



DIGITAL SKILLS FOR PEOPLE LIVING IN THE 3RD AGE  
Effective Digital Access to Public Services



# **DIGITAL ACCESS PROJECT**

## **LEARNING MODULE**

### **Managing files and digital documents**

**Code: M2IO**

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**LEARNING HOURS: [ALL UNITS LEARNING HOURS]**

**WORKLOAD: [ALL UNITS LEARNING HOURS + OVERALL TIME FOR THE EXERCISES]**

## SUMMARY

This module is designed to provide the user with the necessary knowledge related to managing digital files. Unit 1 is designed to help the user to distinguish between the different digital file formats, attending to its intended use and reflected at the file extension that accompanies the file name. Unit 2 is designed to provide the user with the skills needed for basic digital file management actions and file management applications providers.

## KEYWORDS

File, Digital File, File Extension, File Management, File Management Application, File Sharing Application

## MODULE OBJECTIVES

<b>Actions / Achievements</b>		
Acquiring an understanding of digital files types according to its intended use and the necessary knowledge to perform basic file management actions under different operative systems and applications.		
<b>Knowledge</b>	<b>Skills</b>	<b>Competencies</b>
Digital Files	Understand the different file format use according to its intended use	Identify the intended use of a digital file attending to the file name extension of it.
Managing Digital Files	Basic digital file management operations from creating to deleting files.	Confidence in digital file management and digital files organisation and sharing activities.

## UNIT 1: Digital files. Main types.

### Knowing and differentiating digital files

The objectives of this learning unit for the participants are:

- Introduce them to the different digital file types.
- Understand the meaning of the various file extensions that are in use by the most popular software programs.

### What is a digital file

A **digital file** is a computer resource for recording data discretely in a computer storage device. Just as words can be written to paper, so can information be written to a computer file.

There are different types of computer files, designed for different purposes. A file may be designed to store a picture, a written message, a video, a computer program, or a wide variety of other kinds of data. Some types of files can store several types of information at once.

By using computer programs, a person can open, read, change, and close a computer file. Computer files may be reopened, modified, and copied an arbitrary number of times.

Typically, files are organised in a file system, which keeps track of where the files are located on the disk and enables user access.

A **filename** (also written as two words, **file name**) is a name used to uniquely identify a computer file stored in a file system. Different file systems impose different restrictions on filename lengths and the allowed characters within the filenames.

A filename may include one or more of these components:

- **host** (or **server**) – network device that contains the file
- **device** (or **drive**) – hardware device or drive
- **directory** (or **path**) – directory tree (e.g., /usr/bin, \TEMP, [USR.LIB.SRC], etc.)
- **file** – base name of the file
- **type** (format or **extension**) – indicates the content type of the file (e.g. .txt, .exe, .COM, etc.)
- **version** – revision or generation number of the file
- **size** – measured in bytes, megabytes (Mb – 1 million bytes) or Gigabytes (Gb thousand million bytes or one thousand Mb)

The components required to identify a file varies across operating systems, as does the syntax and format for a valid filename.

## File extensions classification according to its intended use

A **filename extension** is an identifier specified as a suffix to the name of a computer file. The extension indicates a characteristic of the file contents or its intended use. A file extension is typically delimited from the filename with a full stop (period), but in some systems it is separated with spaces.

Some file systems implement filename extensions as a feature of the file system itself and may limit the length and format of the extension, while others treat filename extensions as part of the filename without special distinction.

## Text files formats

This type of files contains text strings, with or without format indications (depending on the type). All of them could be opened or converted, then after that the user can modify the text or format, and save the file again.

Below are the most common file extensions used with text files and documents.

- ***.doc/*** and ***.docx /-*** Microsoft Word file.
- ***.odt /-*** OpenDocument Writer file.
- ***.rtf/*** – Rich Text Format.
- ***.tex/*** - A LaTeX document file.
- ***.txt/*** - Plain text file.
- ***.wks/*** and ***.wps/-*** Microsoft Works file.
- ***.wpd/*** - WordPerfect document.

## Spreadsheet files formats

A spreadsheet is a set of tables (rows and columns) that can include formulas to calculate results. They could be as simple as the calculations to produce an invoice, adding taxes or detracting discounts off the price, or extremely complicated as are the used to control the stock market.

The most popular file extensions are:

- ***.xls/*** and ***.xlsx/*** - Microsoft Excel file.
- ***.ods/*** - OpenDocument Spreadsheet file.

## Image files formats

- **/.bmp/** Windows bitmap is a bitmap image format, typical of the Microsoft Windows operating system. You can save 24-bit images (16.7 million colours), 8 bits (256 colours) and less. These files can be given a compression without loss of quality: RLE (Run-length encoding) compression.
- **/.tiff/** - A lossless file format that can be compressed. This format is widely supported across operating systems. TIFF is the best file format for archiving high quality images.
- **/.jpg/ or /jpeg/** - The JPG file format was specifically created for photographs and can contain millions of colours. JPGs are automatically compressed (you can choose the level of compression to match your desired image quality), resulting in a relatively small file size while still retaining quality. For this reason, JPGs are ideal for email and Web use. JPGs are lossy, discarding information each time that they are compressed.
- **/.gif/** – The lossless and compressed file format that is preferred for graphics, because it keeps edges and lines sharp. GIFs are limited to 256 or fewer colours, and are not recommended for photographs, but rather for images with flat fields of colour, such as clip art. GIFs can be static or animated.

*Lossless compression algorithms reduce file size while preserving a perfect copy of the original uncompressed image.*

*Lossy compression algorithms preserve a representation of the original uncompressed image that may appear to be a perfect copy, but it is not a perfect copy.*

**Proprietary:** refers to file formats that require a certain software application to read/ open that file. For example, */.psd/* is the proprietary file format for Adobe Photoshop files.

## Sound files formats

To store and reproduce audio on your computer, the audio signal from the microphone is converted by the sound card into a series of numbers in quick succession. This process of converting is called "sampling".

An audio file format is a file format for storing digital audio data on a computer system. There are two types of conversion depending on the quality of the result:

- A lossless compressed format stores data in less space without losing any information.
- Lossy compression enables even greater reductions in file size by removing some of the audio information and simplifying the data.

Most popular types of sound file formats are:

- ***.mp3/*** - MPEG Layer III Audio. It is the most common sound file format used today
- ***.wav/*** - Standard audio file container format used mainly in Windows PCs
- ***.wma/*** - Windows Media Audio format, created by Microsoft

### **Multimedia files / Video files**

A **video file format** is a type of file format for storing digital video data on a computer system. Video is almost always stored in compressed form to reduce the file size.

**Video editing** is both an Artistic and Technical process in which a collection of video material is compiled and altered from its original form to create a new version.

- **Video Frame** - A video is an action sequence formed by a series of images, and each image in the series succeeds the previous one in the timeline of the action sequence to be displayed. These still images are called video frames.
- **Compression** of video is a process by which the overall size of the video information is compacted
  - Lossless video compression produces, on the decompression end, an exact copy of the image that was originally submitted at the input of the compression process
  - Lossy video compression is based on the premise that not all the video information is relevant or capable of being perceived by the viewer, therefore some video information is intentionally discarded during the compression process
- **Codecs in Video Solutions** - The term codec stands for COder - DECoder. Video codecs are the hardware or software means by which video is encoded and decoded. The codec helps reduce the video stream size and irregularity by applying a compression operation on it.

Popular Video file formats are:

- ***.flv/*** - used to deliver digital video content (e.g., TV shows, movies, etc.) over the Internet using Adobe Flash Player
- ***.gif/*** - can be used for small animations and low-resolution film clips
- ***.avi/*** - introduced by Microsoft in November 1992
- ***.mp4/*** - most commonly used to store video and audio

## Compressed file formats

A compressed file is the output of process a standard file (usually text, graphic, sound or video file), through a compression algorithm, to generate another file smaller in size. This action is useful to store or to share files. You cannot use the content of a compressed file until you decompress the file (colloquially “unzip” the file), and the files or folders (or both of them) that you or anyone compressed, appears again on your computer with its original file names and extensions. Most popular compressed files extensions are:

- `/.zip/` – popular compression format. ZIP is an archive file format that supports lossless data compression. A ZIP file may contain one or more files or directories (folders structure with files inside) that may have been compressed.
- `/.rar/` – Rar Archive, for multiple file archive (rar to .r01-.r99 to s01 and so on)

## Program File formats (Executable file extensions)

The most common executable file are files ending with the `.exe` file extension in Windows systems. However, other files can also be run by themselves or with the aid of an interpreter.

- `/.apk/` - Android package file
- `/.bat/` - Batch file
- `/.bin/` - Binary file
- `/.cgi/` or `/.pl/` - Perl script file
- `/.com/` - MS-DOS command file
- `/.exe/` - Executable file
- `/.gadget/` - Windows gadget
- `/.jar/` - Java Archive file
- `/.py/` - Python file
- `/.wsf/` - Windows Script File

You don't have to manage those files, we only provide the list of extensions to help you to recognise and avoid to involuntary delete them. You only have to delete them if you think that there are containing viruses or any malware.

## UNIT 2: Managing Digital Files

### Managing digital files

The main objective of this learning unit for the participants is:

- Teach them the basics and good practices of file management: creating, modifying, converting, storing, organising, sharing and deleting files.

### Creating a digital file

When you open an application or computer program to work with it, most of the time automatically opens a new file. If it does not open, you have to look for the option New File or New File from the template in the File menu.

The name with which the document will be opened will be by default File1, Excel1, Presentation1, etc., depending on the program in which we are creating the new file. We can customise that name at any time with the Save As option in the File menu, where you will ask us the name with which we want to save the file and the place, the folder, where we want to do it (see below the section storing files).

A **template** is a format predefined by the program for a specific purpose such as an invoice, a greeting, etc. If we choose to use the template, certain elements such as margins, font, or some graphic decoration elements of the document that we are going to create will appear predefined, and we will only have to write the content that we want. Those predefined elements that the template incorporates can be modified to our liking in the document, without affecting the template. If we're going to modify the template, we must open the template file itself and save the changes done with the same or with another name at our election.

### Modifying and Storing a digital file

**Save**, is the option you have to choose from the menu File, to store the work you have done. If the file has a name, the changes you made will be saved by default with the same name. If you want to change the name of the new document, preserving the old content you have to choose the option Save As and assign a new name to the file; this action will maintain both files the old and the new one.

**Save As**, is the option from the menu File that allows you store the file changing the name, the storage folder or the file type or version (we will see this action widely below under the converting files section).

**Warning:** sometimes applications or computers eventually crash, so if you are working with a file for a long time period, periodically save your work to prevent data loss due to the eventual crash.

## Organising digital files

**New folder.** Creating a folder is the action you have to take to put some order in your recorded data, preventing the misplace of files once your number of files starts to grow. You reach it from the File menu under the option New Folder in your File Manager Program; it is slightly different if you work in a Windows (File Manager), or in a MacOS system (Finder).

**Subfolder.** Creating a folder into another (subfolder). In the same way that you store physical papers (files) inside a light cart subfolder, and several of them inside a container folder, you can do it digitally with files. You have to just open a folder and execute the option New Folder from there, by default the new folder will be created inside the folder that it is open at that moment, but you can change it selecting a different folder to be the container of the new one. There is no problem to have inside a folder both individual files and subfolders, as it could be done in the physical world as well (mixing single paper sheets with subfolders containing groups of sheets).

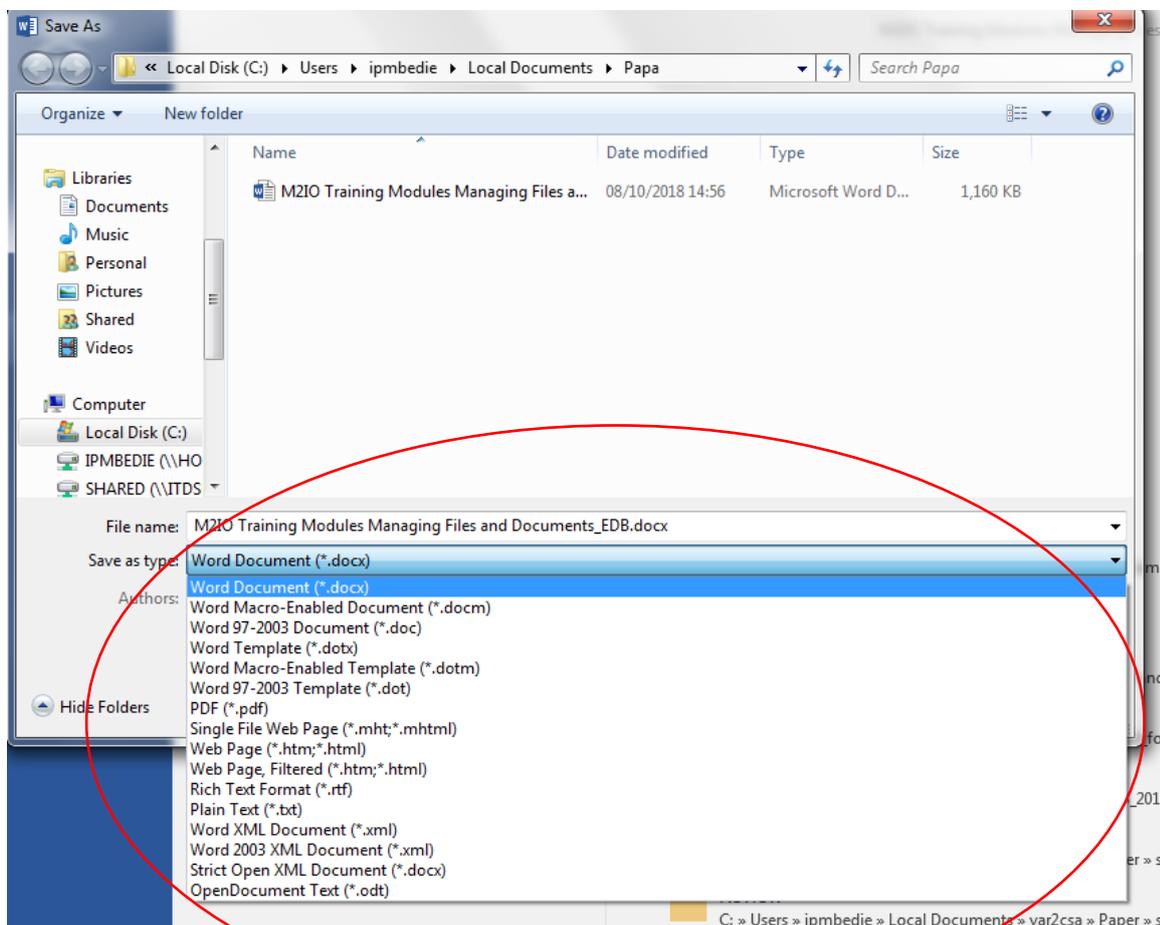
**Moving or copying files between folders.** To do this open the folder click on the file (or files) to select it or them and drag and drop the files in the new destination folder. This action by default will move the files from one folder to another. If you want to create a copy, you have to do the same but pressing a key during the action of drag and drop (the key to be pressed is different in both systems Windows and MacOS). By doing this, you will create a copy of the selected files in the destination folder, while the original ones stay available at the origin folder.

Moving or copying the whole folder files content. If you want to move or copy the entire content of a folder, repeat the action described above but without open the folder. Instead of selecting files, select the folder or folders and proceed as described to move or create a copy of the selected folder/s.

## Converting a digital file

### Save As

You can convert the file format by choosing the available options showed in the Save As dialogue box. Besides being able to establish name and destination folder, at the bottom the dialogue box, there is a drop-down list with the different formats that can be used to save your file. It is mostly used to adapt your file to similar formats with minor changes (often due to new application versions). Is also used to convert any file (text, spreadsheet or presentation) in a portable document (.pdf extension), that could be open by anyone, without having installed the program used in its creation.

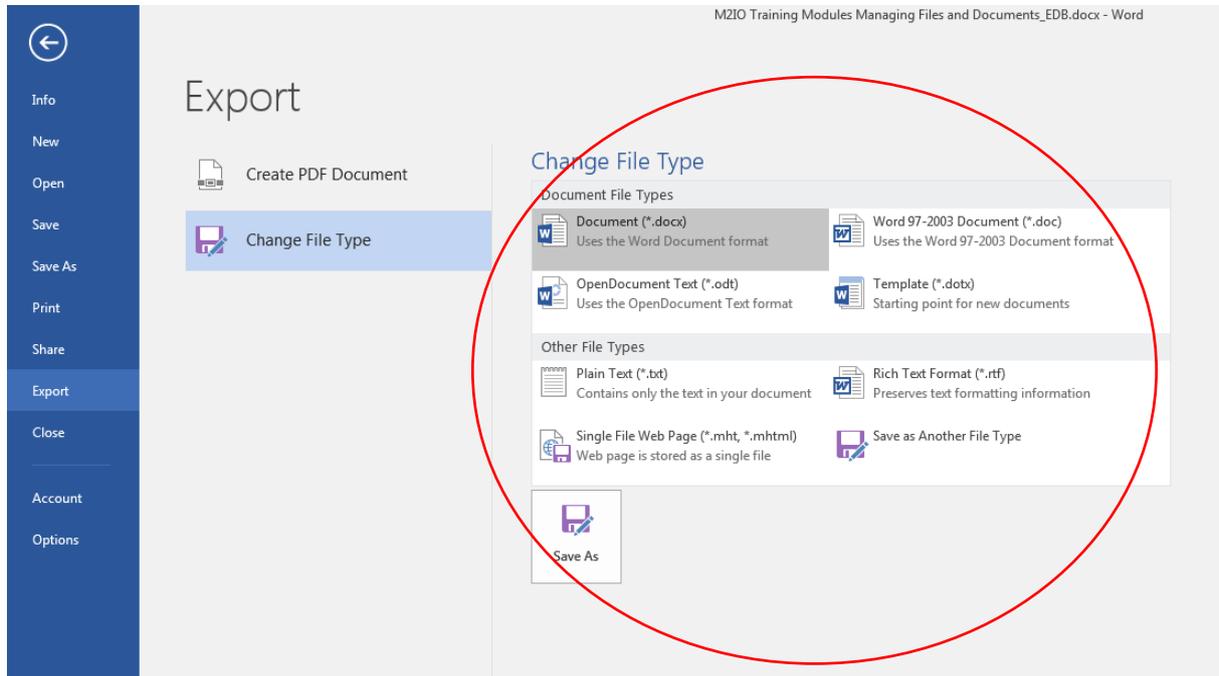


### Export/Import

Exporting your file. This option is used when you need to adapt your files content, preparing it to be used by a different program or application and significant adaptations of it have to be done.

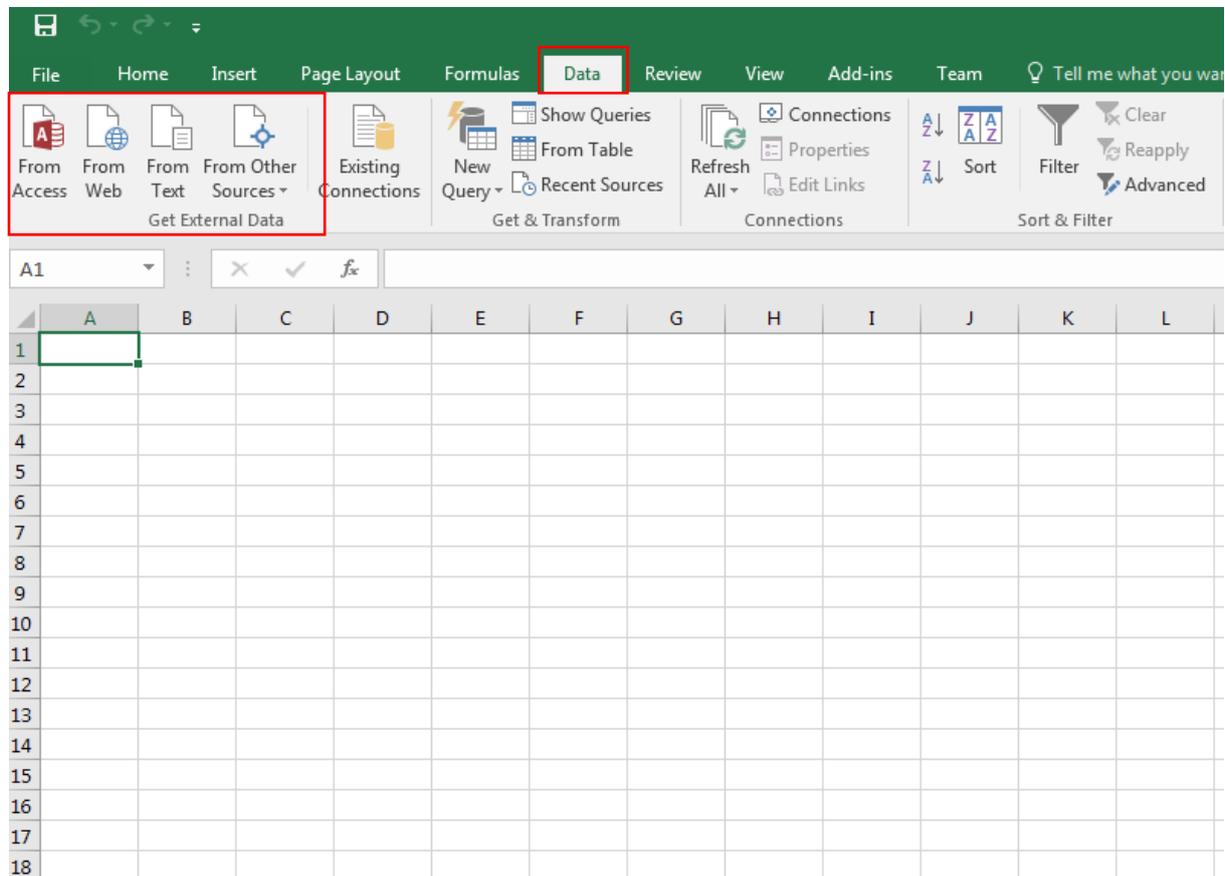
It works in the same way that the Save As Option explained above. You should choose the exportation format at the drop-down list usually shown at the bottom of the dialogue box.

### Export dialogue box



Importing a file. If you have access to a file that is not directly usable by your application, i.e. by your excel spreadsheet, you have to import it before being able to use it. When you choose Import option at your File Menu, the files formats that can be imported by the application (i.e. excel) should be shown to you to let you make your choice.

### Import options selection box



### Compressing files

As we explained in the unit 1, compression is a kind of file conversion aimed to save space in terms of file size for storage and specially for file transmission or file sharing.

You just have to select the items to be compressed (files, folders or both of them) and then:

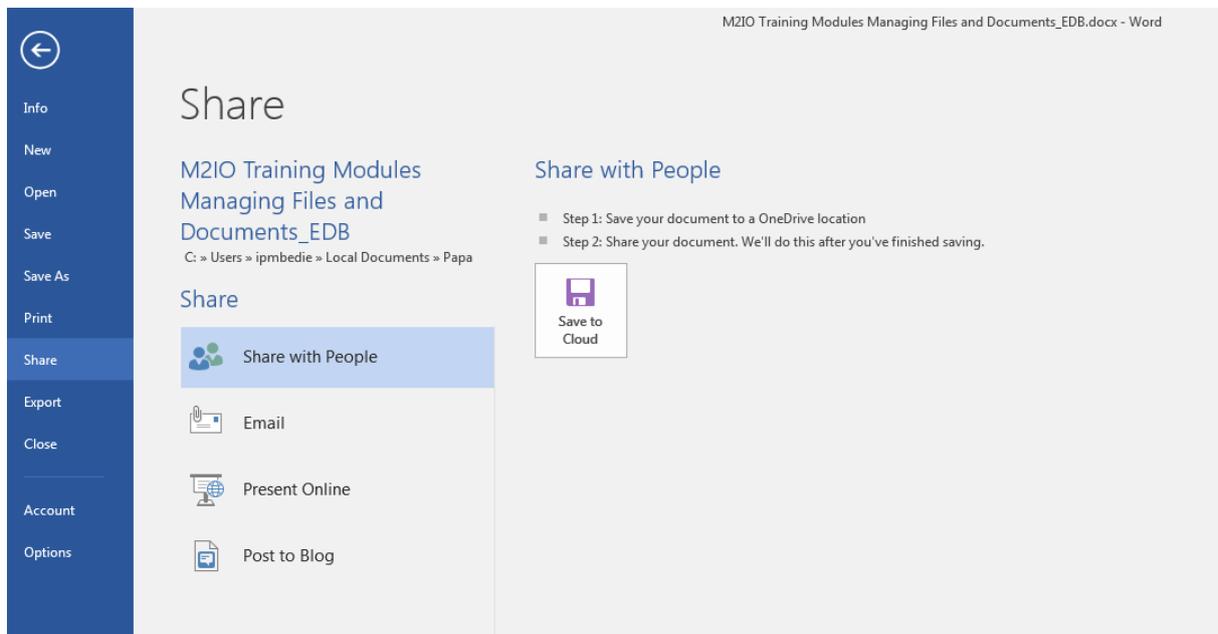
- **In Windows 10 based systems.**
  - Compress: Find the file or folder you want to compress. Press and hold the file or folder (or right-click on the file or folder), select or place the cursor on Send to, and then select the Compressed folder (in zip).
  - Unzip files. Right click on .zip file that you want to unzip (uncompress), and click on "Extract All" in context menu. In "Extract Compressed (Zipped) Folders" dialog, enter or browse folder path where you want files to be extracted.
- **macOS Sierra.**
  - Compress: Control-click the files or folders or tap it using two fingers, then choose Compress from the shortcut menu. If you compress a single item,

the compressed file has the name of the original item with the .zip extension.

- Uncompress (expand) an item: Double-click the .zip file.

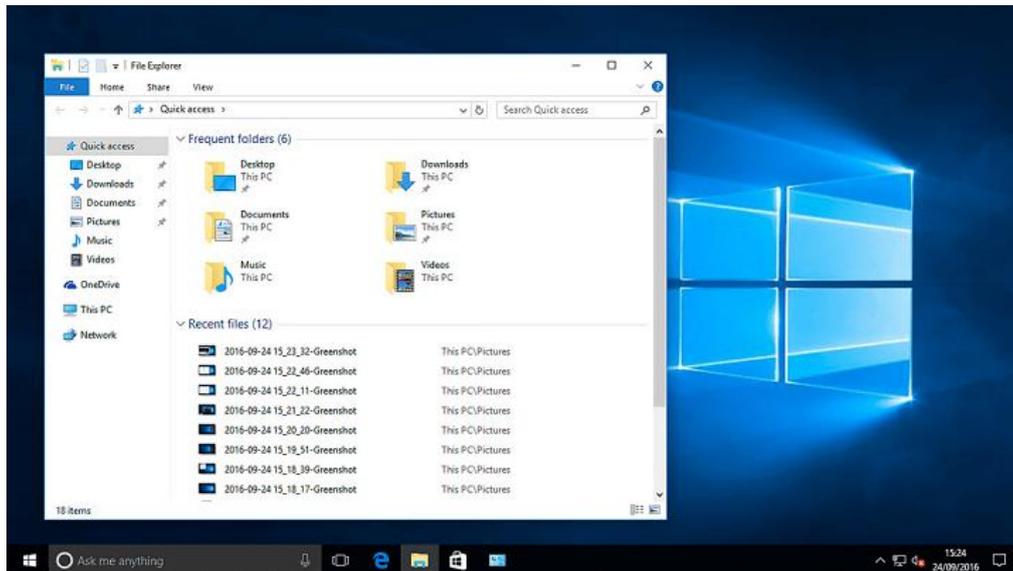
## Sharing digital files

Share is an option of the File menu. When you select Share the sharing options available for each application (word-processor, spreadsheet, etc.) will appear. The most used option is to send the file, as originally is or as a .pdf document. You will send a pdf version of your document if you want that the receiver could see it but avoiding its content modification or format changes. When you select Send as the sharing option, your email program will be open, and the document you want to share will be automatically attached to an email message. You have to add the recipient address, the matter and the text of the email message if you want.



## Deleting digital files

**Delete.** You will need to delete files by several causes: out of use, old versions, spam files, etc. You have to select the filename in the File Administration program of your computer system (File Explorer in Windows or Finder in MacOS).



After selecting the file, the files, or the whole folder you want to delete, you have to choose the Delete option or drag and drop the selected items into the waste bin (that is a folder in your system).

**Permanent deleting.** As we said before, delete means to place a file in a specific folder of your computer (waste bin) and this causes the system to not find the file, as when you search, you can't see it. But it is there, in the waste bin. And because it is physically there, it is occupying space at your computer storage capacity. If you want to recover that capacity you have to delete the files from the waste bin folder. This action will definitively delete the file, and you will not be able to recover that information by regular means. Sometimes it is possible to recover the data contained in the file with some specialised software, but not always works, so be sure that you don't need the file content before permanent deleting it.

### **File sharing apps (cloud spaces to share Files).**

File sharing apps and services help users to share and receive multiple files from other computers or devices via Internet or a local network. These solutions can be used to share various kinds of files, such as documents, videos, and images. They are mostly used to download media files from the internet, and in office networks to share project documents.

There are several software providers that offer free or paid virtual spaces at the Internet Cloud to share files of any type organising shared folders between several users. The procedures are the same to the file management described but doing it in your space assigned in the sharing application. The most popular ones are: Google Drive, Dropbox, Apple iCloud and OneDrive. We will provide links to video tutorials of them at the Useful Resource section of this module.

## EXERCISES

### Exercise 1 Who is what?

Practising: Grouping files from a list by its intended use attending to its file extension

**According to their use try to group this file names under the following categories:**

Add beside the filename the code of the group that you think it applies to the file.

Take a look to the file extension and follow the clues that the file name could offer to you.

Remember that due to programs versions change in time, some file extensions could be slightly different but aimed at the same use.

Let's Go!

File name	Code
Carnival2017.mov	
Carinvoice2018.xlsx	
Doggies.gif	
Screensnapshot01.jpeg	
Municipality request.doc	
ChritsmasMelissa.tiff	
Letterofintend1203.docx	
MusicSXX.ppt	
Holidays2016.zip	
GlennM.mp3	
Aretta.mp4	
Decemberbudget.xls	
Schoolnotice.txt	
CertificationMike.pdf	
Route66.jpg	
Januarybudget.pdf	
Phonering.wav	
CaliforniaState.pptx	
October.avi	
Fordmustangpreview.flv	

USE GROUP	CODE
<b>Editable Texts</b>	<b>1</b>
<b>Pictures/Images</b>	<b>2</b>
<b>Spreadsheets</b>	<b>3</b>
<b>Video</b>	<b>4</b>
<b>Presentations</b>	<b>5</b>
<b>Music</b>	<b>6</b>
<b>Compressed</b>	<b>7</b>
<b>Portable Document</b>	<b>9</b>



## Files to be organised

After creating the folder/subfolders structure write the file number in its logical place at the table you design.

File name	File Number	File name	File Number
Carnival2017.mov	1	Puppies.gif	21
Carinvoice2018.xlsx	2	Februarybudget.xls	22
Doggies.gif	3	Carnival2016.mov	23
Screensnapshot01.jpeg	4	EssentialJazz.mp3	24
Municipality request.doc	5	Phonering25.wav	25
ChristmasMelissa.tiff	6	Novemberbudget.pdf	26
Letterofintend1203.docx	7	GasCompany.txt	27
MusicSXX.ppt	8	MusicXIX.ppt	28
Holidays2016.zip	9	Holidays2018.zip	29
GlennM.mp3	10	Screensnapshot07.jpeg	30
Aretta.mp4	11	ChristmasRon.tiff	31
Decemberbudget.xls	12	Carinvoice2015.xlsx	32
Schoolnotice.txt	13	Letterofintend1205.docx	33
CertificationMike.pdf	14	Mumbirthday.avi	34
Route66.jpg	15	Nissanpreview.flv	35
Januarybudget.pdf	16	ArettaFranklin.wav	36
Phonering.wav	17	GreatLakes.jpg	37
CaliforniaState.pptx	18	BankofAmerica.doc	38
October.avi	19	CertificationAlice.pdf	39
Fordmustangpreview.flv	20	VirginiaState.pptx	40

## FURTHER READING AND RESOURCES

### Unit 1. Digital Files. Main types.

- File Formats  
[https://en.wikipedia.org/wiki/List\\_of\\_file\\_formats](https://en.wikipedia.org/wiki/List_of_file_formats)
- File Formats (Spanish)  
<https://youtu.be/23t4xUrsNSE>
- Tips for File Management  
<https://www.thebalancesmb.com/computer-file-management-tips-2948083>

### Unit 2. Managing Digital Files.

- Managing Files in Windows 10 (Microsoft)  
<https://youtu.be/HDmwiJxzlrw>
- Managing Files in MacOS (Apple)  
<https://youtu.be/9LIssKAIWX4>
- Managing Files in Google Drive  
<https://youtu.be/b47rNVKCN8k>
- Managing Files in Dropbox  
<https://youtu.be/Zuq9KN0N3EU>
- Managing Files in OneDrive (Microsoft)  
<https://youtu.be/PuHUmhBQ-hY>
- Managing Files in Apple iCloud  
[https://youtu.be/DTbtXQU\\_P3Y](https://youtu.be/DTbtXQU_P3Y)



## **BIBLIOGRAPHY**

*Style - preferably Harvard style; at least 10 bibliographic references for the whole module*

## SOLUTION OF EXERCISES

Solution of Exercise 1

### Exercise 1 Who is what?

Practising: Grouping files from a list by its intended use attending to its file extension

**According to their use try to group this file names under the following categories:**

USE GROUP	CODE
Editable Texts	1
Pictures/Images	2
Spreadsheets	3
Video	4
Presentations	5
Music	6
Compressed	7
Portable Document	9

File name	Code
Carnival2017.mov	4
Carinvoice2018.xlsx	3
Doggies.gif	4
Screensnapshot01.jpeg	2
Municipality request.doc	1
ChritsmasMelissa.tiff	2
Letterofintend1203.docx	1
MusicSXX.ppt	5
Holidays2016.zip	7
GlennM.mp3	6
Aretta.mp4	4
Decemberbudget.xls	3
Schoolnotice.txt	1
CertificationMike.pdf	9
Route66.jpg	2
Januarybudget.pdf	9
Phonering.wav	6
CaliforniaState.pptx	5
October.avi	4
Fordmustangpreview.flv	4

Solution of Exercise 2

**Exercise 2 Order, order, order!**

Practising: Creating the folder structure and putting every file in its logical place

Note: This exercise doesn't have a unique solution because each participant could decide how he/she wants to organise their files. We present here only a possible settlement with an illustrative aim.

Folder Name	Sub-Folder Name	File Numbers					
<b>Fun</b>	Animations	3	21				
	Tones	17	25				
<b>Travel</b>		15	18	37	40		
<b>Money</b>	Budgets	12	16	22	26		
	(none)	27	38				
<b>School</b>	Homework	8	28	4	30		
	Certifications	13	14	39			
<b>The Car</b>	Offers	20	35				
	Invoices	2	32				
<b>Official docs</b>	Project Letters	7	33				
	(none)	5					
<b>Family</b>	Christmas	6	31				
	Carnival	1	23				
	Summer	9	29				
	(none)	19	34				
<b>Music</b>	Jazz	11	24	36			
	(none)	10					