www.sharpeware.com>

When contacting us by e-mail please ensure that you attach or include a copy of your event log (Swatch.Log), if it exists. To copy the Event log to the clipboard select the Help -> About -> SysInfo button, then simply paste the results into your e-mail to us. This will greatly increase the speed and accuracy of the support that can be provided.

## Delayed start and Batch-mode operation

There are two ways to automate Space Watch pro operation:

- o Delay the start of data collection;
- o Command line operation.

Command line operation can be used to make the collection and saving of Space Watch pro data completely automated (i.e. unattended).

### Delay start operation

It is possible to delay the start of data collection until a date/time specified by you. In this way you can operate Space Watch pro in batch mode -- i.e. unattended. For example, you may want your server(s) scanned out-of-hours when the extra load will not potentially affect users.

There are two ways to specify the delayed starting date/time:

- o From the Search! Menu;
- o In the Swatch.INI file.

Selecting the appropriate Search! Menu option will allow you to simply type in a desired date/time. This will then be displayed as a reminder in the Summary window Summary data tab. When the appropriate time has arrived (within 60 seconds of this time) data collection will automatically start, using the Starting Paths already defined.

Alternatively, to set the delayed start time in the Swatch.INI file, simply add the following key to this file using a text editor such as Notepad, and re-start Space Watch pro:

```
[SpaceWatch]
DelayStart=2-Feb-97 10:35pm
```

The Date/time format can be in any valid, unambiguous, format that is appropriate to the settings of your Windows workstation. If you enter an invalid format or a date/time that has already passed then the delayed start will not be set. If you have entered a valid date/time then when you start Space Watch pro it will automatically record the delayed start to data collection on the Summary window Summary data tab and then wait until the appropriate date/time arrives. Data collection will then automatically start.

### Command line (Batch-mode) control

Sometimes you may wish to collect data at routine times of the day, or without manual intervention. *Space Watch* includes command line features to allow this automated or unattended data collection to be carried out easily.

For example, these features might be used to collect space data once a week on remote NT servers using the NT batch interface. This data can then be readily transferred to a local location for search/analysis as part of routine systems management work.

To use *Space Watch* in command line mode, simply add one or more of these options to the *Space Watch* command line:

- /C* Collect data now when *Space Watch* is invoked by executing *swatch.exe* it will immediately start to collect data using the currently defined starting paths (unless the */S* option is used see below).
- /X* Exit on completion once all data is collected automatically exit the program and save the collected data to a *Space Watch* data file. The data file will be automatically given a unique name of the format:  
yymmdd-hhmm.swt  
where yymmdd-hhmm are the year, month, day, hour and minute that the file was created.
- /S* Starting paths the starting paths to use for data collection in preference to those already defined by *Space Watch*. This is of use where you wish to change the starting paths from one data collection to another and do not wish to manually set these from within *Space Watch*. An example might be:  
*/S=C:\ddd eee\xxx;D:\*  
this would cause data to be collected from all folders starting at C:\ddd eee and D:\. Note that these starting paths are not stored so manually running *Space Watch* would still use the pre-defined starting paths.

### Example of batch mode operation

The command line below illustrates use of all the batch mode command options:

```
Swatch.exe /C /S=C:\temp;D:\program files\acrobat /X
```

This command line would cause *Space Watch* to immediately start collecting data from C:\temp and D:\program files\acrobat. When data collection is complete *Space Watch* would exit and save the collected data to a file of format yymmdd-hhmm.swt.

## User totals


This option is selected from the [UserWatch](#) menu and summarises how much space each file owner has used.


File owners are defined by the file system from which you collect space data. The format and information available is limited by the type of file system. Space Watch pro v3 will identify file ownership information from any mixture of the following:

- o Novell NetWare 3.x or NetWare 4.x with Bindery authentication;
- o Novell NetWare 4.x or later with Novell Directory Services authentication;
- o Windows NT using NTFS file system and Windows NT client.

You may collect space data from any mixture of the above in the same Space Watch pro data file. An icon on the left of the file owner name will identify the source of the owner - i.e.

 Windows NT

 NetWare 3.x ( or bindery login)

 NetWare 4.x (NDS login)

No source icon indicates an internal special account such as Not available.

Double click on any owner listed to [drill down](#) to the [File finder](#) and list all files owned by this account (there may be a lot!). Click on the second tab to see a pie-chart of the top space users. You can copy the list or the graph to the clipboard for pasting into other applications by clicking on the appropriate tab and then selecting the [File](#) menu option [Copy](#) from the main window. Note that the [Paste Special](#) option might need to be selected on some other applications to paste graphics from the clipboard.

Click on a column header in the file owner space list to sort by that column - e.g. to see the top space users.

Space may be identified as being owned by Not available for a number of reasons, e.g. the space originates from a file system other than one listed above; the client being used is Windows 95; you dont have a 32-bit Novell client installed such as Client32 or there is a problem with the Space Watch pro installation files such as a conflict with other applications.

You may also see No owner as an owner - this is a peculiarity of NetWare file systems, e.g. when a file is created and the owner is subsequently deleted from the system.

### Notes: **File ownership and Windows 95**

File ownership information is *not* available from Windows NT Server when using Windows 95, even if sharing a remote NTFS file system. This is a limitation of the Win32 API (application programming interface) in Windows 95, which does not have the same security interface as Windows NT. Windows 95 cannot access the NT Security Account Manager database, and hence cannot decode file/directory security information stored on NTFS volumes.

#### **Windows NT built in accounts**

Windows NT built in accounts (those with well known Security Identifiers that cannot be deleted, such as Guest or Administrator) appear displayed with the domain name shown as BUILTIN.

#### **Windows NT and Administrators group members**

Files or directories created by *anyone* who is a member of the administrators special group actually have their files/directories owned by the administrators group --- not the user themselves. Space Watch pro will display the owner as administrators.BUILTIN. This is an NT feature!

You can alter the default owner used by NT applications by using standard resource kit utilities such as pulist on a process by process basis.

#### **File ownership and NetWare**

File ownership information is *only* available from NetWare servers if you are using a 32-bit Novell client such as Client32 for Windows 95. This is because Space Watch pro is a 32-bit application using the Novell 32-bit API, which is not compatible with 16-bit Novell clients such as VLM.

If you are using a 32-bit NDS authenticated login to a NetWare 4.x or IntranetWare server you will see usernames listed with their contexts in NDS (Novell Directory Services) format. Bindery logins (e.g. to NetWare 3.x servers) will result in just a username being listed.

## User distribution

This analysis option searches the current file list (whether from a loaded data file or live analysis) and calculates the spread of space per user by file size and last access/creation date. The results are displayed in the User Distribution window. The tabs in this window give you access to:

- User distribution by file size
- Graph of user distribution by file size
- User distribution by last access date or creation date
- Graph of user distribution by chosen date type.

### Calculating user distribution

To calculate the various user distribution totals select the [UserWatch](#) menu option [Distribution](#). Initially you will be presented with a list of all users found during data collection, together with some or all of the special users 'All', 'not available' and 'no owner'.

Up to 20 users at a time may be selected from this list for distribution calculation. To select the desired user(s) simply click on the users in this list; a continuous selection can be made by holding the Ctrl key down and clicking on the first and last users desired; additional users may be added by holding the Shift key down and clicking on particular users.

When this selection is complete, simply press the 'calculate' button. The main status panel at the bottom of the main windows shows how far the various stages of calculation have progressed.

To view the various graphs and results summaries simply click on the tab of interest in the User Distribution window.

### User distribution by size

The total space consumed by the various users is calculated for all files with total sizes in each of the following ranges:

- less than 1k bytes
- greater or equal to 1k bytes,  
less than 10,000 bytes
- greater or equal to 10k bytes,  
less than 100,000 bytes
- greater or equal to 100k bytes,  
less than 1 million bytes
- greater or equal to 1M bytes,  
less than 10 million bytes
- greater than 10M bytes

To view the actual files found in each range simply double click on the appropriate cell in the displayed grid. This will cause the [File finder](#) window to be displayed and the relevant files to be listed.

### User distribution by last access/creation/last update date

The total space consumed by these files is calculated for all files with last access, creation or last update date in each of the following ranges:

- less than 1 month
- greater or equal to 1 month,  
less than 6 months
- greater or equal to 6 months,  
less than 12 months
- greater or equal to 12 months,  
less than 18 months
- greater or equal to 18 months,  
less than 24 months
- greater than 24 months

To view the actual files found in each range simply double click on the appropriate cell in the displayed grid to [drill down](#) to more detail. This will cause the [File finder](#) window to be displayed and the relevant files making up the total space listed in the selected cell on the grid to be listed (there may be a lot!).

### **Best fit line**

If the growth in space use might be considered linear, a 'best fit' line can be superimposed on the graphs to interpolate this linear growth. Simply press the 'best fit' button on the User Distribution window toolbar and the graphs will be re-displayed.



## Directory distribution

This analysis option searches the current directory list (whether from a loaded data file or live analysis) and calculates the spread of directories by last update date or average file size. The results are displayed in the Directory Distribution window. The tabs in this window give you access to:

- Directory distribution by size
- Graph of directory distribution by size
- Directory distribution by modified date
- Graph of directory distribution by modified date.

### Calculating directory distribution

To calculate the various directory distribution totals select the [DirWatch](#) menu option [Distribution](#). If you have a large number of directories in the current list, or are using a slower PC (e.g. a 386 CPU), these calculations could take some minutes. The progress gauge on the main status panel at the bottom of the screen shows how far the two stages of calculations have progressed.

When the first result is available the Directory Distribution window will be displayed (if isn't already visible) and each calculation result will be added as it becomes available. On completion of all calculations the graphical display of results will be created.

To view the various graphs and results summaries simply click on the tab of interest in the Directory Distribution window.

### Directory distribution by size

The number of directories, and the total space consumed by these directories, is calculated for all directories with total sizes in each of the following ranges:

- less than 1k bytes
- greater or equal to 1k bytes,  
less than 5k bytes
- greater or equal to 5k bytes,  
less than 10k bytes
- greater or equal to 10k bytes,  
less than 50k bytes
- greater or equal to 50k bytes,  
less than 100k bytes
- greater or equal to 100k bytes,  
less than 500k bytes
- greater or equal to 500k bytes,  
less than 1M bytes
- greater or equal to 1M bytes,  
less than 5M bytes
- greater than 5M bytes

To view the actual directories found in each range simply double click on the appropriate row in the displayed list. This will cause the [Directory finder](#) window to be displayed and the relevant directories to be listed. You can view further detail by double-clicking on a particular directory, at which point the contents of that directory will be displayed in the [File finder](#) window.

### Directory distribution by modified date

The number of directories, and the total space consumed by these directories, is calculated for all directories with last modification dates in each of the following ranges:

- less than 1 month
- greater or equal to 1 month,  
less than 2 months
- greater or equal to 2 months,

less than 3 months

greater or equal to 3 months,  
less than 6 months

greater or equal to 6 months,  
less than 9 months

greater or equal to 9 months,  
less than 12 months

greater or equal to 12 months,  
less than 18 months

greater or equal to 18 months,  
less than 24 months

greater than 24 months

Drill-down is not available for this data summary.

## Windows 9x/NT functional differences

If you are running Space Watch pro on a Windows 95 workstation you will find small differences in the functions available to you. These differences are summarised below:

### o File ownership

File ownership information is *only* available when using NTFS volumes and a Windows NT client. Windows 95 does not support NTFS locally and a remote NTFS volume (e.g. a share from an NT Server) will appear to Windows 95 as a FAT volume.

Note that file ownership information is also available from *any* NetWare volume, as long as you are using the Novell 32-bit client (e.g. Client32 for Windows 95, or Client32 for Windows NT workstation).

### o Program type

The type of program listed in the [Summary data - Programs tab](#) window is only available when using an NT Workstation. Windows 95 does not support the necessary system call to provide this information.

## System requirements

Space Watch pro will operate on any 32-bit Windows workstation, i.e. Windows 95 or NT. There are certain [limitations](#) when operating on Windows 95. Since Space Watch pro is a database application, memory is more important than a really powerful processor and the minimum recommendation is 16MB (Windows 95) or 24MB (Windows NT).

### Novell networks

Space Watch pro is designed to collect data from even large network servers, and will function fully with both Windows NT and Novell NetWare (IntranetWare) servers. When using Novell servers full functionality is only available with a Novell 32-bit client such as Client32 for Windows 95. The necessary system calls are not available from any Microsoft clients - Space Watch pro will still work, but NetWare volumes will appear as simple FAT or OS/2 volumes and advanced features such as file ownership will not be available.

### Windows NT networks

When using Microsoft NT servers full functionality is only available when using an Microsoft NT workstation as well this is because the NT security interface is not fully implemented in Windows 95 and hence Windows 95 workstations cannot directly access NTFS volumes and their file ownership information.

### What features are available to you?

Features available depend on your workstation configuration and whether you have registered the [standard or network edition](#) of Space Watch pro. Below is a summary of the various common combinations (you may want to expand your Help window to view this table correctly):

	FileWatch	DirWatch	NT File System	UserWatch	
				NetWare 3.x	NetWare 4.x (NDS)
<b>Windows NT workstation</b>	Yes	Yes	Yes	-	-
<b>Windows 95 workstation</b>	Yes	Yes	-	-	-
<b>Novell Client32</b>	Yes	Yes	-	Yes	Yes
<b>Novell NT Wizard</b>	Yes	Yes	-	Yes	Yes
<b>Novell VLM</b>	Yes	Yes	-	-	-
<b>Standard edition</b>	Yes	Yes	-	-	-
<b>Network edition</b>	Yes	Yes	Yes	Yes	Yes

Thus *full* Space Watch pro functionality across all types of Novell and Microsoft NT networks, requires:

- o Space Watch pro Network edition;
- o Microsoft NT Workstation;
- o Novell Client32 or NT Wizard.

## File Distribution

This analysis option searches the current file list (whether from a loaded data file or live analysis) and calculates the spread of files by last update date or size. The results are displayed in the File Distribution window. The tabs in this window give you access to:

- File distribution by size
- Graph of file distribution by size
- File distribution by last access date
- Graph of file distribution by date.

### Calculating file distribution

To calculate the various file distribution totals select the [FileWatch](#) menu option [Distribution](#). If you have a large quantity of files in the current list, or are using a slower PC (e.g. 486 processor), these calculations could take some minutes. The progress gauge on the main status panel at the bottom of the screen shows how far the two stages of calculations have progressed.

When the first result is available the File Distribution window will be displayed (if it isn't already visible) and each result will be added as it is available. On completion of all calculations the graphical display of results will be created.

To view the various graphs and results summaries simply click on the tab of interest in the File Distribution window.

### File distribution by size

The number of files, and the total space consumed by these files, is calculated for all files with sizes in each of the following ranges:

- less than 1k bytes
- greater or equal to 1k bytes,  
less than 5k bytes
- greater or equal to 5k bytes,  
less than 10k bytes
- greater or equal to 10k bytes,  
less than 50k bytes
- greater or equal to 50k bytes,  
less than 100k bytes
- greater or equal to 100k bytes,  
less than 500k bytes
- greater or equal to 500k bytes,  
less than 1M bytes
- greater or equal to 1M bytes,  
less than 5M bytes
- greater than 5M bytes

To view the actual directories found in each range simply double click on the appropriate row in the displayed list. This will cause the [Directory finder](#) window to be displayed and the relevant directories to be listed. You can view further detail by double-clicking on a particular directory, at which point the contents of that directory will be displayed in the [File finder](#) window.

### Directory distribution by modified date

The number of directories, and the total space consumed by these directories, is calculated for all directories with last modification dates in each of the following ranges:

- less than 1month
- greater or equal to 1 month,  
less than 2 months
- greater or equal to 2 months,  
less than 3 months

- greater or equal to 3 months,  
less than 6 months
- greater or equal to 6 months,  
less than 9 months
- greater or equal to 9 months,  
less than 12 months
- greater or equal to 12 months,  
less than 18 months
- greater or equal to 18 months,  
less than 24 months
- greater than 24 months

To view the actual files found in each range simply double click on the appropriate row in the displayed list. This will cause the [File finder](#) window to be displayed and the relevant files to be listed. You may find it useful to study the graph of these results. Typically the results for number of files and space consumed peak in differing ranges, showing perhaps that a small number of files of significant size take up a correspondingly larger amount of space.

#### **File distribution by date**

The number of files, and the total space consumed by these files, is calculated for all files with last access dates in each of the following ranges:

- less than 1 month
- greater or equal to 1 month,  
less than 2 months
- greater or equal to 2 months,  
less than 3 months
- greater or equal to 3 months,  
less than 6 months
- greater or equal to 6 months,  
less than 9 months
- greater or equal to 9 months,  
less than 12 months
- greater or equal to 12 months,  
less than 18 months
- greater or equal to 18 months,  
less than 24 months
- greater than 24 months

To view the actual files found in each range simply double click on the appropriate row in the displayed list. This will cause the [File finder](#) window to be displayed and the relevant files to be listed. You may find it useful to study the graph of these results. Typically the results show two peaks, showing space consumed split between very recently accessed files and much older files. The relative size of these two peaks may be worthy of investigation - if the old files peak is very large, are the old files all programs files (for example) or are old data files contributing to it - data files that could usefully be removed.

The amount of old data files found may also indicate the potential usefulness of alternative storage methods, e.g. HSM (hierarchical storage mechanism) where old/infrequently accessed data is moved to near- or off-line storage.

## Duplicates summary

This window allows you to search for duplicate files. However, rather than simply displaying *all* duplicates found you may limit those found in various ways. You do this by clicking on the various check boxes as follows:

### Name only

When this check box is crossed, the program will find duplicates by name only - i.e. ignoring the size of the various files. This is useful where a number of users might update their own versions of a file but you still wish to find duplicates of it (e.g. application INI files).

### Programs only

Crossing this check box will cause the program to search only files with the extension EXE or COM - i.e. program files.

### Ignore exclude lists

Crossing this check box will cause duplicates found that also match files on the ignore lists highlighted in the [Programs Summary data](#) window to be ignored. Note that non-program files possibly listed in the Miscellaneous ignore list will also be ignored here.

### Searching for duplicates

To find duplicates, simply select the limitations on the search you require, as defined above, then click on the Duplicates Search tool bar 'Start search' button. If you wish to stop the search prematurely (e.g. because it is taking too long or because you have found what you want already) simply press the 'Stop search' button.

When the search is complete the *total space* taken up by *all* duplicates will be displayed alongside the duplicate details including name and number of duplicates found.

### Drill down

To list all duplicates of a particular file, simply double click on the duplicate of interest. This will cause all matching duplicates (appropriate to whether you have selected Name only or not - see above) to be listed in a [File Finder](#) window. You can then use the File Finder file delete or move options as appropriate.

### Printing the duplicates

You may print a duplicate files report from the \*Reports\* tool bar button.

## Quick start

Space Watch pro is designed to provide sophisticated and fast analysis of space usage. To do this it collects file, directory and user data and stores this information in a Microsoft Access-compatible database file.



### Where to start...

This option lets you build a list of all the drives and paths that you want to collect data from. Data is collected starting at each drive/path from every sub-directory. Ignore paths can also be specified below the start paths from which data will not be collected (see the [Configure](#) menu).

Example starting paths: C:\ H:\PUBLIC F:\SYSTEM

Use the **Add** button to add a new path. When you're happy with the list of starting paths, press **Save** and then **Cancel** to close the Edit window. You're now ready to collect data!

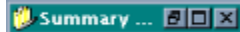
Note: Starting paths will be stored between Space Watch pro sessions, so you don't need to keep redefining them.



### Go get it!

Now collect all that file, directory and user (file/directory owner) data.... Simply click on the **Collect** button on the main toolbar. The [traffic light](#) on this button will change from green to amber to red as initialisation and then collection starts.

Note: Data collection may take quite a lot of time, particularly if you are collecting the contents of a few network servers and have 100,000+ files to record information about, so you might want to schedule it overnight.



### Take a look!

Now you've collected some data you can take a quick look at it from the **Summary data** window.

Look at the **Trees** tab - the colour of each folder indicates how much space that *tree* of folders is taking up. E.g. if the C:\Program Files folder is red this means all the files at and below that level are taking up at least 10% of all the collected space.

Try double clicking on a folder --- this will [drill down](#) to the [Directory finder](#), listing all the directories at that level and below. Double clicking on a directory in the Directory finder will, in turn, drill down to the [File finder](#) etc.

Drill down is available from most of the tabs on the Summary data windows - and everywhere else in Space Watch pro as well!



### Tell me it in English!

One of the features new in Space Watch pro v3 is the [Q&A](#) utility. This feature attempts to list some common questions you might want to ask of the space collected, and provides generally quick and to the point answers to those questions.

For example: Which type of file is taking up most space? Where are the largest files? Which directory trees are taking up most space? Etc. Simply click on the question to get an answer!



## Summary data

The Summary data window provides a number of different views on your space. Click on the tabs at the top of the window to see each view. Many of the views contain lists that can be double clicked to [drill down](#) to see more detail. The Folders tree view can also be double clicked in this way.

- o [Trees tab](#) - space use by directory tree.
- o [Types tab](#) - space use by type of file (e.g. Internet hypertext document).
- o [Programs tab](#) - the different program files that have been found.
- o [Temporary tab](#) - temporary files that might be wasting space.
- o [Products tab](#) - the different applications that have been found.
- o [Drives tab](#) - a summary of the drives visible when the data was collected.
- o [Data summary tab](#) - general details of the data that has been collected.

## Summary data - Trees tab

This tab shows directory tree data in two ways - as a tree view or as a list view. Click on the view buttons to switch between the two views.



Tree/List view buttons (Tree view selected).

### Tree view

This view shows directory *trees* (i.e. not just the directory, but the space used by the files in that directory and *all* the directories below it). The figures next to each directory name show the space used by the tree including and below that directory and (in brackets) the space used by the directory itself.



In the above example the Pinball directory tree is shown red because it is consuming at least 10% of all the space collected. The Sounds directory tree is green, indicating consumption of between 5 and 10% of space.

The Pinball tree is shown to be consuming some 2.6MB of space, whereas the directory by itself has some 2.105MB of files contained in it. Double click on a directory to [drill down](#).

### List view

This view presents the same information as the Tree view, but allows you to sort the data by clicking on the heading of a column. For example, clicking on the Tree size column header will sort the trees in descending order of space consumption. Again double clicking on an entry will result in drill down.

### Changing the trees displayed

By default you only see displayed those trees that are taking up 1% or more of total space collected. This stops otherwise potentially confusing detail from being displayed. If you want to change the number of trees displayed then simply reset the % box and click on the **Recalculate trees** button.



Recalculate trees.

Note: no more than 500 trees will be displayed at once.

## Summary data - Types tab

This tab shows File type information in two ways - as a list view or as a graph view. Click on the view buttons to switch between the two views.



List/Graph view button (List view selected).

### List view

This view shows all the different file types found in the space collected. For each file type Space Watch pro show you the total space taken up by all files of that type; how many files were found and a description of that type of file (where this is available from your PC).

You can click on a column title to sort the list by that column, and double click on an entry to [drill down](#) to the [File finder](#) --- where all the files of that type will be listed (irrespective of where they are currently stored).





### Graph view

This view shows the top five space users by file type as a pie chart.

## Summary data - Programs tab

This tab shows the Programs found whilst collecting data. It may not show *all* the programs depending on the ignore lists selected.

If you are using Windows NT to run Space Watch pro you should see each program identified with a program type icon. These icons indicate whether the program is:

-  Windows 32-bit
-  Windows 16-bit
-  DOS
-  OS/2 16-bit

The programs list can be sorted by clicking on the column title. Drill down to the [File finder](#) is available by double clicking on an entry in the list.

Note: Program type icons are not available on Windows 95 systems, as the necessary applications interface is not supported on this platform.

### Ignore lists

On network servers it may be desirable to ignore often found programs so that unwanted or unexpected programs can more easily be spotted. This is where ignore lists become useful. To ignore a pre-defined set of files simply check the ignore list(s) you want to use. The lists themselves can be edited from the [Configure](#) menu.

### Summary data - Temporary tab

This tab shows that files that have been found that may be wasted space as temporary files. Many applications leave these on systems when they quit unexpectedly and with time they can end up consuming significant amounts of space.

The definition of what constitutes a temporary file can be changed from the [Configure](#) menu, but is by default all files of type BAK, TMP and SCR.

[Double click](#) on an entry in this list to drill down to the [File finder](#), from where files can be deleted or moved. Click on a column title to sort the list by that column.

## Summary data - Products tab

This tab shows the different Products, or applications, that have been found amongst the space collected.

Many programs - certainly *most* Windows 95 and NT programs - contain version information internally that record manufacture and application information supplied by the original developers. This information includes:

- o Company
- o File description
- o File version
- o Copyright notice
- o Trademarks
- o Product name
- o Product version
- o Comments

The Company and Product information are listed in the Summary data. Alongside the Product information you can also see the Product version information in brackets.




You can sort by Product or Manufacturer by clicking on the appropriate column title.

If you wish to see all of the above data, simply double click to drill down to the [File finder](#), then select the program file you wish to look at in more detail and double click on it again. Note that the complete set of version information is only available if the file can be found on the system connected to your computer - only the product and manufacturer information is stored in the Space Watch data file.

### Summary data - Drives tab

This tab shows a summary of all the drives visible from the workstation when the data was collected. The A: drive is ignored in this list.

Icons alongside each drive letter show quickly how much free space is left on the drive:

-  Less than 5% free
-  Less than 10% free
-  Less than 20% free

## Summary data - Data summary tab

This tab shows a summary of the data collected, e.g. the total number of files and directories and the space those files are taking up. These totals are dynamically updated when data is being collected to show progress during data collection. The figures displayed are:

### o Data date

This is the date on which the data was collected - for live analysis this will be the current date; for data loaded from a Space Watch pro data file this will be the date the file was created.

### o Proportion of data as...

The gauge shows the amount of space taken up by all program files (including any ignored on the Programs tab) as a proportion of all space found; the proportion taken up as temporary files and the most space-consuming file type, together with the proportion taken up by that file type. See the Temporary tab and the Types tab for more detail on temporary files and file types.

### o Space statistics

This set and below which data is *not* collected from. See the [Configure](#) menu to find out what th of data shows a range of different parameters.

Space collected is the total space taken up by all the files in the currently loaded data, whether from live collection or from loading a previously saved Space Watch pro data file. Space deleted and Space moved is the space taken up by files that have been deleted or moved during the current session of Space Watch pro - the figures are reset when a different data file is loaded or when a new collection is made.

Files and Directories refer to the total number of files and directories recorded in the current data.

Collection starting paths refers to the total number of starting paths defined. Click on the Paths button on the main toolbar to see these paths. Collection ignore paths are paths including ese actually are (if any are defined).



## What is Space Watch pro?

If you want to get going as quickly as possible and don't like reading lots first then go to the [Quick start](#) section. If you want to find out more about the workings of Space Watch pro first, then read on...

Space Watch pro is designed to provide sophisticated and fast analysis of space usage. To do this it collects file, directory and user data and stores this information in a Microsoft Access-compatible database file. It will collect advanced file and directory information from any Windows 32-bit or NetWare system, including Windows NT and IntranetWare.

If you are using a NetWare 4 network and have logged in with an NDS (Novell Directory Services) login, then Space Watch pro will provide full NDS user names for file and directory owners, together with NetWare file system extended file attributes. With Bindery logins you only get Bindery usernames from the preferred server, if available (this is the server you use to login with).

If you are using a Windows NT network then Space Watch pro will provide domain name information for file and directory owners, where data is stored on a file system that supports such attributes (currently only NTFS file systems). Note that the NT security database does not always return the file owner information you might expect!

### Collecting data

Some simple space utilities search and analyse your file systems on the fly - searching the live system(s) for the data you want. This makes for simple programming but makes most complex analyses such as distributions impossibly slow. It also makes some functions - e.g. comparison of historical data with the current system to spot changes impossible.

Space Watch pro collects all the data you specify (e.g. a complete file server or more, or simply a part of a desktop) and stores all this data in a Microsoft-Access compatible database. This database can then be saved for later or off-line use.

The careful use of indexes and transaction processing means that even the most complex analyses can be completed in an acceptable time, even when working with 100,000+ files.

### Analysing the data

Space Watch pro provides a range of analysis and space search utilities. Some of these are calculated during data collection, so they are instantly available - these are the summaries presented on the Summary data tab. Others analyses require you to run them as required from the [FileWatch](#), [DirWatch](#) or [UserWatch](#) menus, including:

#### o File-based analyses

[File Distribution](#); [File types](#); [Duplicates](#), [Largest, Oldest, Newest, Unused and Just Created](#) files.

#### o Directory-based analyses

[Directory distribution](#); [Largest, Oldest, Newest](#) directories.

#### o User-based analyses

[User distribution](#); [User totals](#); [User summary](#).

#### o General search facilities

[File finder](#) and [Directory finder](#).

#### o Other features

[Data comparison](#) - spotting change.

## Whats new in 3.1?

Space Watch pro v3 is a full 32-bit application, using the Novell 32-bit interface to NetWare (including full NDS integration) together with the Microsoft Windows 32-bit Win32 interface to Windows 9x, NT and 2000. You can now collect full data from NetWare and NT networks *at the same time* and store/analyse them from the same data file.

Note: to get the fullest information possible your data should be stored on Microsoft NTFS or Novell NetWare file systems. In addition, using a Windows 9x client to operate Space Watch pro also limits the amount of information available (this is a Microsoft limitation).

Here's a list of everything that's new or improved in Space Watch pro **v3.1**:

### New features:

- \* Duplicates analysis is now more powerful - it now includes a detail window that includes the duplicates directory - removing the need to drill down to the File Finder individually to get this information - as well as the ability to filter on how many duplicates of a particular file are found.
- \* Directory finder is more flexible - it now includes support for URL style directory paths (e.g. \\servername\ path) as well as mapped drives, including those returned by the Novell client for Novell servers and volumes.
- \* File finder even more flexible with another unique feature - a new File Finder save split by user is provided - allowing current File Finder results to be saved into files named by file owner, and optionally including header and footer information.
- \* User distribution analysis is more powerful - the maximum number of users that can be analysed at once has been increased from 20 to 500.
- \* Remote data collection added - a Batch mode interface is now included - this allows command line control of program operation:  
`/C` = collect data now (by default with existing settings)  
`/X` = Exit on completion and automatically save data to file of format yymmdd-hhmm.swt  
`/S=C:\ddd eee\xxx;D:\ etc` = starting paths to use for data (if `/C` specified)  
e.g. `"/C /S=C:\temp;D:\program files\acrobat /X"`
- \* More data can be analysed at once - the maximum number of directories that can be scanned in one data collection has been increased from 32,767 to 2,147,483,647. This has meant a change to data file structure. Earlier format data files are upwardly compatible.
- \* Quick Start has been improved - the Quick Start panel now includes direct access to file/directory finders.
- \* Fully Y2000 ready - all dates now displayed as 4-digit years for Y2000 compliance.
- \* The User reports are now enabled in the shareware version.

### User interface improvements:

- \* Improved Summary window interface.
- \* Inclusion of Detail.. buttons to assist drill down from data summaries.
- \* The Duplicates analysis window can now be re-sized.
- \* All data lists will not sort on any columns, alternating in direction.
- \* Data on Distribution analysis spreadsheets (e.g. user, file or directory distributions) can now be copied to the clipboard for pasting into other applications.

## File finder

The Space Watch pro File finder is a powerful general purpose tool for searching, viewing and (limited) manipulation of the files collected in the current data file.

Whilst you can access the File finder directly from the main toolbar, it is also used to list the results from a number of drill downs from other data summaries and from the [Directory finder](#).



File finder button.

The File finder window caption (the title at the top of the window) will tell you what information the finder is currently displaying. If you have selected the File finder manually from the main tool bar it will simply state File finder. The File finder window itself has its own toolbar. The actions you can instigate from this toolbar are summarised below. Perhaps the most used will be the Query function.

### Finding files



Find those files!

To find the files you want you must first specify your *search criteria* --- this simply tells Space Watch pro the limits to apply to your search. For example, you might want all large files that have been recently created by user Fred. In this example the search criteria to enter into the File finder fields might be:

A screenshot of the File finder search criteria form. The form has a tabbed interface with 'Advanced' selected. It contains four input fields: 'Filename' with the value '\*.\*', 'Size' with '>= 5M', 'Creation date' with '< 1 week', and 'Owner' with 'Fred'.

*Example search criteria.*

Note: I selected the Advanced tab and clicked on Create date to make sure the search used creation date (by default it would use last update date). Notice how I specified the file size as greater than 5 MB to indicate that I only wanted large files. The date criteria means all files created within the last week and finally I selected Fred as the file owner.

This is a relatively simple set of search criteria for Space Watch pro! You can be much more selective, should you want to narrow your search further. For example, you might want all files beginning with A and in the size range 1 to 5MB as well as the previous criteria. In this case the search criteria would look like this:

A screenshot of the File finder search criteria form, similar to the previous one but with 'Space' selected as a tab. The 'Filename' field now contains 'A\*', and the 'Size' field contains '>=1M and <= 5M'. The other fields remain the same: 'Creation date' is '< 1 week' and 'Owner' is 'Fred'.

*Narrowing the search.*

There are more sophisticated [size criteria](#) and [date criteria](#) that you can use to make your searches even more sophisticated. You can also use [wild card characters](#) in the Advanced tab to specify the type of Product that the files related to (program files only).

If you wish to abort the search early, hit the Esc key. After a pause, the search will be aborted and the files found so far will be displayed.

If no files are found that match the specified criteria, the results list will not be changed and a warning message will be displayed in the main status panel.

If any files are found that *do* match the specified criteria, the results list will be cleared and these files will be listed. The main status panel will detail how many files were listed, and the total space that these files are taking up.

### Special search criteria

Two special search criteria are available:

**Unused** This criteria limits the search to those files that have the same last access and creation date; i.e. they have not been used since creation. On some system (e.g. NetWare) these dates are recorded only to the nearest day, the last access/creation date must be older than 24 hours from the time of running the report.

**New** This criteria limits the search to files that have been created in the last 24 hours.

### A note on file owners

Two special users may be listed: No Owner and Not Available. These two users have the following meaning:  
o No Owner

This user is used to identify files for which an owner cannot be found this situation may occur where the files exist on

one server and are copied to a server where that owner does not exist (NetWare 3), or to a server in a different directory tree, where the owner does not exist as a valid user object (NetWare 4). It may also occur where a user is deleted but files belonging to that user still exist.

o Not Available

This user will be seen when collecting data on non-NetWare or non-NTFS volumes, e.g. a PC hard disk or Windows 95 FAT volumes.

### **No Owner files**

If you see **No Owner** files this may be indicative of a potential problem. In NetWare, attempts to extend files with no owner can result in service affecting problems (e.g. there may be errors reporting 'no file space' even though the user's file space quota has not been exceeded). You may wish to search out these files and reset the owner (e.g. with the FILER utility). Alternatively, a SET command can be used in NetWare 4 to automatically reallocate such files to an existing user, should they be found (please refer to the Novell NetWare documentation).

### **Viewing the results of your search**

Note: a short cut to actions possible with File finder results is to use the *right* mouse button in the results window. This is pop up a floating menu with all the key actions available on it.

[File icons](#) are sometimes shown to the left of each result. Normally nothing is displayed, but various special File finder icons are used to highlight certain key situations.

Click on the titles of columns to sort the results by that column. You can also drag and drop the column titles to re-size the width of each column. Finally, the File finder window itself can be resized if you wish to view more of the results at one time.

### **Viewing the contents of files**

You can view the contents of a range of different files, e.g. text, Microsoft Word, RTF etc. using the simple view facility available from the File finder.

To view a file, simply select it by clicking on the appropriate entry in the first column and then choose the text viewer button on the File finder toolbar, or alternatively select View from the right mouse button pop-up menu.

### **Copying, Deleting and Moving files**

One or more files may be copied deleted or moved from the results list. First select the files to copy/move/delete by clicking on the filename (click with the Shift or Ctrl key held down to select a range of files). Next click on the *copy*, *delete* or *move* toolbar buttons at the top of the File Finder window. Alternatively, delete or move may be selected from the pop-up menu produce by clicking on the right mouse button.

If *move* was chosen an input box will appear prompting for the directory to move the file(s) to. This directory must already exist.

In either case, check boxes are available at the top of the File finder window to ensure whether or not confirmation is required for each file deletion or move.

As a file is deleted or moved the total space made available will be incremented appropriately and the new total displayed at the top of the File Finder window.

Once all files have been deleted/moved the file icon will change to show the new status of these files (i.e. inaccessible). If a file is marked read-only (or system, or is otherwise not removable) then it will not be deleted or moved and the file icon will not change.

All files deleted or moved will be recorded in the [changes log](#).

### **Viewing more file details**

File attributes, such as creation, last access and last update dates and more detailed Product information, can be viewed by simply double clicking on the file of interest in the results list.

Alternatively the right mouse button menu or the appropriate File Finder toolbar button can be used, having already selected a file whose attributes are to be viewed.

Note that two sets of information is presented: the 'live' data and the 'analysis' data. The live data represents the file attributes as they currently exist for that file now --- if the file can be accessed at that time. The analysis data represents the file attributes as they existed when the data file was created.

If a data file is viewed 'off line' --- that is, on a PC not connected to the system that the data was collected from ---

no 'live' attribute data will be available and this tab (and the Products tab) will be disabled.


**MB**


Space Watch pro adopts the convention of defining a MB as follows:


1 MB = 1024 x 1024 bytes = 1,048,576 bytes

### File finder file attribute icons

These icons appear in the first column of the File finder results list and indicate special file attributes. A red line to the right of each icon means that the file is not accessible (e.g. because you are carrying out an off-line analysis or because the file has been deleted from the system):

 Read only

 Unused (not accessed since the file was created)

 New (created in the last 24 hours)

## Wild card characters

Wildcard characters are characters used in Directory or File finder search criteria that have a special meaning, as listed below:

?	Any single character
*	Zero or more characters
#	Any single digit
(0-9)[charlist]	Any single character in charlist
[!charlist]	Any single character not in charlist

A group of one or more characters (charlist) enclosed in brackets ([ ]) can be used to match any single character in expression and can include almost any characters in the ANSI character set, including digits. In fact, the special characters left bracket ([ ), question mark (?), number sign (#), and asterisk (\*) can be used to match themselves directly only by enclosing them in brackets.

The right bracket (]) cannot be used within a group to match itself, but it can be used outside a group as an individual character.

In addition to a simple list of characters enclosed in brackets, charlist can specify a range of characters by using a hyphen (-) to separate the upper and lower bounds of the range. For example, [A-Z] in pattern results in a match if the corresponding character position in expression contains any of the uppercase letters in the range A through Z. Multiple ranges are included within the brackets without any delimiting. For example, [a-zA-Z0-9] matches any alphanumeric character.

Other important rules for pattern matching include the following:

An exclamation point (!) at the beginning of charlist means that a match is made if any character except the ones in charlist are found in expression. When used outside brackets, the exclamation point matches itself.

The hyphen (-) can appear either at the beginning (after an exclamation mark if one is used) or at the end of charlist to match itself. In any other location, the hyphen is used to identify a range of ANSI characters.

When a range of characters is specified, they must appear in ascending sort order (from lowest to highest). [A-Z] is a valid pattern, but [Z-A] is not.

The character sequence [ ] is ignored; it is considered to be a zero-length string.

Some examples of using special wildcard characters in filename search criteria are shown below:

Kind of search	With this pattern	This expression will match	This expression will not match
Multiple characters	a*a	"aa", "aBa", "aBBBa"	"aBC"
Special character	a[*]a	"a*a"	"aaa"
Multiple characters	ab*	"abcdefg", "abc"	"cab", "aab"
Single character	a?a	"aaa", "a3a", "aBa"	"aBBBa"
Single digit	a#a	"a0a", "a1a", "a2a"	"aaa", "a10a"
Range of characters	[a-z]	"f", "p", "j"	"2", "&"
Outside a range	[!a-z]	"g", "&", "%"	"b", "a"
Not a digit	[!0-9]	"A", "a", "&", "~"	"0", "1", "9"
Combined	a[!b-m]#	"An9", "az0", "a99"	"abc", "aj0"
Single special to double	[Æ]	"ae", "AE", "Æ"	"Å", "A"



## Size criteria

The Size Criteria can be used to specify:

- o a particular size of file to list;
- o files within a range of sizes;
- o files larger than, or smaller than, a particular size.

As with other Directory and File finder search criteria, the size criteria can be used in combination with any other criteria.

To make entry of sizes easier, you can specify sizes in an abbreviated form, e.g. '1k' instead of '1,000' or '5M' instead of '5,000,000'.

The format of each type of size specification is summarised below:

<b>Size Criteria format example</b>	<b>Meaning</b>
=5k	Sizes of exactly 5,000 bytes will be listed
5,000	same as above
>5k	Sizes greater than 5,000 bytes will be listed
>=5k	Sizes greater, or equal to, 5,000 bytes will be listed
>5k, <10k	Sizes more than 5,000 bytes, but <i>less than</i> 10,000 will be listed
>5,000 and <10,000	same as above

## Date criteria

To make entry of Date criteria easier certain abbreviations may be used, e.g.

m, mth, month	months
y, yr	years
d, day	days

The format of each type of date specification is summarised below:

<b>Date Criteria format example</b>	<b>Meaning</b>
<6mth	Dates within the last 6 months
>6mth	Dates beyond the last 6 months
<=1 year	Dates equal to or older than one year ago
<1-Jan-96	Dates after the first of January 1996
>=1-Mar-96	Dates earlier or equal to the first of March 1996

### Traffic lights as a progress indicator

In Scotland the traffic lights follow the sequence: green - amber - red, red - red and amber - green. This light sequence is used on the **Collect** button icon to indicate the various stages of data collection as follows:



Ready to start data collection.



Stop data collection.

Thus if the **Collect** button shows green, you can start a data collection by clicking on this button. If the button shows a red light you can click on the button to *stop* data collection. If the button shows amber or red and amber, it cannot be interrupted and is carrying out a database cleanup before/after data collection.

## **Drill down**

Drill down is a concept taken from Executive Information Systems... in an EIS you start with a high level view of data and then drill down to progressively more detailed views until you find the level of information you want. Space Watch pro works in just the same way - double clicking on most lists or tree views brings up the next level of detail.

## What you get for Ordering

Space Watch pro is distributed as [shareware](#). This means that to continue using Space Watch pro beyond the 30-day evaluation period requires you to buy a licence (i.e. register). The [registration](#) will then entitle you to:

- o continue using Space Watch pro in one installation for as long as please;
- o [technical support](#) via e-mail for three months, or the lifetime of this version, whichever is longest;
- o a full, printed, User Guide;
- o media on 3.5 floppy disk.

When you register you will be e-mailed with a licence key (if an e-mail address is available) that will immediately convert your installation of Space Watch pro into a fully registered copy of the software. There are various [methods available to register](#).

## Purchasing Space Watch pro v3






To get the full benefits of purchase\* you need to order using one of the methods listed below. Two editions of Space Watch pro are available - [Standard and Network](#). The cost of purchase for each edition is as follows:

	Per PC*	Shipping
<b>Standard edition</b>	US\$39	US\$5
<b>Network edition</b>	US\$149	US\$5

\* Included with your order is a full User Guide, technical support via e-mail for at least three months and free minor version upgrades.

To find out how to order Space Watch pro quickly and easily click on the links below for your country or region...

### **How to order**

-  USA and any other countries - [click here](#)
-  Australia and New Zealand - [click here](#)
-  Europe (UK) - [click here](#)

## Ordering - USA and World-wide

Space Watch pro can be registered by post, e-mail, fax, telephone or on-line via the Internet. Please click on the methods below for more information:

### World-wide:

[On-line via Internet](#) (credit card facility - secure interface using SSL)

[Post](#) (credit card facility) - for payment by cheque see below

[E-mail](#) (credit card facility)

[Telephone/fax \(toll free in USA\)](#) (credit card facility)

### UK/European Community:

[E-mail](#) (credit card facility)

[Telephone](#) (UK/London - credit card facility)

*Alternatively*, you may simply send a cheque made payable to S C Sharpe for the appropriate amount as shown above (US\$44 or US\$154), in either US\$ or your equivalent local currency, to:

SharpeWare,  
10 Gallow Hill  
Peebles EH45  
The Borders of Scotland  
SCOTLAND

[Click here](#) for a registration form when paying by cheque (check) to the above address *only*.

A full registration pack will be posted to you by Air Mail. If you supply an e-mail address we will e-mail you the licence key immediately on receipt of your registration fee.

## Ordering - Europe

To get the full benefits of registration you need to register using one of the methods listed below. Two editions of Space Watch pro are available - [Standard and Network](#). The cost of registration for each edition is as follows:

	Per PC*	
<b>Standard edition</b>	<b>£25</b>	
<b>Network edition</b>	<b>£90</b>	
Upgrade:		
Standard to Network	£65	
<b>Shipping:</b>	UK	£3
	Other EC	£5
	Non-EC	£6 (US\$9)

\* Included with registration is a full User Guide, technical support via e-mail for at least three months and free minor version upgrades.

*Please include your e-mail address when registering* - we will e-mail you a licence key to immediately register Space Watch pro at the appropriate level.

### Ordering by post:

Send your order and payment to:

Ensign Systems,  
21 Tredown Road  
Sydenham  
London SE26 5QQ  
ENGLAND

### Credit card ordering:

You may pay by credit card to the above address using the [credit card order form](#), or by:

Telephone: +44 (0)181 778-2871  
Fax: +44(0)181 776-8477  
(please fax the [credit card order form](#))  
E-mail: ENsignPub@aol.com

If you are paying by **credit card** please quote your current card number and expiry date. If you wish to pay by **cheque** then we accept payment in £ (pounds) Sterling drawn on a UK Bank, or Eurocheques drawn in £ (pounds) Sterling, or US Dollar cheques drawn on a US-based Bank.

Ensign Systems regret that they cannot accept any other foreign currency - please see [alternate registration methods](#). However, if you wish to pay by international transfer Bank to Bank, please contact Ensign Systems and they will provide you with the detail you need to achieve this (you will be liable for the transfer charges). Bank to Bank transfer will be effected using the International Relay payment system.



## Ordering - Australia and New Zealand

You can order from Aquarian Technologies by payment with cheque, credit card, Postal Money Order, Bank Transfer or Purchase Order (approved customers only). The credit cards currently accepted are: MasterCard, Visa and BankCard.

Aquarian Technologies usually ship orders on the same day they are received using Express Post which means that you receive the software the next working day in most cases. We can also email you your registration code if requested to do so. Please contact us for pricing information on discounted site licences and multiple copies.

### Purchase prices

	<b>Per PC*</b>
<b>Standard edition</b>	\$AUD 66.00
<b>Network edition</b>	\$AUD 240.00

**Shipping:** Price includes Express Shipping and Handling, **usually with next day delivery**

\* Included with registration is a full User Guide, technical support via e-mail for at least three months and free minor version upgrades.

### Order now!

Sales:	1800-240-774
Telephone:	+61 (0)3 5470-6812
Fax:	+61 (0)3 5470-6803
E-Mail Orders:	<a href="mailto:sales@aquatee.com">sales@aquatee.com</a>
WEB Site:	<a href="http://www.aquatee.com">www.aquatee.com</a>

Postal Mail Address:

Aquarian Technologies  
PO Box 820,  
Castlemaine, VIC, 3450

**Order form - Europe**

Use the Print button above to print this form, then fax or post to the address shown previously. If you supply an e-mail address we will be able to supply you with a licence key for immediate registration.

Product: **SPACE WATCH PRO version 3**

(Mr\Mrs\Miss\Ms) Name: .....

Address: .....

.....

.....

Country: ..... Postcode: .....

E-mail address: .....

Please supply the following:

*Quantity*

- STANDARD edition @ £25 each
- NETWORK edition @ £90 each

Upgrade:

- STANDARD to NETWORK @ £65 each
- Shipping/handling @ £3 UK, £5 EC, £6 elsewhere for each item

I enclose a cheque for £\_\_\_\_\_ in payment, including shipping/handling

**OR**

Please debit my credit card in the sum of £\_\_\_\_\_ (Mastercard/Visa/Delta)

Card number: ..... Expiry date: .....

Signed: ..... Date: .....

When completed please send with your payment to:

**ENSIGN SYSTEMS**  
**21 Tredown Road**  
**Sydenham, London**  
**SE26 5QQ, ENGLAND**

**OR**

**FAX to +44 (0)181 776-8477**

(Ref: CDR/M97)

**Order form - postal registration**

Use the Print button above to print this form, then complete and return it with a cheque (check) made payable to S C SHARPE to:

**SharpeWare  
10 Gallow Hill  
Peebles EH45 9BG  
Scotland**

Your name/address .....

.....  
.....  
.....  
.....  
.....

E-mail address.....

*(This will be used to send you a licence key to provide instant registration)*

NOTE: All items are + US\$5 shipping/handling world-wide

*Quantity*

- STANDARD edition @ US\$39 each
- NETWORK edition @ US\$149 each

Upgrade:

- STANDARD to NETWORK @ US\$110 each

Upgrade:

- STANDARD edition v2 to v3 @ US\$19 each
- NETWORK edition v2 to v3 @ US\$39 each

- Shipping/handling @ US\$5 for each item

**TOTAL ENCLOSED**

\_\_\_\_\_  
\_\_\_\_\_

Where did you obtain **Space Watch**? .....

See [www.sharpeware.com](http://www.sharpeware.com) for the latest ordering options and technical support or contact SharpeWare sales via [sales@sharpeware.com](mailto:sales@sharpeware.com)



## Ordering via PsL (Www, E-mail, Post, Fax, Phone)

You can now order our [shareware](#) using your Credit Card in a variety of easy ways, including:

- o On-line, via Credit Card
- o By 800 toll-free number, fax or telephone (USA only)
- o By post
- o By e-mail.

using the services of Public (software) Library (PsL). Once registered, we are notified immediately by e-mail and will dispatch the appropriate title to you by post and, if possible, e-mail you with the licence key required to register your software.

### On-line registration

Follow the URL shown below from your Internet Browser for IMMEDIATE, ON-LINE registration using your credit card (MC, Visa, Amex, or Discover) - security safeguards are provided. You will be presented with three screens - one to take your details; one to allow you to choose what registration options you require and a third screen to confirm the transaction:

<b>Www</b>	<a href="http://www.pslweb.com/cgi-win/psl_ord.exe/ITEM14376">http://www.pslweb.com/cgi-win/psl_ord.exe/ITEM14376</a>
<b>Phone</b>	1-800-2424-PsL Extn. 14376 <b>or</b> 1-713-524-6394 Extn. 14376
<b>FAX</b>	1-713-524-6398
<b>Email</b>	14376@pslweb.com
<b>Post</b>	credit card orders to: PsL, P.O.Box 35705, Houston, TX 77235-5705, USA.

**THE ABOVE NUMBERS ARE FOR CREDIT CARD ORDERS ONLY. THE AUTHORS CANNOT BE REACHED AT THESE NUMBERS.**

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Any questions about the status of the shipment of the order, refunds, registration options, product details, [technical support](#), volume discounts, dealer pricing, site licenses, non-credit card orders, etc., must be directed to SharpeWare (support@sharpeware.com).

## The Association of Shareware Professionals



Shirley C Sharpe is a member of the Association of Shareware Professionals (ASP). ASP wants to make sure that the [shareware](#) principle works for you. If you are unable to resolve a shareware-related problem with an ASP member by contacting the member directly, ASP may be able to help. The ASP Ombudsman can help you resolve a dispute or problem with an ASP member, but does not provide [technical support](#) for members' products.

Please write to the ASP Ombudsman at 545 Grover Road, Muskegon, MI 49442-9427 USA, FAX 616-788-2765 or send a CompuServe message via CompuServe Mail to ASP Ombudsman 70007,3536 (from the Internet: 70007.3536@compuserve.com).

You can also visit the ASP web site at <http://www.asp-shareware.org>

## Shareware

Shareware distribution gives users a chance to try software before buying it. If you try a Shareware program and continue using it, you are expected to register. Individual programs differ on details -- some request [registration](#) while others require it, some specify a maximum trial period. With registration, you get anything from the simple right to continue using the software to an updated program with printed manual.

Copyright laws apply to both Shareware and commercial software, and the copyright holder retains all rights, with a few specific exceptions as stated below. Shareware authors are accomplished programmers, just like commercial authors, and the programs are of comparable quality. (In both cases, there are good programs and bad ones!) The main difference is in the method of distribution. The author specifically grants the right to copy and distribute the software, either to all and sundry or to a specific group. For example, some authors require written permission before a commercial disk vendor may copy their Shareware.

Shareware is a distribution method, not a type of software. You should find software that suits your needs and pocketbook, whether it's commercial or Shareware. The Shareware system makes fitting your needs easier, because you can try before you buy. And because the overhead is low, prices are low also. Shareware has the ultimate money-back guarantee -- if you don't use the product, you don't pay for it!

