10 Desktop Publishing and multimedia

Topic

Desktop publishing (DTP), multimedia technologies and applications, basic file formats

Learning objectives

Students will be able:

- to understand the basic features of DTP
- to use vocabulary related to desktop publishing
- to discuss pros and cons of e-publishing versus paper publishing
- to understand the main components and applications of multimedia systems
- to name and explain file extensions
- to acquire specific vocabulary related to multimedia

Key words

DTP, page layout, font, kerning, text flow, master pages, toolbox, scalable fonts, PDF file, template, WYSIWYG format, electronic pages, virtual paper pages

Multimedia, hypertext, hypermedia, interactivity, sound card, MIDI, digital audio workstation (DAW), streaming, webcast, CD ripper, plug-in, animation, video editing, file extension

Desktop publishing

Desktop publishing DTP software allows the user to produce printout in the style of a newspaper. That means in columns with pictures and other graphic features. DTP can be used to publish books, brochures, magazines, newsletters, newspapers, etc.

DTP is in fact a combination of several applications. It is integrated word processing and graphic design, with additional features to enable pages to be laid out in columns and images to be inserted. DTP software is usually frame-based. This means that pages are built up as a series of frames – each one containing one type of data – text, photo, drawing, word art etc.

DTP centres on a **page layout program** which is used to import texts, often created in word processing programs; charts and graphs from spreadsheets; drawings and illustrations created in CAD, drawing or paint programs and photographs edited in some kind of image manipulating programs. Its strength is in providing the structure to manipulate documents into columns or rows, and to cut and position graphics.

The program is then used to combine and arrange them all on a page. A key feature of DTP is **text flow** – the possibility to put text around graphic objects in a variety of ways. Other features are for example **scalable fonts** or **kerning**, which means adjusting the spaces between letters to achieve consistent spacing. The document are usually saved in their native page layout format (Adobe InDesign or QuarkXPress) or as **PDF** files (**P**ortable **D**ocument **F**ormat) and can be published and distributed anywhere – in print, attached to email, posted on websites, etc. To open a PDF file, only the Adobe Acrobat Reader (a free download) is required.

Having been composed, DTP documents are printed on a high resolution **imagesetters** or more advanced **platesetters**.

There are two types of pages in desktop publishing, **electronic pages** and **virtual paper pages** to be printed on physical paper pages. Virtual paper pages are intended to be printed, and therefore require paper parameters that coincide with international standard physical paper sizes such as A4, etc. A particularly important feature of desktop publishing systems is that they enable you to see on the display screen exactly how the document will appear when printed. Systems that support this feature are called **WYSIWYG** *(what you see is what you get)*.

Master pages are templates used to automatically copy or link elements and graphic design styles to some or all the pages of a multipage document.

While desktop publishing software still provides extensive features necessary for print publishing, modern word processors now are comparable with many older DTP applications, blurring the line between word processing and desktop publishing.

Examples of DTP applications

- Adobe FrameMaker
- Adobe InDesign
- Adobe PageMaker
- CorelDRAW
- Corel Ventura
- Microsoft Office Publisher
- QuarkXPress
- Ready,Set,Go
- Scribus
- Serif PagePlus

Multimedia

Multimedia, in fact, represents technologies and applications which integrate various kinds of media: text, sound, video, graphics and animations. The most important features of multimedia are **hypertext**, **hypermedia** and **interactivity**.

Hypertext means that you can click on a word or another object and jump to another screen containing more information.

Hypermedia is an extension to hypertext that supports linking graphics, sound, and video elements in addition to text elements.

Interactivity means involving the user in the program, he can choose what to watch, listen or write.

If we want to recognize, what the selected file contains, our first sight aims at the **file extension**. According to the extension we choose a specialized program to open it. Thanks to the extensions we can recognize a **file format**, too.

According to their formats, we divide files into the following groups:

- **Text** files (.doc ; .txt ; .rtf ; .html ; .pdf ; …)
- **Graphic** files (.jpeg ; .gif ; .tif ; .bmp ; …)
- **Audio** files (.waw ; .mp3 ; .ra ; .aac ; …)
- **Video** files (.avi ; .mpg ; .flv ; .mov)
- **Compressed** files (.zip ; .rar, ; …)
- **System** formats (.exe ; .bat ; .sys ; …)

Text

Typical text editors are for example: PSPad, TED notepad, Notepad

Typical text processors are:		***Extensions:***
▪ ***Microsoft Word*** *(Version 2012 is the latest, commercial)*		*- doc, docx, rtf, xps, html, pdf, xml, …*
▪ ***Open office – Writer*** *(Version 3.3.0 is the latest, freeware)*		*- odt, txt, rtf, html, pdf, …*
▪ ***WordPad*** *("Easier" MS Word, included in OS)*		*- txt, rtf, xml, odt, …*

Graphics

The best ***known graphical programs are:*** ***Special extensions:***

- ***Adobe Photoshop*** *psd, pdp, raw, pcx*

(Version CS5 is the latest; commercial)

- ***Windows paintbrush*** *-*

(Included in OS, simple edits)

- ***GIMP***

(Version 2.6.11 is the latest; freeware)

xcf, gih, pat, pix

Audio

Audio, means “electrical or other representation of sound”. Audio files contain some information concerning sound. Based on this information, the computer is able to represent the audio. There are several algorithms existing to convert the sound into audio files. File extensions represent the algorithm used.
To capture sound in digital format the computer has to have a **sound card. MIDI** (**M**usical **I**nstrument **D**igital **I**nterface) allows electronic musical instruments to communicate with computers.

A **DAW** (**D**igital **A**udio **W**orkstation) is an electronic system designed for recording, editing and playing back digital audio.

You can transfer music to a portable MP3 player. **MP3** is a short for **MPEG audio layer 3**, a standard format that compresses audio files. To create MP3 files from CDs you need a **CD ripper**, a program which extracts music tracks and saves them as MP3s.

Streaming is a technology for transferring data so that it can be processed as a continuous stream. Streaming technologies are becoming increasingly important with the growth of the Internet because most users do not have fast enough access to download large multimedia files quickly. You can play audio (e.g. radio stations) and video files as a continuous stream while they are downloading. There are many competing streaming technologies. For example *RealAudio*.

A **webcast** is the broadcast of an event, for example a concert, over the Web. To play audio and video on the Web you have to have a **plug-in**, like RealPlayer or QuickTime.

Video

Video is a technology for capturing (recording), playing, relaying & refreshing movable images (several images in a fast sequence in a row**)**. There are some special extensions for OS Windows-based video players (.wmv), for Apple – Quick Time (.mov ; .qt). etc. Similarly to sound and the audio files, video files represent the flow of data which are processed by a computer or other machines. The results of the

processing are sent to a graphic adapter which sends them to an output device, such as monitor, television etc.

Video editing programs like iMovie or Windows Movie Maker are able to cut various segments, re-sequence the clips or add miscellaneous effects. You could save your movie on a DVD or post it on websites like YouTube or Google Video.

Compressed files

Compression means the reduction of file size up to 90%. We can compress the files if there is a need of sending some files via e-mail or add password protection to our files. There are several algorithms we can use for compression. According to the algorithm used, the program adds an appropriate file extension. **The most used are .zip** ; **.rar.** The best known **programs for compression** are WinRar, 7-Zip, WinZip.

System files

These files are used by the OS of your computer. They are mostly created by the OS and the manufacturers of programs you have installed, but you can create them, too. For example – **files with extension .exe** are used to introduce the other files. We can see this chaining as a running program. If we double click (open) the program, it "calls" the other files containing the program code, graphics and the program is ready to use. **Files with extension .bat** represent the **batch file**. It's a text file containing a row of commands for the OS Windows. Similar to the .bat files are **files with extension .sys.** These files are usually used as a **device driver**, but there are special files (MSDOS.SYS, CONFIG.SYS), which are used as the **OS core files.** We can **create** a **.bat** file by using a **command line** and **.exe** files by using some special programs.

Vocabulary

	Definition	**Translation**
DTP- desktop publishing	using a computer system for all steps of document production, including typing, editing, graphics and printing	počítačová sazba
font	the shape, style and size of a particular typeface	font, typ písma
electronic pages	visual electronic documents for either display (screen output) on a computer monitor or handheld device	elektronické stránky
kerning	adjusting the spaces between letters to achieve consistent spacing	vyrovnání, úprava rozteče písmen
master page	a kind of a template which can be applied to any document page. It ensures a consistent look on all pages	vzorová stránka

page layout program	applications software used to import text and graphics that combines and arranges them all on a page	program pro rozvržení stránky
PDF file	a **p**ortable **d**ocument **f**ormat used to distribute texts files over the Internet	PDF formát
scalable fonts	fonts capable of being scaled	vektorové fonty
template	a standard document with pre-set layouts and formats.	šablona
text flow	a feature that enables you to wrap text around images	obtékání textu
toolbox	a collection of drawing and painting tools	panel nástrojů
virtual paper pages	pages in DTP intended to be printed	virtuální stránka pro tisk
WYSIWYG format	/ˈwɪziwɪg/ wiz-ee-wig) - what you see is what you get - a system in which content (text and graphics) displayed onscreen during editing corresponds to its appearance when printed or displayed as a finished product (a printed document, web page, or slide presentation.)	

Word	**Definition**	**Translation**
multimedia	integration of multiple forms of media (text, graphics, audio, video, etc.)	multimédia
hypertext	text with links to other information	odkaz (ve formě textu)
hypermedia	extension of hypertext - allows images, movies, and Flash animations to be linked to other content	odkaz (ve formě obrázku, videa, animace)
interactivity	dialog that occurs between a human and a computer program	interaktivita
sound card	component inside the computer that provides audio input and output capabilities	zvuková karta
MIDI (Musical Instrument Digital Interface)	connectivity standard that interconnects musical instruments and PC equipment. Doesn't contain the actual sound.	MIDI (Digitální rozhraní hudebních nástrojů)
DAW (Digital audio workstation)	software for recording and mixing digital audio tracks. A DAW is also used to combine dialogue, music and special effects	DAW
streaming	technology of continual transferring of audio-visual material between the source and the end user.	streamování

webcast	streaming via internet (Real time – television, radio & Video on demand – YouTube, Stream.cz)	webcast
CD ripper	piece of software designed to extract (rip) raw digital audio from a CD and convert it to a digital audio file	CD ripper (“Extrahovač” CD)
plug-in	add-on for a program that adds functionality to it	plug-in

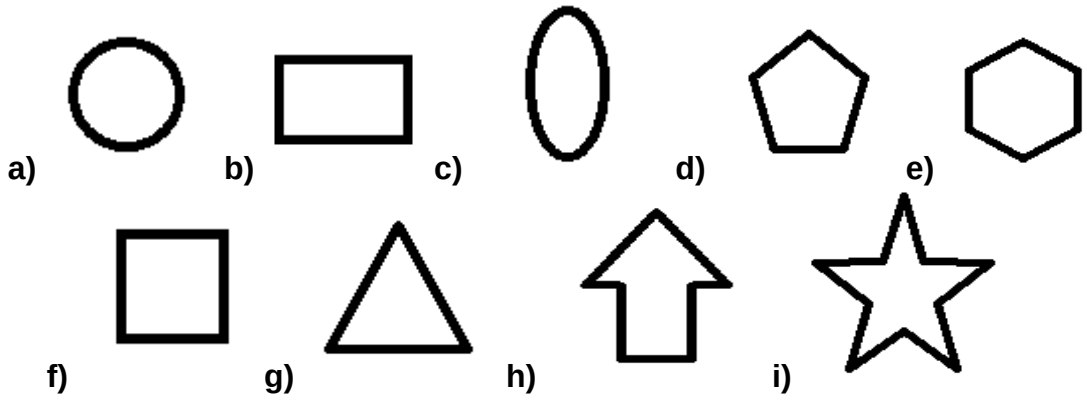
Tasks and Questions

1) Complete the text with the following words:

WYSIWYG colour graphics template wrap align command draw page rotate tool file format

Desktop publishing programs let you combine text and 1) _____to produce newspapers, catalogues, holiday brochures, etc. The DTP programs enable you to work with text you can use an 2) _____ to put it in a straight line, horizontally or vertically, or a 3) _____to turn text or graphic features around. You can 4) _____a text around a picture or inside a shape, etc. DTP programs let you work with graphics; you can 5) _____shapes, fill them with text or 6) _____, and move the objects easily around the7) _____. These programs let you create a8) _____of your document, so you do not have to remake the whole document each time you want to change text or pictures. DTP programs enable you to change the 9) _____into a web page. While DTP programs and word processing programs have a lot of similar commands and tools, the DTP programs have one important advantage –10) _____– what you see on the screen is exactly what you get when you print the document.

2) Label the shapes and lines:



j) **k)** **l)**

3) Listening: Steps in a DTP publication: Infotech p. 107

A Look at this extract from an online tutorial for DTP publishing. Put the steps in the creation of a DTP document (a–f) into the correct order.

1 [a] 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

a First, the DTP designer decides the basic form of the document (the type of document, general design, colour, fonts, images required, etc.).

b The last step is to take the files to a service bureau, which will print the publication.

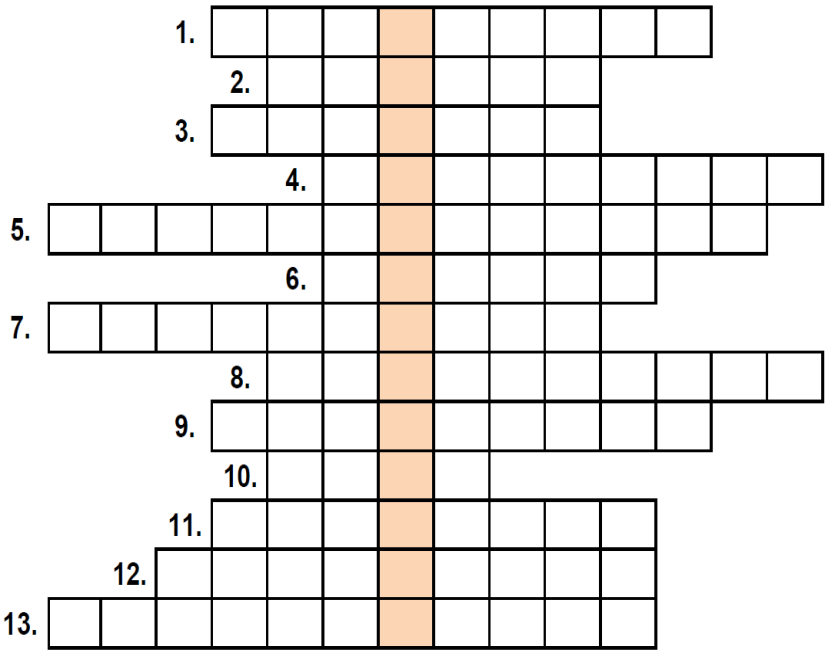
c To create the DTP document, the designer begins by selecting a template or by specifying the settings of a new document (the page size, margins, columns, paragraph styles, master pages, etc.).

d When the text has been edited, the designer imports the pictures and uses precise tools to position, scale, crop and rotate all the items.

e The next step is to type the text directly or to import it from a word processing program like Word or WordPerfect.

f Once the file is composed and saved, the designer has to prepare it for printing, which involves verifying the colour specification, creating a Postscript or PDF file, exporting the file in HTML format for the Web, checking proofs, etc.

4) Complete the puzzle: solution = one of the possible uses of multimedia



1. A technology that enables you to play audio and video files as a continuous stream while they are downloading
2. An example of programs for file compression
3. A live broadcast of an event, for example a concert, over the Web
4. Text with links to other information
5. Involving the user in the program
6. Add-on for a program that adds functionality to it
7. A pair of small loudspeakers which are designed to be held in place close to a user's ears
8. An extension of hypertext which allows images, movies, and Flash animations to be linked to other content
9. The suffix placed after a dot in the end of a filename
10. An abbreviation of the connectivity standard that interconnects musical instruments and PC equipment. Doesn't contain the actual sound
11. Images made up of a series of independent pictures put together in sequence to look like moving pictures
12. The reduction of file size

5) Listening Infotech p. 110

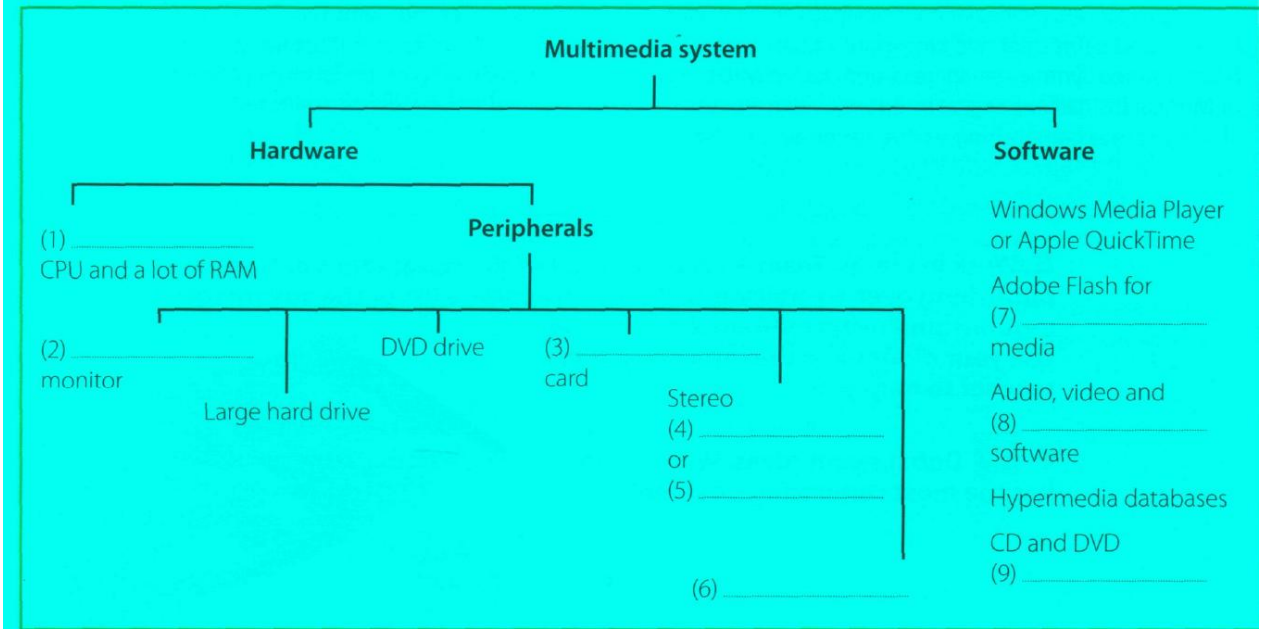
A **Listen to a sales assistant in a computer shop explaining to a customer the system requirements needed to run multimedia software. Which answers (a or b) best describe what she says?**

1 Multimedia is defined as
   - **a** the integration of video and telecommunications with traditional computing.
   - **b** the integration of text, graphics, audio, video and animation in a single application.

2 With multimedia encyclopedias,
   - **a** you have more fun but you learn more slowly.
   - **b** you get much more involved than with print encyclopedias.

3 Interactive games
   - **a** use multimedia and virtual reality features.
   - **b** do not require much RAM memory.

B **Listen again and complete this diagram of a multimedia system.**



Summary

Desktop publishing DTP software allows the user to produce printout in the style of a newspaper. That means in columns with pictures and other graphic features.

DTP centres on a page layout program which is used to import texts, often created in word processing programs; charts and graphs from spreadsheets; drawings and illustrations created in CAD, drawing or paint programs and photographs edited in some kind of image manipulating programs.

The program is then used to combine and arrange them all on a page.

Having been composed, DTP documents are printed on a high resolution imagesetters or more advanced platesetters.

Multimedia, in fact, represents technologies and applications which integrate various kinds of media: text, sound, video, graphics and animations. The most important features of multimedia are hypertext, hypermedia and interactivity.

If we want to recognize, what the selected file contains, our first sight aims at the file extension. According to the extension we choose a specialized program to open it. Thanks to the extensions we can recognize a file format, too.

Questions:

1. What are typical applications of desktop publishing software? What is the page layout program?
2. What does the abbreviation PDF stand for and what is its advantage?
3. What is kerning?
4. What is text flow?
5. What is a master page?
6. What is the difference between a virtual paper page and electronic page?
7. What does the acronym WYSIWYG stand for?
8. Name some programs used in DTP.

9. What is multimedia?
10. What are the three most important features of multimedia?
11. What is hypertext?
12. What is hypermedia?
13. What is interactivity?
14. What is a file extension?
15. Give examples of text files extensions.
16. Give examples of graphics files extensions.
17. Give examples of audio files extensions.
18. Give examples of video files extensions.
19. Give examples of compressed files extensions.
20. What is audio?
21. What does the abbreviation MIDI stand for? Explain it.
22. What does the abbreviation DAW stand for? Explain it.
23. What is MP3?
24. What is CD ripper?
25. What is streaming?
26. What is webcast?
27. What is plug-in?
28. What is video?
29. How do video editing programs operate?
30. What is compression? Why is it useful?
31. What are system files? Give examples of extensions.

Literatura

[1] ESTERAS, Santiago Remarcha. *Infotech : English for computer users*. 4th ed. Cambridge : Cambridge University Press, 2008. 168 s. ISBN 978-0-521-702997.

[2] ESTERAS, Santiago Remarcha; FABRÉ, Elena Marco. *Professional English in Use : ICT*. 1st ed. Cambridge : Cambridge University Press, 2007. 118 s. ISBN 978-0-521-68543-6.

[3] GLENDINNING, Eric H.; MCEVAN, John. *Basic English for Computing*. Revised and Updated. Oxford : Oxford University Press, 2003. 136 s. ISBN 0194574709.

[4] CUSHING, Steve. *ICT*: *written by GCSE examiners*. London: Letts, 2005. ISBN 1-84315-511-7.

[5] http://thecomputereducation.com

[6] http://en.wikipedia.org/wiki/History_of_computing_hardware

[7] http://www.webopedia.com

[8] http://www.teach-ict.com