

ICT

Study Module 2

Managing information

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2 Managing information

By the end of this module, you should be able to:

- ➡ use meaningful file and folder names
- ➡ create appropriate folder structures
- ➡ control access to files
- ➡ store information securely
- ➡ take appropriate action to minimise the risk of computer viruses



Introduction

There is nothing more frustrating and time-consuming than losing a document that has taken you a long time to produce or – worse still – having your hard work damaged or destroyed by a virus. Don't let it happen to you – get organised! Organising and storing your work is just as important as producing fantastic results.

In this module, you will learn how to manage your information and keep it secure.

Skill Standards covered

At Level 1, you can...	At Level 2, you can...
3 Manage information storage	3 Manage information storage to enable efficient retrieval
3.1 Work with files, folders and other media to access, organise, store, label and retrieve information	3.1 Manage files, folders and other media storage to enable efficient information retrieval
4 Follow and demonstrate understanding of the need for safety and security practices	2 Select, interact with and use ICT systems safely and securely for a complex task in non-routine and unfamiliar contexts
4.1 Demonstrate how to create, use and maintain secure passwords	
4.2 Demonstrate how to minimise the risk of computer viruses	2.5 Understand the danger of computer viruses and how to minimise risk

A

Managing files and folders

Every time you use a software application to create information, you produce a file. If you want to save the file, you must give it a name and specify where you want to store it – on the hard drive, on a memory stick, in a particular folder.

Files

A **file name** has two parts. The first part (before the full stop) is chosen by the user to identify the file. When you save a file, use a meaningful name, i.e. one that gives some idea of its content. Use dates and version numbers in file names to indicate how current they are.

The second part – the file extension – is normally added to the name automatically by whatever software application is used to create the file.



Every software application has its own default file extension. The file extension (usually three characters long) tells you what type of file it is.

Sometimes you may not be able to open a file that someone has sent you.

This could be because:

- you do not have the software application it was created in, or
- you have an older version of the software.

To overcome this problem, ask the sender to save the file as a different type. For example, html files can be read by any web browser and rtf (rich text format) files can be accessed by any word processing software.

When you save a file, you can select the file type you want it to be in. Go to 'Save as...' and check what options your software application gives you under 'Save as type'.

Tip

Before you send somebody a file, check that they will be able to open it or save it in a generic format.

Skill Builder 2.1

- Find out which software application will open these file types:
 - textbook.pdf
 - sunset.gif
 - index.html
 - ticketsales.xls
 - health-safety.odp
- Use word processing software to create a new document and enter a few words. Save the file in your user area with a filename of your choice. Close the file and close the application software you used to create it.
- Locate the file in the file directory.
 - Change the first part of its filename. Can you still open it in the software application in which it was created?
 - Change its file extension. What happens now when you try to open it?
- Create a new document with some words formatted (bold, italic, colour, font, size).
 - Save the document, using the file type 'plain text'.
 - Close the document.
 - Open it again.
 - How has the file type you used changed the appearance of your text?

Have you ever seen a message like this when trying to open a new file? If not, then you are lucky!



Tip

Think carefully before changing the default file type. It can have undesirable consequences.

Size matters

The longer a document is, and the more multimedia components you include, the bigger its file size will be. Next time you are working on a presentation, monitor how the file size increases as you develop your work.

Even the most powerful computer will slow down if the size of the file you are working on gets too big. Needless to say, the slower your computer is, the less efficient you will be.

You need to match the file type you choose with the way you want to use the file. If all you want to do is email a photo to your friends, it probably doesn't matter how large the file is. But size does matter if you want to share all your holiday photos with them. They won't want to sit in front of their computer and wait for ages for all your photos to download! In this instance, smaller file sizes matter because the files download faster. On the other hand, a picture that has been made smaller to reduce its file size might not look good when it is printed.

Compression

One way of reducing a file's size is to compress it. You can also compress several files in one go by 'zipping' them up in a folder. The size of a 'zipped' folder is usually a lot less than the original.

'Zipping' up several files in a folder is both efficient and convenient. You can upload or download them in one go or email them to someone without the possibility of missing out a file.

Skill Builder 2.2

- Select at least three files and add up their sizes.
- Zip-up the files into a folder.
- Compare the size of the 'zipped' folder with the total size of the files.
- Experiment with different types of files. Which types of file compress the most?

Tip

You can set the folder options to show the size of your files as well as other details. Experiment with different views. With all details displayed, try sorting the files in different ways.

Tip

Your computer's operating system might let you zip-up files - if not, there are special programs, some free, available to download. Highlight the files you want to include, right click and, in Windows, select 'Send to', then 'compressed (zipped) folder'. The zipped folder will appear in the same folder as your files. If the name of the zipped folder is not meaningful, rename it.

Keeping control

You can use permissions and passwords to control who has access to your files and what they are able to do to them.

Permissions

When you set permissions, you specify the level of access for groups and users. For example, you can let one user read the contents of a file, let another user make changes to the file and prevent all other users from accessing the file.

You can **password protect** a file to give you even more control. But beware! Once you have set a password, everyone, including you, must enter it correctly.

To give you the best protection, you need to use a 'strong' password. A strong password uses a mixture of upper- and lower-case letters and numbers, and contains at least eight characters. The password f3joWLe8, for example, would be quite difficult to guess or discover by trial and error.

Strong passwords may not be easy to remember. One way is to start with a sentence that means something to you, e.g. "My brother Alan is 3 years old on 4 July." Then take the first letter of each word, and the numbers, to make your password. So this would be MbAi3yoo4J.

Remember – there is no point having a strong password if you don't keep it secret! Don't write it down and don't tell anyone else what it is.



Tip

Some websites let you test the strength of your password.

Skill Builder 2.3


- Create a new document and set a password to protect the file. Make sure you can remember the password and then save and close the file. What happens when you try to re-open the file?
- Experiment with file properties. How do you make a file 'Read-only'? What does that mean? How can you and the people you send it to tell that a file is read-only?

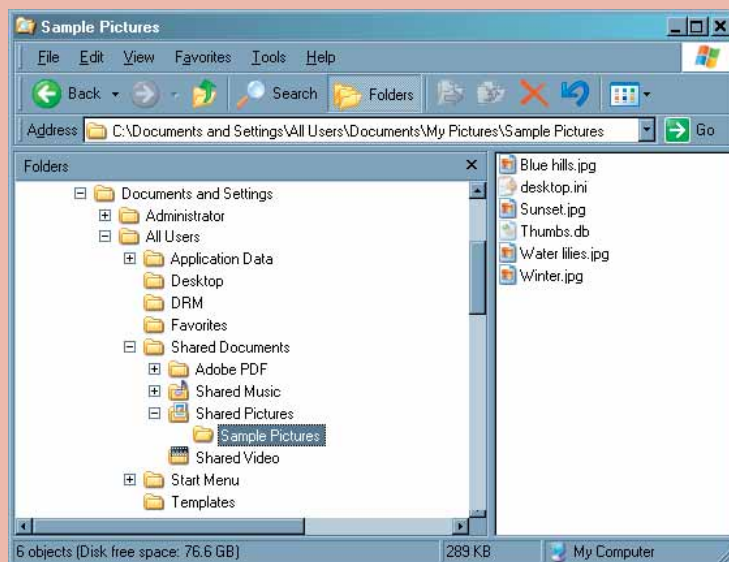
Folders

You can create folders to organise and group files. Folders, like files, need to be given meaningful names so that you do not need to open them to find out what files they contain.

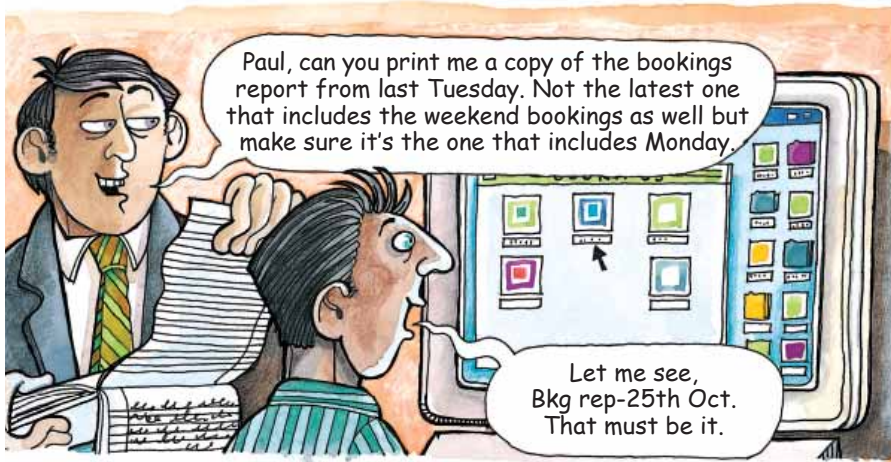
Skill Builder 2.4

Folder name	Content of folder
CustServ	Accident book for each department and first aid manuals
XmasParty	Activities for a school induction week


 Open digital asset SB2.4.1, which shows a list of folders. Can you identify the correct content for each folder?



Have a look at the screenshot above. It shows a set of folders. The top folder is called 'Documents and Settings'. This contains other folders, including one named 'All Users'. This contains other folders in a chain which ends with a folder named 'Sample Pictures'. This folder is open. All the files it contains are listed in the right-hand side of the picture. The full name of the 'Sample Pictures' folder, known as its path, is: C:\Documents and Settings\All Users\Shared Documents\Shared Pictures\Sample Pictures



Skill Builder 2.5

-  Save the digital asset 'zipped' folder *Holiday* in your own user area.
- 'Unzip' the folder.
- Take a screenshot of this folder structure.
- Paste the screenshot into a word processing document.
- Take a screenshot of the files in the folder 'Photos'.
- Paste the screenshot into the same document.
- Adjust the size of the screenshots so that they fit onto one page.
- Add your name and the date to the document.
- Save the document using a meaningful filename.
- In the folder 'Money', the file *Bank Details* is password protected. Produce a screenshot that shows this.
- The picture file *Sunset* has been saved in the wrong location. Move it to the *Photos* folder.
- Make sure you can copy a file or folder using drag-and-drop and copy-and-paste.
- What happens if you try to give exactly the same name, including the file extension, to two files in the same folder?
- What happens if one file has its name in upper-case letters and the other has exactly the same name, but in lower-case letters?

Tip

To capture the image of a screen, look for the PrtSc (Print Screen) key. Colour coding of the lettering indicates if you have to hold down the Function key before you press it. The image of your screen is put on the 'Clipboard', from which you can paste it into documents. Use the crop tool to remove the parts of the screenshot you do not need. If you want to manipulate and enhance screenshots, use a specialist program.

B Where can files and folders be stored?

The main storage area for files and folders on a stand-alone computer is its hard drive and, on a network, the network drives.

Drives need to be uniquely identified. The hard drive in a computer is nearly always called drive C:. The letters for network drives generally start with G:. Files can also be stored on portable media such as CDs, DVDs, memory cards and USB sticks. When they are used, portable media show as additional drives, normally drives D:, E: and F:.

Did You Know?

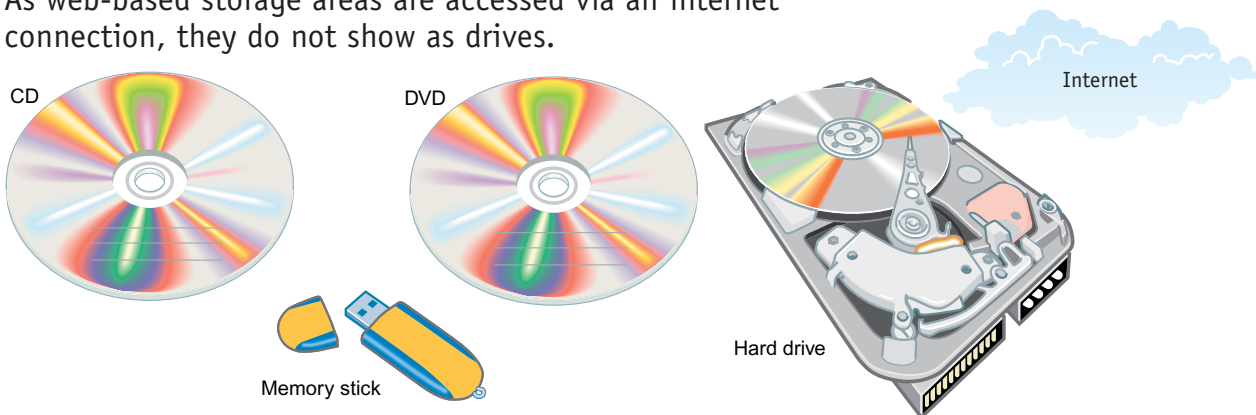
More than 40 exabytes (4.0×10^{19}) of unique new information will be generated worldwide this year – that is more information than has been produced in the last 5,000 years!

Tip

Take care where you store your files online. Make sure you can get them back.

You can also store information online. One advantage of online storage is that you can access files from any computer. Can you think of any others? What disadvantages are there?

As web-based storage areas are accessed via an internet connection, they do not show as drives.



Skill Builder 2.6

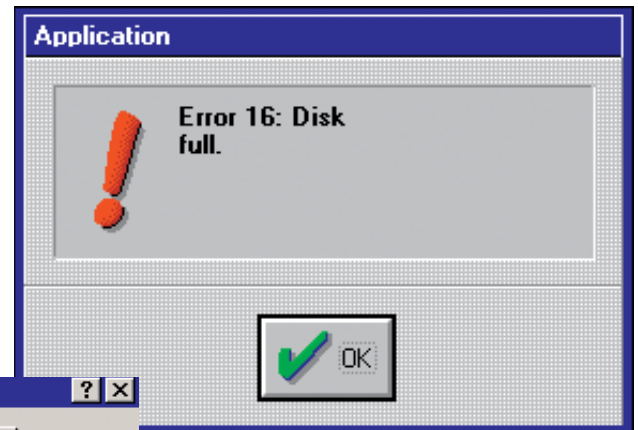
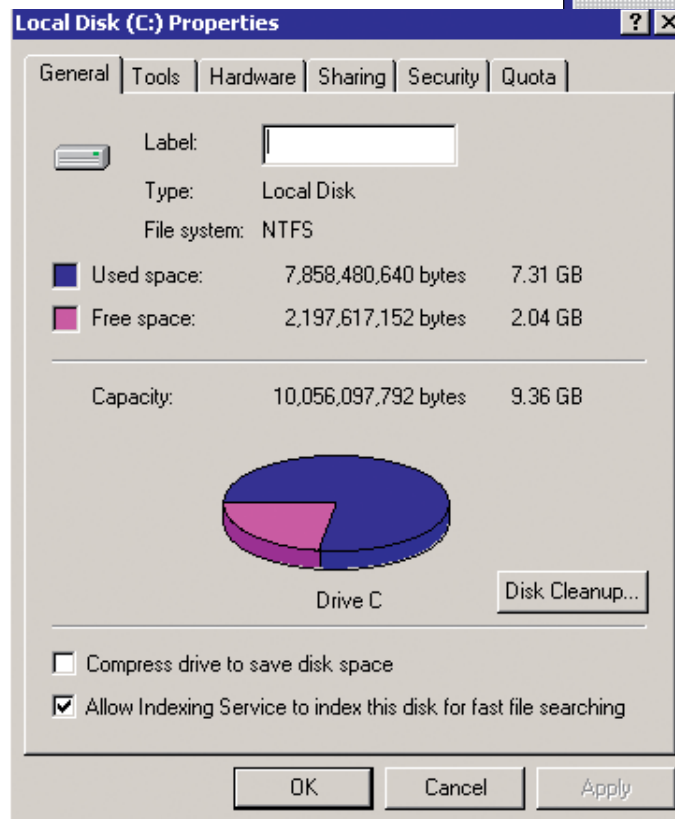
- Choose the most suitable storage media for these situations:
 - holiday photos taken with a digital camera
 - friends living in different towns who want to view each other's photographs
 - a hospital's patient records
 - a TV programme downloaded from the internet
 - taking a presentation to a meeting
- Find out the best ways of looking after:
 - CDs and DVDs
 - memory cards
 - memory sticks

Storage full

You can find out how much space is left on a drive by looking at its properties.

In Windows, click the 'Start' button and then click on 'My Computer'. This will list all the drives on the computer. Right click on one of the drives and then click on 'Properties' in the drop-down menu.

Click on the 'Disc cleanup' option to see how much space you could free up.

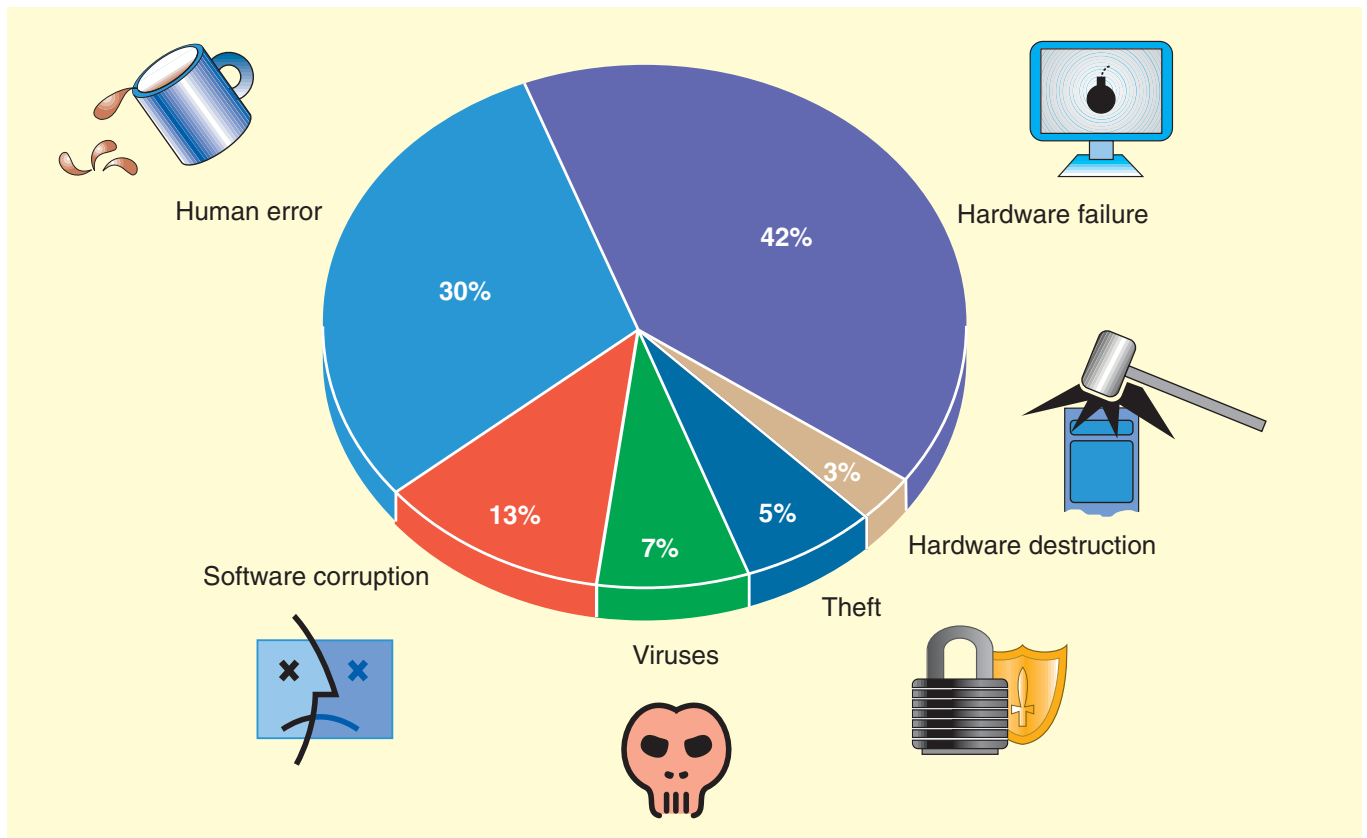


Backing-up

If you have ever lost important ICT work and had to do it all over again, you will know how annoying this can be. And, if it has not happened to you yet, don't assume it won't!



This pie chart shows the main reasons people lose work.



Despite your best efforts, files can still get damaged or lost. Always make a second copy of important work.

Keeping a copy of a file in a separate, secure location is known as 'backing up'. Backups can be stored on an external storage medium, e.g. DVD, memory stick, a network or online. The key point is that you keep the backup in a different location from the original file. This provides protection against loss by fire or theft.

Tip

Tips for managing information storage

- Devise a sensible folder structure and use it.
- Whenever you start a new document, save it immediately in the correct location.
- Give your files and folders meaningful names so that you can identify them easily.
- Save your work regularly and use version numbers.
- Compress your files.
- Carry out housekeeping regularly and delete files no longer needed.
- Make back-ups and keep them in a different location.
- Never overwrite your only backup with the next version. If the system fails in the middle of the backup procedure, you will lose everything!

C Minimising the risk of computer viruses

Viruses are programs that can infect your computer without you even noticing. They are harmful; they can damage system settings, and delete or corrupt files. Viruses spread from one computer to another via memory sticks, the internet and email attachments. A computer infected with a virus will often behave in unexpected ways. If you suspect a virus infection, stop using the computer and ask for help!

What can I do to protect my files?

Anti-virus software can protect your data. It runs automatically in the background and detects when an infection occurs. Use one of these programs regularly to scan the computer for infections and make sure it is always up-to-date.



Skill Builder 2.7

- Write a set of guidelines for minimising the risk of viruses.
- Find out what anti-virus software is on your computer and how up-to-date it is.

Removing viruses and spyware can be difficult. Use good anti-spyware and anti-virus programs to protect your machine.

Be careful with your surfing habits and don't download anything you are unsure about.



Be very careful about 'free' music and video downloads.

Don't open email that you are not expecting, or from anyone you don't know, and be very careful not to open any attachments.

D

Wrapping up

Skill Check – make sure you know how to:

- | | |
|------------------------------------------|----------------------------------|
| ✓ create folders and subfolders | ✓ use passwords to protect files |
| ✓ move around a folder structure | ✓ create a strong password |
| ✓ save a file in a folder | ✓ make a file 'read-only' |
| ✓ select an appropriate file type | ✓ 'zip' and 'un-zip' files |
| ✓ copy, move and delete a file or folder | ✓ make backups |
| ✓ change a file or folder name | |




Knowledge Check – make sure you know:




- ✓ what a virus is and how to protect a computer against virus attacks
- ✓ why it is important to keep anti-virus software up-to-date

Test Tips

In Task 5 you must show how you have saved and stored your files throughout the test. Begin as you mean to go on and get organised before you start Task 1. Have a look at the mark scheme. How many marks are awarded for file management and what do you have to do to get them?

Make sure you know how to produce a screen shot that shows the way you have organised your files and folders. Edexcel will supply a set of data files for the test. Look at these screenshots.

Name	Date modified	Type	Size	Tags
 AccidentsL1	28/07/2010 10:01	Microsoft Excel W...	14 KB	
 ImagesL1 (LB 17.06.10)	28/07/2010 10:01	Microsoft Word D...	1,567 KB	
 PoniesTextL1 (LB 17.06.10)	28/07/2010 10:01	Text Document	1 KB	

Name	Date modified	Type	Size	Tags
 CampaignTextL2	17/06/2010 14:47	Text Document	2 KB	
 ImagesL2	17/06/2010 14:48	Microsoft Word D...	1,666 KB	
 VisitorSurveyL2 (LB 17.06.10)	17/06/2010 14:48	Microsoft Excel W...	25 KB	

- Two files are text documents. Which software application would you use to open them?
- What system does Edexcel use to indicate that a file is for Level 1 or Level 2?

In some instances, be prepared to explain rather than demonstrate. There may be questions in the test that require a written answer.

For example:

- Give **two** reasons for compressing files.
- List **two** features of a secure password.
- Describe one way of controlling access to a file.