COMPUTER GRAPHICS AND WEBDESIGN

VOCABULARY | IMAGE EDITING AND GRAPHICS

1 How much do you know about computer design and image-editing? Let's find out. Take a look at the following sentences and decide whether they are true (T) or false (F).

1 **Greyscale** images take up more disk space than **colour** images.

2 It's often preferable to scan **line drawings** as **black and white** images rather than greyscale images. This takes up less disk space and produces sharper lines. This type of image is also known as **lineart.**

3 On most computers, you can view photos as a **slideshow -** each photo is shown for a few seconds.

4 You can also view photos as **fingernails** - small versions of the photos, with lots shown on the screen at the same time.

5 A **vector image** (for example, a **clipart** image) can be expanded to any size, without loss of **resolution**. A **bitmap image** (for example, a photo) is made of **pixels**, so it loses resolution.

2 Read the sentences below and choose the most appropriate word from the word-pairs in italics.

1 It's usually possible to *import / introduce* Adobe PageMaker files into Adobe InDesign. The majority of graphic design applications can *export / send off* documents as PDF files, or as HTML web pages.

2 This box has a black *frame / outside***,** also known as a "stroke". Inside the frame, the fill is a *fade / gradient* from dark grey to light grey. The difference between the two versions of "wave" is that *curling / kerning* has been applied to the top version.

3 A frame, graphic or block of text is known as *an object / a thing***.** These are arranged in *levels / layers* **-** the top layer *overlaps / overruns* the layer below.

4 This image is *blurred / soft* at the edges. This *result / effect* is also known as *feathering / birding***.**

5 *Full bleed / total bleed* means that the page is printed right up to the edges - there are no white margins. The *snail / snug* area is the area outside the area to be printed where instructions for the printer are written.

6 Before a document goes *to press / for printing*, it's essential to check the *examples / proofs* for errors.

7 Like desktop printers, most colour printing *machines / presses* print in four colours: cyan (light blue), magenta (dark pink), yellow and black. Before printing, a document must be divided into the four colours. This process is called colour *separation / division.* These separations are then turned into *plates / stamps* - one for each of the inks that will be used.

8 The process of preparing documents from a graphic designer for the printing press is called *reprographics / reproduction***.**

3 Match the following terms to their definition:

1	anti-aliasing	**a**	a skeletal three-dimensional model in which only lines and vertices are represented;
2	jagged	**b**	the process of adding realism to a computer graphics by adding three-dimensional qualities, such as shadows and variations in colour and shade;
3	wireframe	**c**	an elementary graphics building block, such as a point, line or arc;
4	primitives	**d**	a technique used in skeletal animation for representing a 3D character model using a series of interconnected digital bones;
5	texturing	**e**	a technique for representing solid objects; this includes specifying the surfaces to give the appearance of a 3D solid object with volume;
6	rendering	**f**	a technique used in digital imaging to reduce the visual defects that occur when high-resolution images are presented in a lower resolution;
7	rigging	**g**	the application of a type of surface to a 3D image;
8	raster-graphics	**h**	geometrical patterns that are repeated at small scales to generate irregular shapes, some of which describe objects from nature;
9	solid-modelling	**i**	with rough, sharp points protruding;
10	fractals	**j**	images stored and displayed as pixels, which can become disttorted when manipulated; also called *bit-mapped graphics*

4 Test your understanding of the terms discussed. With the help of the definitions from the exercise above, complete the text below with an appropriate term (see the list of terms to be used in the box below).

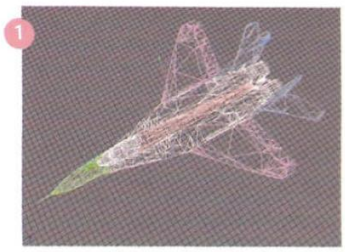
raster graphics	*vectors*	*anti-aliasing*	*jagged*	*wireframe*
primitives	*texturing*	*render*	*scale*	*rigging*

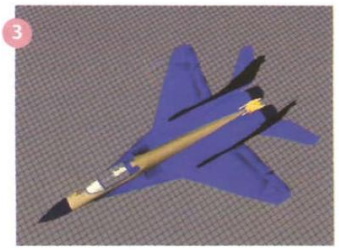
All computer art is digital, but there are two very different ways of drawing digital images on a computer screen, known as raster and vector graphics. (**1**) _____, or bitmaps are stored as a collection of pixels, where the sharpness of an image depends on the density of pixels or resolution. If you (**2**) _____ an image, so it's twice the size, the computer copies each pixel twice over, but the image becomes noticeable more grainy and pixelated in the process. Displaying smoothly drawn curves on a pixelated display can produce horribly (**3**) _____ edges, or "jaggies". One solution to this is to blur the pixels on a curve to give the appearance of a smoother line. This technique, known as (**4**) _____ is widely used to smooth the fonts on pixelated computer screens.

There's an alternative method of computer graphics that gets around the problems of raster graphics. Instead of building up a picture of pixels, you draw it by using simple straight and curved lines, called (**5**) _____ or basic shapes (circles, curves, triangles or so o), known as (**6**) _____.

Drawing on a computer screen with a graphics package is a whole lot easier than sketching on paper, because you can modify your design easily. With the help of programs like CAD, instead of producing a static, two-dimensional (2D) picture, what you usually create on the screen is a three-dimensional (3D) computer model, drawn using a vector graphics and based on a kind of line-drawn skeleton called a (**7**) _____, which looks like an object wrapped in graph paper. Once the outside of the model's done, you turn your attention to its inner structure. This bit is called (**8**) _____ your model (also known as skeletal animation). What parts does the object contain and how do they all connect together? When you've specified both the inside and the outside details, your model is pretty much complete. The final stage is called (**9**) _____, and involves figuring out what colours, surface patterns, finishes and other details you want your object to have: think of it as a kind of elaborate, three-dimensional colouring. When your model is complete, you can (**10**) _____ it: turn it into a final image.

5 Look at the images 1-4 below, which show the stages involved in drawing a plane using computer software. Using information from the text above label the stages shown on the images appropriately. Then, using your own words, try to describe what happens during each stage.





1 _____ **2** _____ **3** _____ **4** _____

Useful language - Suggestion
While completing the second part of the task, try to use a variety of expressions, for example:
This picture shows .. , In this (next) stage ..., The designer has used ..., This stage is called ... , Rendering techniques include ... , As a finishing touch ..., etc.

READING & LISTENING | THE IDEOLOGY OF EFFICIENT WEB DESIGN

1 Working with a partner reflect on the following questions:

1 In your opinion, what are the most important features of a well-designed and user-friendly website? Make a list of key features that you look for.

_____

_____

2 Study the following points for evaluating website design. What questions would you ask to evaluate a website on each point?

a Design

_____

b Navigation

_____

c Ease of use

_____

d Accuracy

_____

e Up-to-date

_____

f Graphics

_____

g Compatibility

_____

3 Which three of the above mentioned qualities would you consider to be the most important?

_____

_____

_____

2 You'll listen to a short interview with a web designer, Saladin, on what makes a good website. Listen to Part 1 of the interview and answer the questions below:

1 Name two kinds of people who want websites

_____

2 Why is a website good for people with a lot of information to distribute?

_____

3 What sorts of clients is a website particularly useful?

_____

4 What does Saladin ask for first from a client?

_____

5 What important point must be decided?

_____

6 What must the client make a clear decision about?

_____

3 Listen to Part 2 of the interview and complete the five design principles with NO MORE THAN FOUR WORDS based on what you hear.

1 One has to ensure that there are _____, meaning that there should never be a page that has no links to take you back to somewhere else.

2 You should aim at limiting the number of steps from the home page to other pages to a maximum _____.

3 Make sure that you don't have _____ on one page.

4 Never use multimedia to simply make _____.

5 Lastly, it is important to remember that a lot of users are still using _____.

4 Listen to Part 3 of the interview. Decide which of these statements Saladin would agree with.

1 Information on websites should be divided into small sections.

2 Long sections can be a problem for users who want to print from a website.

3 It's a bad idea to have a lot of links to other sites.

4 You want users to bookmark your site as a way to get to other sites.

5 Your website should start with a brief piece of information to attract the reader.

5 Work together in groups of up to 6 students. Read the text below carefully, paying attention to the main points made in the text. Once everybody in your group finishes reading the text, discuss its contents making sure that everybody understands the main points and the details of the text very well. Then, working together, write a set of 5 comprehension questions based on the information you found in the text (*either in the form of multiple-choice questions or true / false / not given questions, or a combination of both)*.

6 Once you have finished writing your comprehension questions, exchange it with another group from the class and solve the tasks that you received.

7 When you finish answering the comprehension questions, hand the paper back to the group you received it from for checking your answers. Once the worksheet that you created gets back to you, correct it as well.

8 The group with the most number of correctly answered questions wins.

IDEOLOGY OF EFFICIENT WEB DESIGN

Every web designer is keen on creating an outstanding site. To achieve this goal, one should be aware of certain secrets. It is essential to bear in mind that usability and utility, not the visual design determine the success or failure of a web site. Since the visitor of the page is the only person who clicks the mouse and therefore decides everything, user-centric design has become a standard approach for successful and profit-oriented web design.

This approach requires understanding how users interact with websites, how they think and what are the basic patterns of user behaviour. Basically, visitors glance at each new page, scan some of the text, and click on the first link that catches their interest or vaguely resembles the thing they're looking for. Most users search for something interesting (or useful) and clickable.

Moreover, users appreciate quality and credibility of information presented. If a page provides users with high-quality content, they are willing to compromise the content with advertisements and the design of the site. This is the reason why not-that-well-designed websites with high-quality content gain a lot of traffic over years. Thus, it may be concluded that content is more important than the design which supports it. Analyzing a webpage, users search for some fixed points or anchors which would guide them through the content of the page.

On the other hand, if a website isn't able to meet users' expectations, then the designer failed to get his job done properly. The higher the cognitive load, the less intuitive the navigation becomes and the more willing are users to leave the website and search for alternatives. The web designer should not forget that users are accustomed to following their intuition. Users neither make optimal choices, nor do they search for the quickest way to find the information they're looking for. They don't usually scan a webpage in a linear fashion, going sequentially from one site section to another one. Instead, they choose the first reasonable option. As soon as they find a link that seems like it might lead to the goal, there is a very good chance that it will be immediately clicked. A clear structure, moderate visual clues and easily recognizable links can, without doubt, help users to find their path to their aim.

However there is another significant aspect that needs further consideration: users should be allowed to explore the site without forcing them into sharing private data. Ideally, all barriers are advisable to be removed; subscriptions or registrations should not be required. A user registration alone is not enough of an impediment to user navigation to cut down on incoming traffic.

As websites provide both static and dynamic content, some features of the user interface attract attention more than others do. Obviously, images are more eye-catching than the text. Focusing users' attention to specific areas of the site with a moderate use of visual elements can help your visitors to get from point A to point B without thinking of how it actually is supposed to be done.

In other words: the less thinking needs to happen behind the scenes, the better is the user experience which is the aim of usability in the first place. Moreover, modern web designs are usually criticized due to their approach of guiding users with visually appealing 1-2-3-done-steps, large buttons with visual effects etc. But from the design perspective these elements actually aren't a bad thing. On the contrary, such guidelines are extremely effective as they lead the visitors through the site content in a very simple and user-friendly way. Letting the user see clearly what functions are available is a fundamental principle of successful user interface design. It doesn't really matter how this is achieved. What matters is that the content is well-understood and visitors feel comfortable with the way they interact with the system. It should be mentioned that it's necessary to adjust the writing style to users' preferences and browsing habits as the web is different from print. Web designers are recommended to remember the key points: effective writing is to use short and concise phrases (come to the point as quickly as possible), use scannable layout (categorize the content, use multiple heading levels, use visual elements and bulleted lists which break the flow of uniform text blocks), use plain and objective language.

In addition, the "keep it simple"-principle (KIS) should be the primary goal of site design. Users are rarely on a site to enjoy the design; furthermore, in most cases they are looking for the information despite the design. Strive for simplicity instead of complexity.

From the visitors' point of view, the best site design is a pure text, without any advertisements or further content blocks matching exactly the query visitors used or the content they've been looking for. This is one of the reasons why a user-friendly print-version of web pages is essential for good user experience. It may be concluded, that with conventions you can gain users' confidence, trust, reliability and prove your credibility, since conventional design of site elements doesn't result in a boring web site.

9 **Fill the blanks in the text using an appropriate word from the box below.**

accessible	*links*	*location*	*graphics*	*navigation*
support	*rules*	*visitors*	*troubleshooting*	*map*

If you want to form an opinion about a website, you have to follow some important (**1**) _____. Besides the design, (**2**) _____ is very important. If (**3**) _____ to the site cannot easily find their way they will never return. Don't use too many (**4**) _____ you can base on text (**5**)_____ . A site (**6**) _____ will offer a good overview, a useful (**7**)_____ page will help with FAQ and (**8**) _____. Try not to change the (**9**) _____ of the navigation elements on each page. Try to make every page (**10**) _____ within four clicks.

(Extracted from: BÁTRI, Blanka & Katalin FAZEKAS. 2003. Computer English for Everyday Use)

REFLECT & WRITE | EVALUATING WEBSITE DESIGN

1 **Reflect on the good practices and top tips discussed in the parts above on efficient website design and architecture. Select up to five principles that you consider to be of utmost important when it comes to evaluating the efficiency of website design.**

2 **Access the website of the Faculty of Computer Science (cs.ubbcluj.ro) and try to evaluate the website based on the criteria and the principles selected by you in the exercise above. Make notes.**

3 **Have you noticed anything that could be improved on the site? Write an essay (max. 250 words) on the problems that you have found with the website and suggest ways to make it more efficient.**

REFERENCES:

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COMPREHENSION QUESTION FORM

OPTION 1: TRUE / FALSE / NOT GIVEN

Do the following statements agree with the information given in Text A?

Write

TRUE ***if the statement agrees with the information***

FALSE ***if the statement contradicts the information***

NOT GIVEN ***if there is no information on it in the text***

on the answer sheet below.

1 _____

2 _____

3 _____

4 _____

5 _____

ANSWERS

1	
2	
3	
4	
5	

OPTION 2: MULTIPLE - CHOICE

Choose the correct answer according to the text. Circle your opinion.

1 _____

a) _____

b) _____

c) _____

d) _____

2 _____

a) _____

b) _____

c) _____

d) _____

3 _____

a) _____

b) _____

c) _____

d) _____

4 _____

a) _____

b) _____

c) _____

d) _____

5 _____

a) _____

b) _____

c) _____

d) _____