

**Save as...**

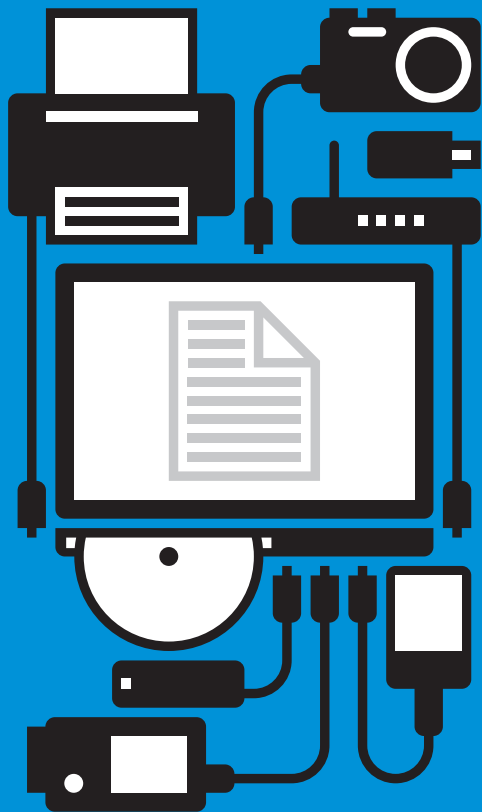


**Basic rules for  
digital preservation**

## Digital preservation

Preservation of digital records requires a different approach to paper storage, because a digital file consists of a series of ones and zeros—the bit stream. This always needs a specific combination of hardware and software in order to be read. Damage to the bit stream and fast technological advancements are a threat to digital files. Therefore, digital preservation requires special measures to ensure that digital documents remain usable.

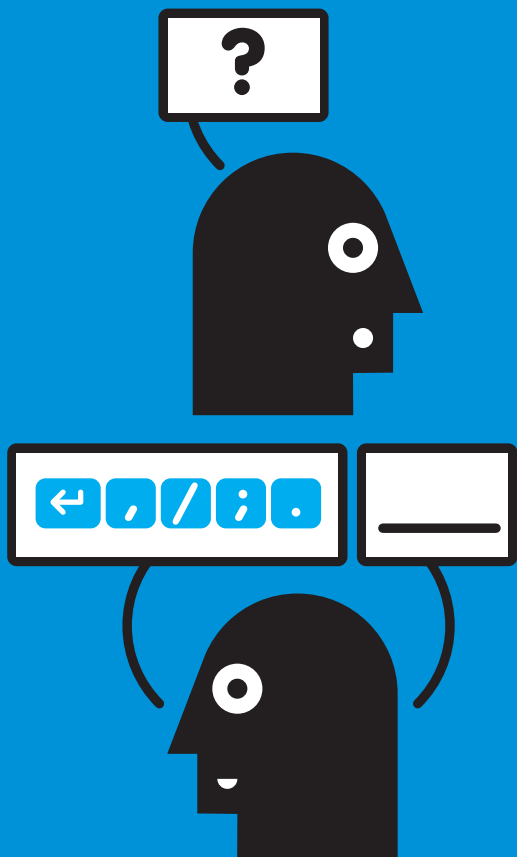
**Digital preservation is not  
the same as making backup  
copies of files!**



Bear in mind that:

- it is unlikely that the right combination of **hardware and software** will still be available in a few years' time;
- any change in the **bit stream** affect the properties of a file the—file can become unreadable;
- **carriers** such as CDs, DVDs, USB flash drives and hard drives have a limited life;
- without **information** about size, function and version, a file loses its archival value;
- too many saved documents leads to an unmanageable **number of files**.

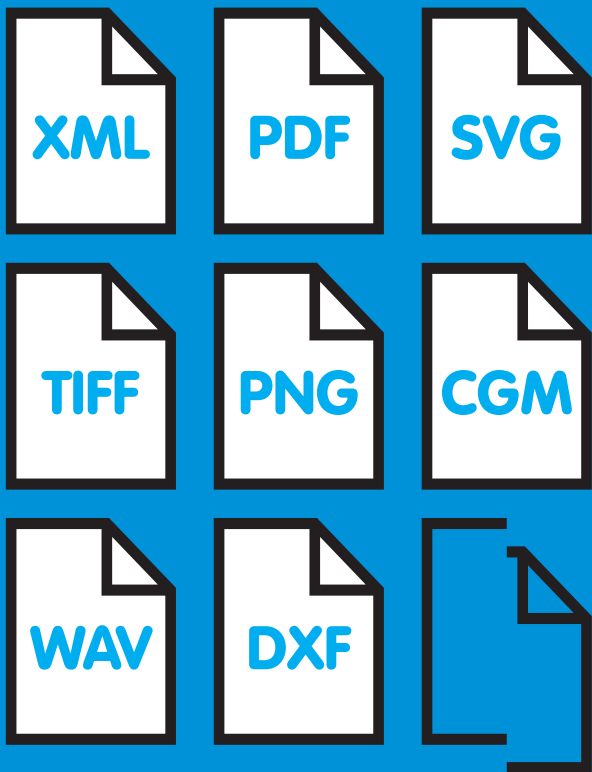
Take measures when you first create a new file. Decisions you make now about file names, ordering, formats and storage will determine the long-term accessibility of your digital archive.



## Documents

To keep files sustainably accessible, take the following steps when you create a document and save it for the first time.

- ☞ Choose unique logical file names. Give version numbers to identify documents easily. Enter a date in the format **YYYYMMDD**.
- ☞ Avoid using spaces, periods, commas or other strange characters in the file name. Use an underscore to separate words.
- ☞ Store files that belong together in folders. Create a conveniently arranged folder structure that suits your own working process. Avoid too many layers in the structure.
- ☞ Give the folder a descriptive name; follow the same guidelines as for the file names.
- ☞ Be selective and do not store incomplete or unclear files.



## File formats

Software is constantly being updated, and new software may not always support files created with older versions. Therefore, bear in mind exactly what you want to preserve. If it's a text document, then just the content may be enough. If it's a working draft, then you will also want to save the properties. However, if it is your definitive document then the form will be important too.

- 👉 Avoid, as much as you can, relying on just one application or just one manufacturer.
- 👉 Open or standard formats are preferable because they are supported by multiple applications and because the documentation belongs to the public domain.
- 👉 When documents do not require any more changes, convert them into an archive format, e.g. MS Word to PDF/A.
- 👉 For some software there is no alternative available for an open or archive format. In this case, store a version in the original format.



A useful strategy is for example:

- save one copy of the document in the original format to preserve all original properties;
- and save one copy of the document in PDF/A to preserve the outward appearance;
- or save one copy of the document migrated to a standard archive format.


Archive formats are:

text	<b>ODF, XML, PDF/A</b>
image	<b>SGV (vector)</b>
	<b>JPEG, TIFF, PNG (pixel)</b>
	<b>CGM, PDF/A (vector en pixel)</b>
audio	<b>WAV</b>
CAD	<b>DXF</b>
video	<b>AVI, MXF</b>




## Carriers




Storage media such as CDs, DVDs and external hard drives are prone to wear and damage. Consider the average life span when you choose a carrier and make sure the necessary hardware and software remains available for that period of time.

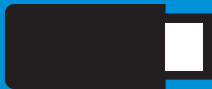
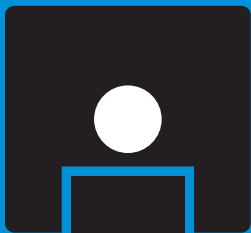
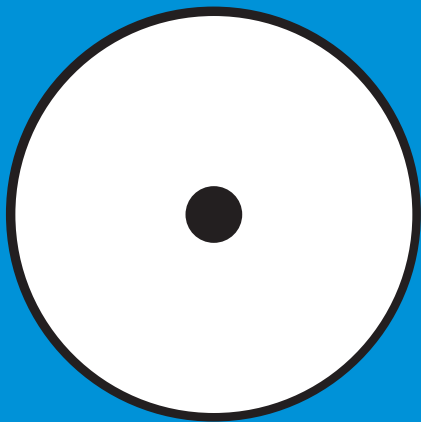
 Choose tried-and-tested storage media and avoid media that are backed up by only one manufacturer.

 Magnetic carriers using reels (tapes) last longer (approximately 30 years), provided they are stored in good conditions.

**Selection is necessary. Not everything needs to be preserved for eternity.**

-  Retain and treat storage media properly:
- never touch the optical layer of discs (DVD, CD) with your fingers, write on them only with a water-soluble felt pen, and don't put stickers on them;
  - keep magnetic carriers away from heat, magnetic fields and radiation;
  - store all carriers in dry and cool places and in the original containers. Avoid moisture, direct sunlight and extreme variations of temperature.

-  You can lower the risk by choosing two types of storage media. Always make one spare copy which you should store at another location.
-  Keep track of what files are stored on what carrier, and on what date.
-  Check regularly the quality and content of CD's, DVDs and external hard drives and replace them as needed.



## Maintenance

To keep digital records usable you should constantly monitor them. Define a personal strategy for the maintenance of your archive based on the following points.

- ☞ Make an inventory of all hardware and software you are using or have used, and a detailed list of the content of CDs, DVDs and hard drives.
- ☞ Develop a retention schedule. Decide what is and what is not to be kept and for what length of time—not everything needs to be preserved for eternity.
- ☞ Invest time and money in an appropriate archiving system and trained professionals. Do not compromise on the quality of storage media.
- ☞ Arrange files and folders logically.
- ☞ Spend at least one day a year on the maintenance of the digital archive. Plan an annual archiving day, then check the quality and the content of the carriers and files. Consider again what you want and what you do not want to preserve.

## Save as...

These basic rules aim to offer, in as concise a way as possible, information about digital preservation. To do this, we have gratefully used the information gathered by various centers of expertise.

A list of these organizations, sources and more extensive information on sustainable digital access is available at: [www.bewaarals.nl](http://www.bewaarals.nl).

Concept and production

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Karin van der Heiden was in charge of the Dutch Graphic Design Archive (NAGO) until 2008.

Today, she writes, speaks and advises about design archives, digital preservation and the impact of the digital revolution on the design practice.

[www.parkc.nl](http://www.parkc.nl)

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