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COURSE GUIDE DESCRIPTION

You must read this Course Guide carefully from the beginning to the end. It tells you briefly what the course is about and how you can work your way through the course material.

INTRODUCTION

Principles of Design is a course offered for Commonwealth of Learning project, particularly for Web Application Development Certificate. It should be covered within 8 weeks.

COURSE AUDIENCE

This course is offered to all learners taking the Web Application Development certificate. You are required to attend this course and master the subject. This course is crucial for you to be able to design Websites. Besides developing them, you are also able to balance between aesthetical values and usability values in the Websites you designed. Hence, you are expected to apply the principles and eliminate excise. As an open and distance learner, you should be able to learn independently and optimise the learning modes and environment available to you.

COURSE OUTCOMES

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

1. Apply design principles in creative works.
2. Use appropriate typography in designing creative works.
3. Design and develop Websites by balancing aesthetical values and usability.
COURSE SYNOPSIS

This course is divided into 10 topics. The synopsis for each topic is highlighted below:

**Topic 1** introduces the philosophy of designing graphics. Major issues related to graphic design are addressed. It is important because designing is complex, and requires various skills and tools. This topic covers colours, typography, and layout. From this topic to Topic 6, most discussions are general, not tailored to any specific product. Hence, designing is mapped to the interest for aesthetical values.

**Topic 2** discusses the formal elements of design. All elements of design, including line, shape, form, tone, texture, pattern, color, and composition are described, provided with examples and illustrations to make learning interesting. The elements are the foundation that you should know when designing all creative works.

**Topic 3** elaborates the impact of colour on designs. It is very subjective, and what evokes reactions for someone may not work similarly for someone else. However, there are some theories you could refer to when deciding on the color for your creative works.

**Topic 4** discusses the impact of typography on your design. It is the art and technique of arranging types to make written language legible, readable, and appealing when displayed. For such purposes, you have to mind the typeface, font, point sizes, letter spacing, line spacing, line length, and space between letters. In certain context, your typo could be design elements that positively impact interests.

**Topic 5** discusses layout, which is very important for creative works. You can attract your audience through winning layouts. This topic discusses the power of grid structures and offers tips in designing the layout, which include asymmetrical grid, column, and mixed grid.

**Topic 6** addresses two very important aspects in designing, form and space. It is a culmination of the discussions in Topic 5, because they are all used to compose your creative works. There are two dimensional and three dimensional form and space, which should be utilised appropriately. Hence, this topic brings to you some examples and their impact. The discussions are equipped with illustrations to support your interest.
**Topic 7** discusses the need to balance between aesthetical values and usability. Beginning from this topic, discussions are mapped to designing Websites. Hence, aesthetical values alone are not enough because Websites require not only that, but also require an approach that audience are happy with them. That is referred to as usability. Besides that, the impact of various media elements on websites are also discussed, as a support for both aesthetical values and usability.

**Topic 8** outlines ten types of Websites that you could design. There are Websites you need to develop, but at the same time, there are also Websites that you could use free tools that are already available for automatic publishing. This topic basically enhances your awareness on their availability.

**Topic 9** discusses elements that make your Websites usable. It also discusses design principles. When you combine them both, you will find that designing Websites is a science, which requires art skills. Your audience should always be in your mind when designing.

**Topic 10** stresses that sometimes, web users are burdened with tasks they need not do. There are ways to avoid those tasks, called excise. When you eliminate excise, users will feel wonderful about your Website.

**TEXT ARRANGEMENT GUIDE**

Before you go through this module, it is important that you note the text arrangement. Understanding the text arrangement will help you to organise your study of this course in a more objective and effective way. Generally, the text arrangement for each topic is as follows:

**Learning Outcomes:** This section refers to what you should achieve after you have completely covered a topic. As you go through each topic, you should frequently refer to these learning outcomes. By doing this, you can continuously gauge your understanding of the topic.

**Activity:** This component requires you to perform certain task. It is very important for you to do all activities because they are designed to ensure you understand the topic you are going through. In certain contexts, you are required to discuss with your peers.
**Summary:** You will find this component at the end of each topic. This component helps you to recap the whole topic. By going through the summary, you should be able to gauge your knowledge retention level. Should you find points in the summary that you do not fully understand, it would be a good idea for you to revisit the details in the module.

**Terminology:** This component can be found at the end of each topic. You should go through this component to remind yourself of important terms or jargon used throughout the module. Should you find terms here that you are not able to explain, you should look for the terms in the module.

**References:** The References section is where a list of relevant and useful textbooks, journals, articles, electronic contents or sources can be found. You are encouraged to read or refer to the suggested sources to obtain the additional information needed and to enhance your overall understanding of the course.

**PRIOR KNOWLEDGE**

A basic knowledge regarding some creative works is useful in learning this course. However, it is not compulsory. Always believe that everything is a learning process, which requires a starting point.
This topic introduces a definition of graphic design and its relationship to the application of basic design principles in your designing activities. This topic will also equip you with basic skills in exploring and identifying basic elements prior to the activities on composition.

1.1 DEFINING GRAPHIC DESIGN

Cezzar (2016) stated that “graphic design, also known as communication design, is “the art and practice of planning and projecting ideas and experiences with visual and textual content”. It is categorised under applied arts. The outcome of graphic design activities ranges from the product of advertisement, signage, packaging to digital content such as motion graphic and interactive design (just to name a few).

Human efforts in expressing their ideas through images have occurred since the pre-history period as shown in the Altamira cave paintings in Spain dated 34,000 to 15,000 BCE and Lascaux in France dated 15,000 BC.
“The first cave paintings transcend the physical experience they depict. These paintings were a primitive medium for conveying the artist’s concept. They were a method for communicating ideas, useful facts and events among people. Viewers then superimposed their own interpretations of the painter’s manifested expressions” (Sherman and Craig, 2003). As human civilisation evolved, the images also evolved due to changes in lifestyle and human behaviour, which were also affected by technological advancement.

Figure 1.1: Cave Painting, Altamira, Spain: The Bison

Figure 1.2: Cave Painting, Lascaux, France: Red Cow and First Chinese Horse
Source: Aujoulat (2003)
**1.2 BRIEF HISTORY OF GRAPHIC DESIGN**

Anything related to the creation of images is closely related to graphic design, even though there are other branches of art such as fine arts, applied arts, etc. Artists or designers create images based on their imagination and have different objectives. Some of them might want to create art as a means of expression, and some of them consider it as a way of communication.

“Graphic design is art with a purpose. It involves a creative and systematic plan to solve a problem or achieve certain objectives, with the use of images, symbols or even words. It is visual communication and the aesthetic expression of concepts and ideas using various graphic elements and tools” (Hawkyard, n.d.).

Since pre-historic periods, humans tend to communicate through images. As the lifestyle of the humans evolved, the meaning of images also evolved. This is due to the advancement of technology, moving from pigment to pixel.

“Any graphical message should be legible for the intended audience. It should be readable, and well worth reading. In graphic design the main objective is to provide functional, aesthetic and organised structure to all kinds of information sets” (Pettersson, 2011).

None of the images work well with the audience without proper research on the type of information they are familiar with. Some information provided might not be clear to the audience due to their lack of experience and cultural constraints.

**1.3 GRAPHICS AROUND YOU**

In our daily lives, while driving on the highways, walking in the mall, eating in the restaurants and so forth, we are surrounded by images comprising road signs, symbols, colours, forms, shapes, etc. These images play an important role in providing information for us to make decisions while reacting to them. Examples are road signs and maps showing directions as well as symbols showing signs of products, etc.

Some graphics make us think of the product. Most of us are likely to be influenced by the product through its presentation. Both images A and B show two different ways of presenting nasi lemak. Nasi lemak is rice cooked with coconut milk, served with a chilly condiment, anchovies, peanuts and a boiled egg. Traditionally, as in image A, it is wrapped in a banana leaf depicted without graphics while in image B it is wrapped depicting some graphics and image C is stored in a tin foil with full graphics. Which of the pictures attract you the most?
Communication Design

Sometimes graphic images have connotations. A white dove represents peace; a crescent moon represents a hospital and so forth. The meaning of graphic images are presented in different ways: logos, signages, pictographs, typefaces, banners and so forth. Just imagine if we lived in a world without images. In a world without design, what do you think will happen to humans? Herbert Read (n.d.) stated, “Art is pattern informed by sensibility”.

Figure 1.3: Examples of graphic images
Humans create images for communication. Each image has features that enable us to understand its meaning. The designers usually create universal images to tell us about something. The following images show direction, but they are presented in different ways.

**Figure 1.4:** Images showing direction in different ways

**Rabbit or Duck?**
One of the famous images created in “*Kaninchen und Ente*” (“Rabbit and Duck”) from the 23 October 1892 issue of *Fliegende Blätter*, clearly challenges our mind in distinguishing two ambivalent images which can be interpreted in a way on how we “look” at it and decide on either one; rabbit or duck?

Gombrich (1969) after interpreting this image, concluded that we are compelled to look for what is “really there”, to see the shape apart from its interpretation and we soon discover, is not really possible. True we can switch from one reading to another with increasing rapidity.....but the more closely we watch ourselves, the more certainly we will discover that we cannot experience alternative readings at the same time.
The scenario above shows that as a designer or artist, our creativity and imagination may create doubt in the user’s eye. Universal images or symbols should portray the user’s experiences and culture.

Panofsky (1967) argued “we could not construct a mental portrait of the man on the basis of this single action, but only by co-ordinating a large number of similar observations and by interpreting them in connection with our general information as to the gentleman’s period, nationality, class, intellectual traditions and so forth. Yet all the qualities which this mental portrait would show explicitly are implicitly inherent in every single action, so that, conversely, every single action can be interpreted in the light of those qualities”.

Rabbit or duck is perhaps one of the scenarios that give us insight to identify the “way of seeing” images from the audience’s perspective in “making sense” of the images. Human reactions to images seem to be focused on their “intention” for them to make the decision before taking the next action. For example, in the logo that represents food, you will stop at the food stall if you saw the logo, but if you want something else rather than “food” you will keep on looking for another logo that will fulfil your needs.

### 1.5 ELEMENTS OF GRAPHIC DESIGN

Graphic design elements are presented in many ways, depending on the focus and the objectives of its outcome. In the context of this course, the concept of graphic design relies on the importance of basic art elements and design principles which constitute the core before the creation of its outcome; composition, pictograph, typography and logo. The components are essential in producing a product; communication design, user interface design and web design.
**Figure 1.6**: Elements of Graphic Design

**ACTIVITY 1.1**

**Gathering Visual Information**

1. Browse through trusted and official websites and look for five definitions of graphic design. Based on the five definitions, write your working definition.

2. Based on your definition, list out essential elements in graphic design.

3. Gather visual information around you that give you information such as signages and logos; your visuals can be recorded by drawing, sketches or photography. Organise the visuals in the scrap book according to the category as defined in your definition.

**SUMMARY**

- Graphic design can be described as a creative activity that generates human minds to create meaningful images for effective communication.

- Images can be interpreted in many ways along with approaches to maintain the lucidity of the designers and the recipient.
### TERMINOLOGY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphic design</td>
<td>The art or skill of combining text and pictures (Google Search, n.d). It is also the skill of organising and combining art basic elements as a means of communication for advertisement, magazines, etc.</td>
</tr>
<tr>
<td>Communication design</td>
<td>It is an integrated discipline within design and information which is related to media for the purpose of communication.</td>
</tr>
<tr>
<td>Iconology</td>
<td>It is a study of visual imagery based on its symbol for the purpose of interpretation.</td>
</tr>
<tr>
<td>Illusion</td>
<td>An illusion is a distortion of the senses, revealing how the brain normally organises and interprets sensory stimulation (Wikipedia, 2016).</td>
</tr>
</tbody>
</table>
**INTRODUCTION**

This subtopic introduces basic design elements in constructing the overall design using the principles of design. You can easily identify basic design elements around you. Understanding basic design elements is important as it will make your design meaningful and easy to interpret visually.

**2.1 BASIC DESIGN ELEMENTS**

Let us first discuss basic design elements. By exploring basic design elements you will be able to produce an efficient and meaningful design that reflect your style and creativity.

**2.1.1 Lines**

Lines are defined by continuous marks on a surface from one point to another (refer to Figure 2.1). Lines also exist visually. Lines have quality and the quality relies on its thickness or thinness. It also has irregular shapes (refer to Figure 2.2).
2.1.2 Types of Lines

We can easily find lines around us. Figure 2.2 shows a variety of lines that exist around us with qualities that rely on its characteristic; thickness, thinness, wavy lines, straight and bold.
Some types of lines have the ability to create scenarios. What do you think of the lines in Figure 2.3? The quality of the lines give meaning as interpreted by audiences. Different types of lines show different meaning. Creativity and imagination of the designer are important in imparting their customer’s needs. The artist needs to explore various possibilities in coming up with creative work such as creating logos through the line.

2.1.3 Functions of Lines

Lines have many functions. Lines illustrate grids, edges, structures and borders (see Figure 2.4).
Lines can also create moods and expressions. In Image A (Figure 2.5), organic lines show a soft atmosphere and in image B hard edge lines show dynamics and aggressiveness.

![Figure 2.5: Line effects](image)
*Source: Zahari Hamidon (2016)*

Lines can also show expression. Dynamic lines as in Figure 2.6 are the result of spontaneous and confident brush strokes by an artist or designer.

The creation of lines rely on the intention of the designer or artist. The designer might want to create an aggressive line. He would need a certain type of brush skill to create this type of line. You can easily create interesting lines with skills in handling the media (colour, ink, pencil etc.) and medium (brush, charcoal etc.).

![Figure 2.6: Brush strokes](image)
*Source: Zahari Hamidon (2016)*
Lines can also create tones and shades. In Figure 2.7, A and B are a series of contour lines and cross hatching techniques which create a form. In Image C and D a sense of form is created through the thickness of the lines.

![Figure 2.7: Line sketches](Source: Zahari Hamidon (2016))

The quality of lines shows form and sometimes can create a sense of space. More stresses on the lines will also create a sense of tension and areas need to be highlighted. This scenario is clearly shown in Figure 2.8:

![Figure 2.8: Buffalo, line drawing](Source: Zahari Hamidon (2016))
This subtopic discusses the characteristics of shape and its importance in design. Shapes are defined and confined by its border, either regular or irregular. In Figure 2.9, Image A is not a shape because the border is not complete as compared to Image B.

Shapes are divided into two categories; geometric and organic. The geometric shape is defined by its hard edge border while the organic shape is defined by its smooth border.

**Figure 2.9:** What is shape and what is not shape?

Shapes are divided into two categories; geometric and organic. The geometric shape is defined by its hard edge border while the organic shape is defined by its smooth border.

**Figure 2.10:** Types of shapes

*Source:* Zahari Hamidon (2016)
2.2.1 Functions of Shapes

Let us now discuss the functions of shapes. These elements will enable you to create “meaning” in your design.

(a) Meaningful Shapes
In design, shape has many functions. It is used to distinguish areas for the purpose of “focus” and “category”. Image A shows two images connected that lead our eyes to focus in the middle of the frame. Image B shows two separated images that lead our eyes to move left to right or vice versa.

Figure 2.11: Meaningful shapes
Source: Zahari Hamidon (2016)

Shape represents ideas. Depending on the type of shape, these ideas reflect the mood and expression.

Figure 2.12: Shapes represent ideas
Source: Zahari Hamidon (2016)
Both paintings by Piet Mondrian and Joan Miró in Figure 2.13 used different types of shapes. Mondrian’s painting used geometric shapes to create a sense of grid while Miro used organic shapes to create a sense of movement in the composition.

<table>
<thead>
<tr>
<th>Piet Mondrian</th>
<th>Joan Miró</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trafalgar Square</td>
<td>Dutch Interior (I)</td>
</tr>
<tr>
<td>1939 – 43</td>
<td>Montroig, July – December 1928</td>
</tr>
<tr>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Oil on canvas</td>
<td>Oil on canvas</td>
</tr>
<tr>
<td>Dimensions 57 1/4 × 47 1/4” (145.2 × 120 cm)</td>
<td>Dimensions 36 1/8 × 28 3/4” (91.8 × 73 cm)</td>
</tr>
<tr>
<td>Credit Gift of Mr and Mrs William A. M. Burden</td>
<td>Credit: Mrs Simon Guggenheim Fund</td>
</tr>
</tbody>
</table>

**Figure 2.13:** Paintings using geometric and organic shapes

Source: http://www.moma.org/
(b) **Positive and Negative Shapes**

Shapes exist in space; negative shapes occupy positive space as described in Figure 2.13. Positive and negative space are also called figures and ground or foreground and background. Here the figure is positive and grounded as negative space regardless of its colour.

![Figure 2.14: Shapes existing in space](source: Zahari Hamidon (2016))

Positive and negative shapes are often defined within its functions to describe space. Simple composition on positive and negative shapes to represent space are shown in Figure 2.15.

![Figure 2.15: Shapes to represent space](source: Zahari Hamidon (2016))
Negative space is the space around and between the subjects of an image (Wikipedia, 2016). Figure 2.16, Rubin’s vase, shows the silhouette form after the negative space is clarified. The reversible effect is called the figure-ground reversal.

In the composition shown in Figure 2.17, the negative shape is always identified in white and the positive in black colour. Image A and B show the image of a photograph. An object which has the same focus point is not a negative space. As mentioned before, a negative shape is often referred to as a background to grab attention to the main subject, which is, the positive space.
Shapes have to be well-organised in space to create good composition. The organisation of shapes in space should be well-balanced between its positive and negative shapes, however, it all depends on the intention of the artist or designer. Shape sometimes is organised to create a sense of expression or as an attention grabber. The following images show the distribution of positive and negative shapes in the composition. The organisation of shapes is clearly shown in the painting by Paul Cezanne (image A) in Figure 2.19.

Figure 2.18: Organising shapes

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image A" /></td>
<td><img src="image2.png" alt="Image B" /></td>
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<thead>
<tr>
<th>Date</th>
<th>Artist</th>
<th>Style</th>
<th>Title</th>
<th>Year</th>
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<tr>
<td>1894, Paul Cezanne</td>
<td>Zahari Hamidon</td>
<td>Digital drawing</td>
<td>Shapes in Design</td>
<td>2016</td>
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</table>

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<thead>
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<th>Date</th>
<th>Style</th>
<th>Period</th>
<th>Genre</th>
<th>Media</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
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<td>1894</td>
<td>Post-Impressionism</td>
<td>Final period</td>
<td>still life</td>
<td>oil, canvas</td>
<td>62.8 × 43.2 cm</td>
</tr>
</tbody>
</table>

Figure 2.19: Balance between positive and negative shapes
2.3 TEXTURE

This subtopic discusses texture and its functions in design. Texture can be seen all around you. You can feel texture by touching and seeing with your own eyes which is called visual texture. In design, the function of texture ranges from “giving meaning” to “visual function”. Glass can be smooth; wood can be rough and fine. Texture also results from the marks produced from rubbing, scratching, stamping and so forth. Texture is very closely related to the surface. Texture is divided into two categories, tactile and visual texture.

**Tactile Texture**
Tactile texture is a texture that you can feel by touching. It can be coarse or fine. Tactile texture sometimes functions to avoid friction between two surfaces. Tactile texture may also function to enhance the visual appearance of the environment.

**Visual Texture**
Visual texture is a texture that produces a “mark” in any surface. The marks might be created by rubbing, brushing, scratching, etc. The marks are visually seen through light and colours. Examples of embossment and visual texture are shown in Figure 2.20 to 2.22:
Visual Inventory
Textures can be gathered from nature and man-made surfaces such as tiles, carpet, artifacts and so forth. Visually, texture can easily be identified by its existence on a surface. The effects of textures vary depending on the characteristic of the surfaces. For example, texture of glass is finer than the texture on the surface of a tree bark.

Texture plays its role as a “visual aid”, prior to any of our designing activities. It is very useful in the phase of creating composition. For example, fine texture is good to show the sense of calmness after we combine it with bold lines.
Figure 2.21: Examples of visual texture (man made)

Figure 2.22: Examples of visual texture (through marks)
2.3.1 Functions of Texture in Design

Let us now discuss the function of texture in design. The texture will make your design more “catchy” and interesting.

(a) Function of Visual Texture
Both paintings in Figure 2.23 show different approaches in applying texture. The painting by Van Gogh used rough and coarse texture through the impasto technique showing expressiveness while Dali’s painting through painterly techniques with a fine texture shows calmness and mystery.

Figure 2.23: Applying texture
(b) **Function of Tactile Texture**

Both collage and assemblage works by Pablo Picasso and Robert Rauschenberg are shown in Figure 2.24. The tactile texture is used to create a sense of space and expression.


![Image source: https://gaylealstrom.wordpress.com/tag/robert-rauschenberg/](https://gaylealstrom.wordpress.com/tag/robert-rauschenberg/)

<table>
<thead>
<tr>
<th>Artist: Pablo Picasso’s</th>
<th>Artist: Robert Rauschenberg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Still-Life with Chair Caning</td>
<td>Title: First Landing Jump</td>
</tr>
<tr>
<td>Year: 1912</td>
<td>Date: 1961</td>
</tr>
<tr>
<td>Media: Mixed Media</td>
<td>Media: Mixed Media</td>
</tr>
</tbody>
</table>

**Figure 2.24:** Tactile structure
2.4 FORM

Jirousek (1995) defined form as “areas or masses which define objects in space. Form and shape imply space; indeed they cannot exist without space”. The form can be established by light and shadows. A flat surface form can easily be defined by its plane, light and shadow.

Form can be divided into two categories; two dimensional (2D) and three dimensional (3D). The 2D form is viewed in 180 degrees, resulting from the setup of planes according to its width and height (examples in drawing and paintings) while 3D forms are viewed in 360 degrees (example, sculptures), are tactile in nature, where you can touch and feel them and has depth as well as width and height.

Figure 2.25: Definition of form
Like shape, form also can be illustrated as organic and geometric. The organic form has irregular or regular smooth and rounded borders and lines while the geometric form has irregular or regular hard edge borders and lines. Both sculptures by Barbara Hepworth in Figure 2.26 show two different forms: organic and geometric.

**Figure 2.26:** Organic and geometric forms
Paul Cezanne, the post impressionist artist stated on form that “he wanted to treat nature by the cylinder, the sphere and the cone” (cited in Shimamura, 2013). Both drawings in Figure 2.27 show Cézanne establishing form through the quality of lines, and colour tones.

![Figure 2.27: Establishing form through lines and colour](image)

<table>
<thead>
<tr>
<th>Paul Cézanne</th>
<th>Paul Cézanne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: (a) Foliage (b) Study of Trees</td>
<td>Title: House Among Trees</td>
</tr>
<tr>
<td>Year: 1895</td>
<td>Year: 1900</td>
</tr>
<tr>
<td>Medium: Watercolor and pencil on paper</td>
<td>Medium: Watercolor and pencil on paper</td>
</tr>
</tbody>
</table>
Form can be defined through tones (image A) and lines (image B). Application of lines and tones are also found in most drawings such as the drawing by Rembrandt Van Rijn in Figure 2.28.

![Image A and B](image)

**Figure 2.28: Lines and tones**

**Illusion and Forms**

We all have different ways of looking at things. Our perception of form poses that it all depends on the angle which sometimes highlights certain features of the object viewed. Form is created through our illusion. The illusion is a result of either a series of lines or a combination of lines, shapes and colours (as in *Optic Art* by Victor Vasarely in Figure 2.30).
Figure 2.29: Illusion and forms  
Source: Zahari Hamidon (2016)

Source: [https://de.wikipedia.org/](https://de.wikipedia.org/)  

Artist: Victor Vasarely  
Medium: Sculpture  
Year: 2009

Figure 2.30: Illusions
SPACE

The J. Paul Getty Museum defined “space as the area between and around objects. The space around objects is often called negative space; negative space has shape. Space can also refer to the feeling of depth”.

Fussel (n.d) stated there are six ways artists and designers can create the illusion of space in 2D surface as illustrated in Figure 2.31.

![Figure 2.31: Illusion of space](source: Fussel (n.d.) illustrated by Zahari Hamidon)

The overlapping shapes which block the audience from viewing part of the object behind it creates a sense of space between the shapes. Shapes or objects which are placed higher within the horizon line appears at a greater distance, hence, creating a sense of space. Literally, the size of the shapes or objects will also create a sense of space. Shape or objects that are smaller seem to be further away from the audience. As we observe the shape of objects, the objects that are distant will be less detailed than the object or shape that is closer to the audience. Warm and cool colours will also affect the illusion of the viewer. The darker the colour, the closer it will be to the viewer.
Perspective
Visually, space can be created through linear perspective. The Italian key figure in architecture, Filippo Brunelleschi, in the Renaissance period, introduced the linear perspective in art and for architecture. Our eyes tend to “mark” the invisible lines of the building when we are looking at it. Figure 2.32 shows the linear perspective that forms a sense of space. Brunelleschi proved his experiment on the “invisible” lines in the building. The technique helps designers to create a space creatively through linear perspective.
Application of perspective to create space depends on types of linear perspectives as shown in Figure 2.34.
Figure 2.34: Types of linear perspectives
Source: Zahari Hamidon (2016)
2.6 DESIGN PRINCIPLES

Principles of design are basically the organisation of basic design elements which portray the ideas of the designer through their imagination and creativity. The experiences in exploring all essential elements are crucial to proceed to the next designing process. Basic art elements are essential to the production of the graphic design products. The progress of the design plays an important role for an artist or designers to achieve his maturity. The painting by Piet Mondrian in Figure 2.35 is said to have started from impressionist, post-impressionist, fauvism (Thatcher, 2012) style to De Stijl (Wikipedia, 2016).

![Image](http://www.piet-mondrian.org/)
![Image](https://commons.wikimedia.org/)
![Image](https://commons.wikimedia.org/)

<table>
<thead>
<tr>
<th>Source: <a href="http://www.piet-mondrian.org/">http://www.piet-mondrian.org/</a></th>
<th>Source: <a href="https://commons.wikimedia.org/">https://commons.wikimedia.org/</a></th>
<th>Source: <a href="https://commons.wikimedia.org/">https://commons.wikimedia.org/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Piet Mondrian, <em>Windmill, 1907</em></td>
<td>Piet Mondrian, Gray Tree, 1911, Oil on canvas</td>
<td>Piet Mondrian, Tableau I, 1921, Oil on canvas</td>
</tr>
</tbody>
</table>

**Figure 2.35:** Progressive style of Piet Mondrian – A brief timeline
Understanding of basic elements will lead to outstanding artwork. Henri Toulouse-Lautrec in the progressive artwork in Figure 2.36 shows his ability in combining all basic elements in an excellent composition.

|----------------------------------------|----------------------------------|----------------------------------------|

**Figure 2.36**: Progressive style of Henri de Toulouse-Lautrec – A brief timeline

(a) **Design Process**

The principles of design involve two primary processes; references and visual research. It happens that some artist or designers tend to refer to “something” that is relevant to the motives of their design. The point of reference plays an important role as a guide to lead to a meaningful design. Visual research is a process where an artist or designer explores the visual elements and applies their creative and imaginative input to the design. The principle of design is a process where artists or designers combine all art elements by using their creative and imaginative input to the design to fulfill the objectives of their design.
(b) Harmony
Harmony describes similarity of some basic element organised in any composition. Figure 2.38 shows four configurations of harmony. The organisation of basic elements is based on the creativity of the designer or artist. Image A can be interpreted as harmony in shapes and colour; Image B, harmony in shape and contrast in colour; Image C, harmony in size and colour and Image D, harmony in shape and colour.
(c) **Rhythm/Movement**
In design, movement or rhythm is described by the arrangement of visual elements that create a sense of visual movement through the path (refer to the red lines shown in the following images).

![Rhythm movement](http://www.designhistory.org/)

*Figure 2.39: Rhythm movement*

![Application of rhythm/movement in poster design and logo](http://thecommonwealth.org/)

*Figure 2.40: Application of rhythm/movement in poster design and logo*
(d) **Contrast**

Contrast describes total differences between any of the organisation of the basic elements of art in the composition. The image A represents a contrast in size; image B illustrates the contrast in colours and image C describes contrast in shapes. The configuration of contrast in the composition depends on a distinction between one or more basic elements of art.

![Contrast Diagram](image)

*Figure 2.41: Contrast*

The following painting by Rembrandt Van Rijn shows a contrast in colours. Here, contrast plays its role in highlighting six human figures in a dark background. Both posters also show another example of the application of contrast in the design.
(e) **Balance**

Visually, the balance function is to create a sense of equal weight between both sides of the composition. Balance can be identified through the equivalent arrangement within the composition. The following images show examples of a different configuration of balance. Image A shows shapes of the same size with a different arrangement, but visually it is balanced. Image B and C show that different size of shapes are arranged in an equal manner within the composition, still showing balance. In image D, both shapes with different size are arranged in the middle of the composition, also showing balance.
(f) **Symmetrical Balance**
Symmetrical balance is the type of balance that is similar to the original around the central axis. The axis is often in any direction.
(g) **Asymmetrical Balance**
Asymmetrical balance is a balance that is similar to the original but has different weight around the central axis.

![Asymmetrical Balance](image1.png)

*Figure 2.45: Asymmetrical balance*

(h) **Radial Balance**
Radial balance occurs when all graphic elements are organised based on the central focal point on the central axis.

![Radial Balance](image2.png)

*Source: Zahari Hamidon*  
*Image source: http://2.bp.blogspot.com/*

*Figure 2.46: Radial balance*
(i) **Mosaic Balance**
Mosaic balance occurs in a chaotic balance. In most scenarios it results from the chaotic organisation of basic art elements in the composition and lack of focal points. However, the essential art elements share the same emphasis.

![Mosaic Balance Image](https://en.wikipedia.org/wiki/Paul_Klee/)

**Figure 2.47:** Mosaic balance

(j) **Unity**
Visually, unity is a relationship created by the visual elements that support all elements functioning as a whole. The images in Figure 2.48 show a combination of shapes and colours which represent visual elements describing the element of unity.
(k) **Variety**

Variety is a supplement of unity and is essential in creating visual pleasure and enjoyment. Ignoring variety in design will lead to boredom and monotony. Both unity and variety depend on each other to produce a good and exciting design. Variety can be created through your ability to organise and vary the visual elements, for example, thickness and thinness of lines, varying the size of the shape, playing around with hue and value in colour and so forth.

Both images below show the application of variety in illustration. Repetition of shapes and lines create a sense of variety in the design and is strengthened by the element of unity.
(l) **Emphasis**
In design, emphasis tends to bring attention to the dominant art element in the composition. It creates a focal point in the composition. Emphasis is an element that grabs the viewer's attention to look at the most dominant area.
TOPIC 2  FORMAL ELEMENTS OF DESIGN

ACTIVITY 2.1

Portfolio

2.1.1  Gathering Visual Information

Look around you and gather as much visual information that shows five basic art elements (lines, shape, texture, form and space). Organise your visual information based on the following criteria:

(a)  Basic art elements around me (10 visuals).

(b)  Collection of five basic art elements on sketches and marks created by different medium and techniques (20 visuals).

(c)  Select one subject matter (example, bark of a tree, landscape etc.), by using different media (ink, pen, pencil, colour, etc), observe the basic art element on the subject and draw on A3 drawing paper.

2.1.2  Visual Research

Explore all basic art elements and apply them to the composition reflecting the elements of the design principles. Create a portfolio containing five designs for each element of design principles (Harmony, Rhythm, Contrast, Balance, Unity, Variety and Emphasis).

You are encouraged to explore as much of dry and wet media in your design.

SUMMARY

Lines

- Lines play a major role in creating grids, borders, edges, structures and forms.

- The line can be set up through various medium such as dry media, wet media and “accidental” marks such as scratches, rubbing, etc.
Shape

- Shapes are categorised into two types:
  
  (a) Geometric; and  
  
  (b) Organic.

- Shapes have many functions, in design most of the functions of shape are:
  
  (a) To create balance between figure and ground;  
  
  (b) To give meaning based on designer’s imagination and expression; and  
  
  (c) To create a good composition.

Texture

- Texture can be categorised into two; tactile and visual texture.

- Texture can be produced through rubbing, scratching, stamping and so forth.

- In design activity, texture sometimes plays an important role in showing a sense of expression and depth in figure and ground.

- In creating types of artworks such as posters and paintings (just to name a few), texture can be part of an interesting way to transmit the meaning of the artwork to the audience.

Form

- The form is an areas or masses in space which can easily be defined by its plane, light and shadow.

- Forms are categorised into two categories; organic form and geometric form.

- In design or artwork, form can be initiated by the quality of lines and colour tones.

- The characteristics of the form are based on how we look at it; its all depends on the angle.
Space

- Space is defined as the *area between and around objects*. Visual space illustrated in 2D surfaces through overlapping, placement, size, detail and perspective are created by artist or designer to give a sense of depth and distance.

Design Principles

- The topic covered six design principles such as Harmony, Rhythm, Contrast, Balance, Unity, Variety and Emphasis.

- Principles of design involve creativity and artistic skill to produce good and effective composition.

- The principle of design elements combine all basic art elements into the composition.

- The outcome of principles of design is artwork such as posters, paintings, brochures and user interface design (UID).

---

**TERMINOLOGY**

**Line**
- A line is defined by a continuous mark on a surface from one point to another. It also can be defined visually through a series of dots.

**Shapes**
- Shapes are defined by its border. The shape is confined to the border, either regular or irregular.
  - Positive shape is a shape identified as *foreground* or as a *figure* in the composition.
  - Negative shape is a shape identified as *background* or as a *ground* in the composition.

**Texture**
- Tactile texture is a texture that you can feel by touching.
  - Visual texture is a texture that is produces a “mark” in any surface.
Form

| (a) Organic form | – Organic forms have irregular or regular smooth and rounded border and lines. |
| (b) Geometric form | – Geometric forms have irregular or regular hard edge borders and lines. |

Post-impressionist – Post-Impressionism in Western painting – A movement in France that represented both an extension of Impressionism and a rejection of that style’s inherent limitations (Art Movement, n.d.).

Optic Art – Op art, also known as optical art, is a style of visual art that uses optical illusions (Wikipedia, 2016).

Space – The area between and around objects. Space can also refer to the feeling of depth (The J. Paul Getty Museum (n.d.).

Visual Space – Space that is created on 2D surfaces which can create a sense of depth and distance.

Linear Perspective – A sense of space created by an invisible line, usually for architectural drawing.

Principles of design – The organisation of basic design elements which portray the ideas of the designer through their imagination and creativity.
This subtopic introduces the meaning of colour in its application to the design of graphic artwork. The meaning of colour covers the functions of colour to the creation of the colour system that will be used as a guide to your design application.

### 3.1 THE MEANING OF COLOUR

The role of colour in design is usually very personal in nature and very subjective. It sometimes functions to stimulate one’s feelings. The use of colour sometimes reflects a personal preference due to individual personal experiences and cultural background.
3.2 BASIC COLOUR THEORY

Colour can be distinguished by three methods, hue, tone and saturation. Hue is identified as a generic name for colour that has many variations from light (tint) to dark (shade). The range is referred to as tone. Example of hues are red or blue. Tints and shades are also called “from light to dark”. By pigment, you can get a light colour by mixing with a white colour such as white and yellow and to get a dark colour, mix it with a black colour. In a diagram demonstrating common color mixing terms, a tint is the mixture of a color with white, which increases lightness, and a shade is the mixture of a color with black, which reduces lightness. A tone is produced either by the mixture of a color with gray, or by both tinting and shading (Mollica, 2013 as cited in Wikipedia, 2016).

**Figure 3.1: Change in tone and hue**

*Source: http://f.tqn.com/y/painting/1/S/S/Q/1/Tone-allcolors2.jpg*

A hue varies according to its saturation or chroma (known as intensity). Saturation refers from full intensity to low intensity or from brightness to greyness.
Colour Temperature

Colours have temperatures. The temperature is based on its intensity. Colours with high intensity creates warm colours while colours with low intensity creates cold colours. The image in Figure 3.3 shows a sample of the warm and cold colours. The colour appears warmer as the yellow colour reduces and red increases. Blue, is a cold colour, but as it goes up it get warmer because of the addition of the yellow colour.
The Colour Wheel

Pigment Mixture
Birren (1965) stated that “In the mixture of average pigments, the primary colours are magenta red, yellow and turquoise blue. These combine to form orange, green and violet (or purple)”, which is clearly shown in Figure 3.4 (Colour Wheel 1). Itten (as cited in Birren, 1965) provided a comprehensive colour wheel as shown in Colour Wheel 2. Basically secondary colours are a result of two primary colours. The configuration of primary, secondary and tertiary colours is shown in Colour Wheel 2 in Figure 3.4.

Example:
Primary: p1 – red and p2 – yellow
Secondary: b – orange
Tertiary: c – yellow-orange and red-orange

Source: Birren (1965)
Source: http://kariglasscolour.blogspot.my/2013/03/the-12-step-colour-wheel-is-chart-of.html

Figure 3.4: The colour wheel
Additive and Subtractive Primaries
Digitally, to envisage how colour functions, the colour system known as Red, Green, Blue (RGB) or *additive colours* and coloured pigment called Cyan, Magenta, Yellow, Black (CMYK), a key colour or *subtractive colours*, do not function in the same way.

“If you are working with computer the colour on your monitor (RGB system) will not be the same as the colour that is printed (CMYK system)” (Dabner et. al., 2010).

![Additive and subtractive colours](http://www.upvector.com/?section=Tutorials&subsection=Graphics%20Crash%20Course)

**3.2.1 Contrast and Harmony**

The role of colours is to support the content in the design. It is used to strengthen the ideas by the designers. It is crucial for the designer to understand how colour works in the application of contrast and harmony. The amount of colour used will affect both function of the design and perception. The images in Figure 3.6 shows two similar logo designs with different sets of colour. The black colour in image A creates a contrast which focuses on the ball, while image B with harmony create a sense of “association” between all design elements.
In design, colours function in many ways; many factors can affect colour perception. Colours may change based on lighting effects; the quality of colours is different when we view it under the light and sunlight. It becomes brighter in sunlight compared to under the light bulb. Excellent colour clarity can be achieved if foreground and background are opposites, as shown in the images in Figure 3.7.

Simultaneous Contrast
Most of the colours, if arranged side by side or embedded within the color itself will create different intensities, that is called simultaneous contrast. Both circles in A and B in Figure 3.6 have the same hue, tone, and saturation, but when embedded in different colours, it appears to have a different intensity.
“Simultaneous contrast identified by Michel Eugène Chevreul refers to the manner in which the colours of two different objects affect each other. The effect is more noticeable when shared between objects of complementary colour” (Wikipedia, 2016). The colour appears lighter depending on the influence of surrounding colours. The colour appears warmer if the surrounding colours are darker.

In Figure 3.8, Image A shows that the different colours in the middle creates a better contrast with either darker or lighter surrounding colours. Image B demonstrates the colour in the middle appear to be lighter with a darker background. Image C shows the colour in the middle appears lighter in a background with a warm colour. Image D shows both same colours in the middle appear to be lighter with a darker background.

3.2.2 Colour Association

To see how colours work, you need to understand both languages and signs as well as the system of signs and how they create an emotional response (Dabner, Calvert and Casey, 2010). Colours have the symbolic relationship in all societies, depending on different contexts. The association of colours is highly subjective; it depends on the way it is used either in culture or religion or any other practices.
Figure 3.8: Colour association
Source: https://ivenegas12.files.wordpress.com/2014/09/culture.jpg
Colours in Design

![Colours in Design Diagram]

**Figure 3.9:** Colours in design  
*Source: [https://goo.gl/Wt4h5Q](https://goo.gl/Wt4h5Q)*

Colours play an important role in conveying messages to the audience. In advertising, colours reinforce ideas to the visual forms. Colours can also be a symbol that can propose and enrich the information it transmits.
Most of the logos in the images on the left are created with the colours that are related to the product. Most of the colours shown have their own meaning interpreted by the designers based on their study on the product.

“Wassily Kandinsky (1866 – 1944) developed his colour usage in terms of spiritual moods and relation to musical instruments and sounds. His paintings are synthetic colour expression of sound” (Dabner et. al., 2010).

**Application of Colour in Various Design Activities**

Imagine a world without colour. We will lose most of our joy and capability of tapping into our creativity. As a whole, colour can be applied in many disciplines either artificially or naturally. Some of the applications are created by humans and some of them exist naturally. Six images in Figure 3.10 show the application of colours in architecture (A), interior design (B), advertising (C), painting (D), landscaping (E) and fashion (F), just to name a few.

![Figure 3.10: Application of colour](image)

**Sources:**

- **Image A:** https://goo.gl/9CV0WK
- **Image B:** https://goo.gl/kHD7qF
- **Image C:** https://goo.gl/ZtnWkB
- **Image D:** https://goo.gl/yOmz4y
- **Image E:** https://goo.gl/GHSVPo
- **Image F:** https://goo.gl/sSR75L
This topic has introduced the complete colour system and its characteristics regarding applications and the nature of the colours themselves. It has also discussed the function of colour and its association with the culture and context of use especially in graphic design.

**Hue**
- Is identified as a generic name for colour that has many variations from light (tint) to dark (shade). The range is referred to as tone.

**Tints and shades**
- Are also called “from light to dark”. By pigment you can get a light colour by mixing it with a white colour such as white and yellow and to get dark colour by mixing it with a black colour.

**Additive colour**
- The colour system known as Red, Green Blue (RGB).

**Subtractive colours**
- The colour system known as coloured pigments called Cyan, Magenta, Yellow, Black = a key colour (CMYK).

Create a portfolio containing:

1. A study on a complete colour wheel (1 set colour wheel).
2. A study on Simultaneous Contrast in composition (6 compositions).
3. Application of colours in two types of design as follows:
   - (a) 2 Poster designs
   - (b) 2 Illustrations
**INTRODUCTION**

It is an understatement to say that written language is a vital tool used in our daily communications. In fact, it has been an agent of change that has shaped human civilisations for centuries. Throughout history, typography has been a pivotal “instrumentation” and a design form that shapes written language. This has been made more significant by the technological advancements in relevant domains. Every single day we are surrounded by type, be it in newspapers, billboards, magazines and on the Web.

The word “typography” comes via French and Latin from the Greek τύπος (typos), to strike + γραφία (graphia), to write (www.omniglot.com). Typography can be defined as the study, use and design of sets of repeated letterforms. In other words, it is the art and process of organising, placing and manipulating the type in a page.

Typographic forms are unique elements because not only do they function as shape, texture, point or line; but they also contain verbal meaning. Hence, when typographic elements are “written” only based on their verbal meaning, they would have far less impact than those which have been manipulated or “visually enhanced” (see Figure 4.1). How type is presented and designed transforms the overall look and feel of a page.
Generally, the technical terms associated with type can be categorised into TWO groups – a group of terms which identify type and typographic forms (the first eight terminologies), and secondly, terms which are normally related to manipulating and changing or altering/adjusting the physical attributes of type.

### 4.1 TYPE ANATOMY

To control type on a page would first require a designer to be able to name and identify major parts of type. The terminology describing these major parts of letters is based on human anatomy. Figure 4.2 describes some of these elements of letterforms.

![Figure 4.2: Anatomy of letterform](https://playtype.com/about/typefaces/glossary)
There are literally thousands of typefaces currently available, and many more new typefaces keep popping up nearly every day. Hence producing a single commonly accepted type classification or category is an impossible task. Despite this difficulty, typeface developers and typographers have identified various common characteristics of typefaces, and then grouped these typefaces accordingly. Generally, typefaces are used either for text-based purposes or for display purposes. Each classification has certain common distinctive letterforms and stress features.
| **Serif (includes Old Style, Transitional and Modern):** | Characterised by short strokes ("feet") or serif at the end of the letterform. Portrays a more traditional look.  
This is a serif typeface.  
Source: http://designmodo.com/typographic-style/ |
| --- | --- |
| **Sans-Serif:** | A sans-serif typeface is a typeface without serifs. Shows a more industrial look.  
This is a sans serif typeface.  
Source: http://designmodo.com/typographic-style/ |
| **Square Serif/ Egyptian/Slab Serif:** | These typefaces are characterised by thick, heavy slab-like serifs.  
This is a square serif typeface.  
Source: http://designmodo.com/typographic-style/ |
| **Script/cursive:** | Resembles handwriting, based on forms made with writing instruments such as a brush or pen.  
This is a script typeface.  
Source: http://designmodo.com/typographic-style/ |
| **Decorative/ornamental:** | Highly stylised. Mostly suitable for display use, as opposed to serif and sans-serif which are often used for typesetting.  
Source: https://playtype.com/about/typefaces/glossary |
Other than the five categories mentioned before, some typographers have listed other categories such as:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pixel:</td>
<td>Developed from the invention of the computer, and based on the picture element (or pixel) of the computer display or monitor.</td>
<td><a href="http://www.designishistory.com/1450/type-classification/">http://www.designishistory.com/1450/type-classification/</a></td>
</tr>
<tr>
<td>Blackletter:</td>
<td>A calligraphy-like typeface. Popular in Germany, and used all over Europe from the Middle Ages through the Renaissance Era.</td>
<td><a href="http://www.designishistory.com/1450/type-classification/">http://www.designishistory.com/1450/type-classification/</a></td>
</tr>
</tbody>
</table>
### 4.3 USING TYPES (IN DESIGN) – READABILITY AND LEGIBILITY

As mentioned earlier, type is an essential component in creating a design. Not only do types have certain visual connotations, but when used in a design, they also represent some particular verbal-related meanings. These meanings can evoke moods and certain feelings from readers. Therefore, it is important to use types which are legible and readable in a design.

A type’s **legibility** refers to the ease with which readers can recognise and be able to differentiate the different letterforms (see Table 4.1). **Readability** refers to how easy a page of text can be read and navigated (see Table 4.2).

<table>
<thead>
<tr>
<th>Table 4.1: Type’s Legibility Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legibility</strong></td>
</tr>
<tr>
<td><strong>Style of a Typeface:</strong></td>
</tr>
<tr>
<td>Familiarity</td>
</tr>
<tr>
<td>When the typeface used is more familiar, the audience will be able to read the text more quickly and easily than when it is unfamiliar. For example, take an unfamiliar typeface – “FF Johannes G”, created by German type designer Manfred Klein in 1991.</td>
</tr>
</tbody>
</table>

**Source:** https://www.myfonts.com/fonts/fontfont/ff-johannes-g/

<table>
<thead>
<tr>
<th><strong>Serif versus Sans-Serif</strong></th>
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</thead>
<tbody>
<tr>
<td>Research has proven that using serif typefaces will make body type passages easier to read than those which use sans-serif typefaces. This is because of two reasons. Firstly, serif enables readers to easily differentiate letters from one another. Secondly, serif typefaces provide additional visual cues that can aid character recognition. For example:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Illinois</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Much easier to differentiate than if the word “Illinois” was written in sans-serif.</td>
</tr>
</tbody>
</table>
Type Styles

Type style refers to a typeface which has been modified. These modifications may include setting type styles in italic, bold, ALL CAPS or underlined. Type styles are very useful to indicate emphasis (especially for display types) in a passage or design.

Colour and Value

Colour and value are two important stylistic tools which can enhance legibility through setting readers mood, enabling readers to make associations and grabbing readers’ attention. Colour selection includes selecting the colour of the font, and choosing the background colour surrounding the text.

According to research, the most legible combination is **black text on a white background**.

Typographic Colour

Typographic colour refers to the overall tonal value of a block of type on a page, as perceived when the eyes combine the positive and negative shapes of the layout. **It is the density of type on the page.** The “shade” of typographic colour has an impact on legibility of the page.

Dark typographic colour:

```markdown
```

Light typographic colour:

```markdown
```

Source: [http://designingfortheweb.co.uk/](http://designingfortheweb.co.uk/)
Texture of Type

Texture relates to the roughness, smoothness, softness or sharpness of the surface perceived. If the typographic colour is smooth – due to consistent letterforms sizes, shapes or type styles and spacing – the passage will be more legible than inconsistent rough elements. However, there may be times when rough texture is appropriate, for example in this illustration:

Elements of excitement are added to the layout by using different textured text blocks where legibility is not important (poster by Jeff Kleinsmith, http://www.gigposters.com/poster/10184_Zero_7.html)
Size and Shape of Type:

**Stroke Weight**

This factor also influences legibility. **Moderate stroke weight** usually is the most legible choice. If the typeface has thick strokes, these thick strokes will start to flood the characters making the letter less legible. When a typeface has very thin stroke weights, it will be difficult for readers to see the letters, especially in passages also resulting in reduced legibility.

<table>
<thead>
<tr>
<th>Thick</th>
<th>Thin</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG. the quick brown fox jumped over the lazy dog. 0123456789</td>
<td></td>
</tr>
</tbody>
</table>

**Contrast**

Legibility can be affected by the level of contrast between the thickest and the thinnest strokes.

<table>
<thead>
<tr>
<th>ABCDEFGHIJKLMNOPQRSTUVWXYZÀÁ</th>
<th>abcdefghijklmnopqrstuvwxyzàáéïôøï</th>
</tr>
</thead>
<tbody>
<tr>
<td>01234567890($£€,.!?)</td>
<td></td>
</tr>
</tbody>
</table>
Very high contrast typeface can tire the eyes when used in long passage. Similarly, if a typeface with very low contrast is used, the legibility of long passages also decreases. This is due to difficulty to differentiate one letterform from another.

This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.
This is a test of Futura2C typeface with virtually no contrast.

Set Width

Narrow columns may require typefaces with a narrow set of width. But, typefaces which are too narrow, or even too wide can be very difficult to read in passages.

The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.

Too narrow typeface:

Reforma Grotesk Light

Wide (or expanded) typefaces may be useful when line length must be particularly long. However, keep in mind that wide typefaces can reduce legibility; when letterform width is so extreme that the reader’s eyes cannot read words in regular eye sweeps, the physical experience of reading is disrupted and slowed.

Too wide typeface:

Cavaliero AOE
Point Size

The point size factor of a character affects the legibility factor. Both, either too small or too big can be problematic to readers. If designers still have to use a small point size, try increasing the leading to improve legibility.

However, if the x-height of a typeface is extremely tall, the letterforms may become difficult to distinguish also, because the variation between letters with and without ascenders (like a and d) can be diminished.

An extremely short x-height tends to make a typeface appear to be small for its point size, which can diminish legibility because readers may have difficulty focusing on and reading very small letters. Even if readers are able to recognize letterforms at a small point size, their eyes are likely to become tired quickly.

Source: Exploring typography by Tova Rabinowitz

Contrast between Text and Background

The negative space of a letterform is an important factor to ensure good legibility of type, and this includes the text’s background. Designers, when dealing with type’s background, must ensure high legibility through providing sufficient contrast values between text and its surrounding background.

Background:

Texture of Background

“Rough” or “choppy” surrounding background textures may distract the reader’s eyes from the actual text, thus decreasing legibility.

Source: http://contrastrebellion.com/
### Table 4.2: Type’s Readability Factors

<table>
<thead>
<tr>
<th>Typeface Selection:</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid using too many typefaces in one design. Using too many may lead to chaotic effects and will decrease readability.</td>
<td></td>
</tr>
</tbody>
</table>

### Alignment

Alignment can simply be described as the arrangements of text on a page relating to its margin. How texts are arranged on a page affect the readability. There are several types of alignment:

- **Centred text** – Text is aligned along the centre. Therefore, the left and right margins are symmetrical.

- **Left-aligned text/flush left/ragged right** – The left edge is hard, the right edge is soft. The texts are aligned flush against the left margin, but uneven on the right.

- **Right-aligned text/flush right/ragged left** – The right edge is hard, the left edge is soft. Text are aligned flush against the right margin, but uneven on the left margin.

- **Justified text** – The left and right edges are both even. This type of text is highly readable and also frequently used. Justified text creates a clean shape on the page.
Right-aligned text

Justified text

Source: http://www.thinkingwithtype.com/contents/text/

Measure

Measure is also known as “line length” – the length of a line of text or type. The ideal measure for a line of printed text is 60 to 70 characters per line. For a digital environment, it is about 40 characters per line.

Widows and Orphans

A **WIDOW** occurs when the ending of a paragraph is an isolated single last line, located at the top of a new column or a new page. A short line, or single word at the end of a paragraph is also known as a **WIDOW**.

An **ORPHAN** is a single line of type, either at the beginning or the end of a paragraph, and it is separated from the rest of the paragraph by a column or a page.

<table>
<thead>
<tr>
<th>Use of Negative Spaces in a Layout:</th>
<th>Tracking and Kerning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking occurs when the letterspaces between words in a line of type are increased or decreased consistently within a string of text.</td>
<td></td>
</tr>
</tbody>
</table>

We love to track

too loose

good
too tight

Kerning is the alteration or change of letterspace between two specific characters. It is the space between letter pairs in a word.

Kerning
too loose
good
too tight

Source: http://blend.bsujournalismworkshops.com/2012/04/11/the-art-of-typography/

Examples of tracking, taken from briancoale.com

areallytighttrackingexample
atighttrackingexample
anormaltrackingexample
aloosetrackingeexample
anevenlooser
<table>
<thead>
<tr>
<th>Word Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word spacing refers to the amount of space between adjacent words in a string or block of text.</td>
</tr>
</tbody>
</table>

```
verylittlewordspacing

normal word spacing

lots of word spacing
```

*Source:* http://briancoale.com/graphic-design/

<table>
<thead>
<tr>
<th>Leading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading can be defined as the space between the consecutive lines of type. Readers will have difficulty finding the next line of text, when lines are too far apart. Also, if it is too close together, readers will be distracted from the word they are reading because of the interference of the adjacent lines.</td>
</tr>
</tbody>
</table>

**Good**

```
```

**Too Little**

```
```

**Too Much**

```
```

**4.4 LAWS OF GESTALT AND TYPE**

The laws of Gestalt was proposed by German psychologists – Max Wertheimer, Kurt Koffka and Wolfgang Kohler. Gestalt means “unified whole” – it explains how (visual) perceptions are shaped through the different ways in which our brain groups shapes, colours and texture. This law is also known as the “Law of Simplicity”, or the “Law of Pragnanz”. There are several Laws of Gestalt which explain how our brain processes the typographic information we receive visually (see Figure 4.3). Applying these theories in typographic designs will create unity within a page or piece of work:

(a) Similarity;
(b) Proximity;
(c) Continuation;
(d) Closure;
(e) Figure/Ground;
(f) Symmetry and order; and
(g) Law of Common Fate.

![Figure 4.3: Gestalt and type](https://yusylvia.wordpress.com/tag/gestalt/)

(a) **Gestalt and Type: Similarity**

Our brains tend to group and associate objects that look similar. Elements which have similar characteristics are perceived as more related than those which do not share those characteristics (see Figure 4.4). Some of these elements are: shape, size, colour or texture.
(b) **Gestalt and Type: Proximity**

According to the proximity rule, our brains tend to group together and associate objects which have locations near to each other. Using this “nearness” concept, visual elements tend to be perceived as a single whole, even though they are separate elements (see Figure 4.5).
(c) **Gestalt and Type: Continuation**
This rule states that our brains tend to group objects along a single continuous line or curve. The eye is drawn along this line, preferring to see a single continuous figure than detached and isolated lines (see Figure 4.6).

![Figure 4.6: Continuation in letterforms](http://www.creativebloq.com)

(d) **Gestalt and Type: Closure**
The Law of Closure is based on the concept of the tendency of the human eye to see closed shapes. The word closure means “completion”. Thus, the Law of Closure tells the viewers to perceive a complete shape by filling in the missing information (see Figure 4.7).

![Figure 4.7: Closure in typeface](https://www.behance.net)
(e) **Gestalt and Type: Figure/Ground**
This principle of perception helps viewers to visually distinguish objects (or figure/foreground object) as separate elements, distinct from their surrounding background (ground). Figures are also called positive elements, and grounds are also known as negative elements. This principle works because of our eyes’ tendency to view the figure (foreground object) and background (ground) as two different planes of focus (see Figure 4.8).

![Figure 4.8: Using figure/ground concept in typographic design](https://www.behance.net)

(f) **Gestalt and Type: Symmetry and Order**
This law simply denotes that people tend to see objects as symmetrical shapes radiating or forming around their centre (see Figure 4.9).

![Figure 4.9: Visual elements radiating from the centre point](http://www.creativebloq.com)
(g) **Gestalt and Type: Law of Common Fate**

According to this rule, our brains tend to group together and associate visual objects or elements which have a common orientation or direction. Elements which move in the same direction are seen to be more related than other elements which are viewed as static or moving in other different directions (see Figure 4.10).

![Figure 4.10: Law of common fate](image)

### 4.5 COMPOSITION AND TYPE – VISUAL HIERARCHY USING EMPHASIS

Visual hierarchy is an important feature in any design. Applying a visual hierarchy to the design will express the organisation of contents, emphasising the most important element while subordinating others. This will also assist viewers’ “eye flow” from the most important part of the whole design layout to the least important one. There is no single solution for creating visual hierarchy with text. We will examine two general methods to achieve emphasis in typographic design – varying the letterforms, and by means of contrast.

**Emphasis by varying the letterforms can be achieved through:**

(a) Using Boldface (see Figure 4.11);

(b) Italics (see Figure 4.11);

(c) Typestyle – weight (see Figure 4.12 and Figure 4.13);

(d) All caps;

(e) Varying colours (see Figure 4.13 and Figure 4.14);
(f) Varying typefaces (see Figure 4.15);

(g) Varying sizes, see (Figure 4.16); and

(h) Font orientations.

Figure 4.11: Using Boldface and Italic to achieve emphasis

Figure 4.12: Using different weight to achieve emphasis

Figure 4.13: Changing typestyles and colour to achieve emphasis

Figure 4.14: Emphasise through colour

Figure 4.15: Emphasise through varying typefaces
Emphasis by Contrast

One method designers may use to emphasise certain visual elements on a page or layout is by making the object in focus to be somewhat visually different than the surrounding elements. This concept is known as **contrast**, and it can be achieved through these methods:
### TOPIC 4    TYPOGRAPHY

<table>
<thead>
<tr>
<th>Figure 4.18: Varying the colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figure 4.19: Varying its texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
<tr>
<td>d d d d d d</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figure 4.20: Varying its orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>d d d d d</td>
</tr>
<tr>
<td>d d d d</td>
</tr>
<tr>
<td>d d d d</td>
</tr>
<tr>
<td>d d d d</td>
</tr>
<tr>
<td>d d d d</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figure 4.21: Changing the shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>d d d d</td>
</tr>
<tr>
<td>d D d d d</td>
</tr>
<tr>
<td>d d d d d</td>
</tr>
<tr>
<td>d d d d d</td>
</tr>
<tr>
<td>d d d d d</td>
</tr>
</tbody>
</table>
Create a site with at least three pages about yourself (these pages must be linked to one another). Contents may include your bio-info, hobbies or anything about yourself which you are comfortable sharing with other people (with the intention of making new friends). Use a lot of **typography techniques** to make your site interesting. It is a challenge to use type creatively in web design. Describe all the typography techniques used to create the textual elements of your webpages.

**ACTIVITY 4.1**

1. Identify the various structures of type, denoted by (i) through (vii) as shown in Figure 4.22.

**Figure 4.22: Various structures of type**
2. List and explain **THREE** factors of typeface styles which influence type’s legibility.

3. Named the **FOUR** types of alignment styles.

4. What is the most appropriate **Gestalt theory** to describe the use of types in Figure 4.23, Figure 4.24 and Figure 4.25?

---

**Figure 4.23**

**Figure 4.24**

**Figure 4.25**
In this topic, you learned the terminologies commonly used in typography, and to associate these terms to improve type presence in design. There are various design techniques associated with typography. The selection of suitable techniques will enhance the type. This will improve the overall design.

**Terminology**

- **Typeface** – A collection or a single set of letterforms, numeral and symbols unified by common visual designs and consistent visual properties.

- **Font** – A complete collection of all set of characters of one specific typeface needed for typesetting.

- **Letterform** – The distinctive style and specific form of each individual letter in an alphabet.

- **Type style** – Modifications in a typeface which create a variety of designs, while at the same time preserving the visual character of the typeface. These variations include weight (bold or light), width (condensed or extended), or angle (italic versus roman or upright).

- **Type family** – A range of all related style variations based on a single typeface design.

- **Character** – An individual letterform, numbers, punctuation marks or any other elements or units which are part of a font.

- **Lowercase** – Smaller letters as opposed to capital letters of a type font.

- **Uppercase** – The capital or the larger letters of a type font.

- **Point size** – Type is traditionally measured in “points”. It is a unit for measuring the height of type and the vertical distance between lines of type. The larger the point size, the bigger the type will be.
**Line length** – The horizontal length of a line of type. Can be measured in picas or in inches.

**Letter spacing** – The distance between individual characters and letters in a line of type.

**Leading** – The vertical space between lines of type, measured in points.

**Kerning** – The act of manipulating the spaces between two individual letters. Also known as “mortising”.
LEARNING OUTCOMES

By the end of this topic, learners should be able to:

1. Describe the various layout techniques used in designing a page;
2. Analyse the suitability of various layout designs to best deliver the intended message to audiences; and
3. Select the best or combinations of several layout design techniques to complete the page design.

INTRODUCTION

A layout can be generally defined as the organisation of type and other visual elements on either a printed or digital page (see Figure 5.1). This process of arrangement involves the sizing, spacing, placement or composing of elements such as text, images, logo, captions, navigation elements – hyperlinks or hypermedia – and negative space on two-dimensional surfaces to create effective visual communication.
There are many layout design concepts which enable designers to creatively design a page. Using these page layout schemes, designers can then best arrange and place the layout elements on a page. Generally page layout can be divided into two different categories: **Graphics Layout** and **Web Layout**.

### 5.1 TYPES OF GRAPHICS LAYOUT

Designers use many concepts to position text and other visual elements on a page. These layout concepts have various distinctive characteristics unique only to a certain type of layout design, but not to others. We will explore seven types of graphics layout design:

- Mondrian layout;
- Frame layout;
- Circus layout;
- Multi-panel layout;
• Big-Type layout;

• Alphabet-Inspired layout; and

• Silhouette layout.

(a) **Mondrian Layout**
This layout is named after the Dutch painter Piet Mondrian. Mondrian layout involves the use of horizontal and diagonal bars (sometimes black coloured bars) which form square or rectangular shapes which are the characteristics of this layout. Also, the use of primary colours such as red, yellow and blue is a must. Figure 5.2 illustrates two examples of Mondrian Layout.

![Figure 5.2: Mondrian layout design](http://lindaperry.us)

**Source:** http://lindaperry.us
(b) **Frame Layout**
This is a layout which features the subject or text placed “inside” a visual framing, that is, enclosed by a border (see Figure 5.3). The frame keeps the enclosed elements within bounds, inhibiting them from being associated with other visual elements within the page.

![Figure 5.3: A layout design which uses frame layout technique, type and an image are enclosed by a dark coloured border or frame](Source: demoria.net)

(c) **Circus Layout**
The Circus layout is characterised by the non-uniform composition of multiple shapes and sizes of design elements (see Figure 5.4). There is no standard layout, as there are multiple areas of focus (see Figure 5.5), hence, the non-rigid hierarchical emphasis of visual elements in the layout design. A lot of things are going on at the same time on the page, much like the three-ring circus where multiple performances take place simultaneously.
Figure 5.4: A Circus layout design which “shouts” multiple shapes, colours and sizes of visual elements
Source: http://vinegaria.com/logo-graphic-design/

Figure 5.5: A Circus layout design which has multiple areas of focus
Source: https://bag220.files.wordpress.com/2012/03/circus.png
(d) **Multi-panel Layout**
This layout design is also known as “Comic Strip layout” or “Story Board layout”. It is a layout which is visually oriented due to the presence of multiple panels in various shapes and sizes (see Figure 5.6). These shapes maybe in the form of a rectangle, square or cube – that is, polygonal, non-circular shapes. This layout can be divided into various sections or themes (of shapes) and typically has panels of not less than four (see Figure 5.7). Each shape has visual contents which may represent different meanings, different features or different narrative connotations.

![Figure 5.6: These panels can be used to tell a story, or used to display a series of products in checkerboard style](http://todaysinspiration.blogspot.my/2007/11/atlas-more-than-just-tires.html)
Figure 5.7: Other examples of multi-panel layout, showing multiple panels consisting of many divisions of shapes

Sources: https://www.behance.net/gallery/15829679/Advertising-Layouts

(e) **Big-Type Layout**

As the name suggests, this layout design makes use of font styles and big font sizes as the main feature of the layout. Big text (type) is given the most emphasis; visuals or pictures are of secondary importance. Art or images are minimally used or, sometimes may not even be used at all in the layout design. Hence, the design is more engaging because of the typeface and the meaning it carries. The type used is normally bold and can take up to nearly 80 per cent of the design, and this may be used for creating headlines (see Figure 5.8). Some designers may opt for lowercase letters rather than all caps, simply because to certain people lower case is more appealing.
(f) **Alphabet-Inspired Layout**

The Alphabet-Inspired layout design uses alphabets or alphanumerics – letters or numbers, as the actual visual element. Letterforms are organised in sequences to form expressive sentences. Designers enhance these basic letterforms into patterns and designs which give an impression of an image (see Figure 5.9). This image provides meaning to the overall design.
(g) **Silhouette Layout**

In simplest terms, the silhouette layout uses literally silhouettes of the emphasised visual element as the main positive space of the layout design (see Figure 5.10a and Figure 5.10b). These emphasised elements may rely on the surrounding negative space to group and isolate them into a recognisable shape (see Figure 5.11). Hence, this may give the sense of a shape that is being cut out of the backgrounds. This recognisable shape can sometime be very minimal in design, since it is the silhouette form of illustrations or photograph of the visual element. The layout’s white space can also form some sort of border, when it is pushed to the “outside” of the silhouette.
Figure 5.10a: Shadow highlighted silhouette-layout design  
Source: https://spectacularagency.files.wordpress.com/2010/

Figure 5.10b: Shadow highlighted silhouette-layout design  
Source: https://www.behance.net/gallery/20362049/COLLEGE-Ads-Layout
In the previous section, we have discussed at length various approaches to place or position visual elements and the body of text on a page. Being equipped with this knowledge, we will next explore how we can design attractive and appealing user-responsive web pages. To do this, we need to understand the web page’s layout design schemes. There are five common layout schemes, and these layout names describe how the respective layout “behaves” when viewed at different browser widths:

- Static (Fixed);
- Liquid;
- Adaptive;
- Responsive; and
- Hybrid.

**Figure 5.11**: Coloured silhouette layout design by Olly Moss. Moving from just a simple silhouette, the imagery inside illustrates the storyline of these movies

*Source: http://johndmadrid.blogspot.my/2012/10/observations-image.html*
(a) **Static (Fixed) Layout**

A Static Page layout, or also known as “Fixed Website layout” or “Fixed Width layout” has a wrapper that is a fixed width. This predefined page size does not change according to the width of the browser. The components within either have a percentage width (respective to the wrapper’s size), or fixed widths. The container (wrapper) remains the same, regardless of what the screen resolution is.

A visitor will see the same width as all other visitors (see Figure 5.12). Many current new websites do not opt for static layout because developers want to avoid having a different or separate website for mobile experience. The standard modern Web design has adopted a 960-pixel width as standard practised value. This is due to the assumptions that most users will use a 1024 768 resolution or higher.

![Static Layout Example](http://blog.teamtreehouse.com/which-page-layout)

**Figure 5.12:** Static Page layout – regardless of what the screen resolution is, the page’s width remains the same

**Source:** http://blog.teamtreehouse.com/which-page-layout

(b) **Liquid Layout**

A Liquid Page layout, also referred to as a “fluid” or “fluid width” layout uses relative units instead of fixed pixel sizes. Components within this layout have certain percentage of widths that will adjust to the user’s screen resolution (see Figure 5.13). Irrespective of what the width of the browser might be, liquid layout will often fill the width of the page.

But there are some drawbacks when the browser’s widths are either too large or too small. If the screen is large and the browser becomes too wide, a single paragraph might run across the page on a single line. On the other hand, a small screen may result in a multi-column layout which may seem
too crowded for the content. Changing from one layout to another sometimes may not have favourable outcomes (see Figure 5.13a).

Figure 5.13: A liquid page layout sample
Source: http://blog.teamtreehouse.com/which-page-layout

Figure 5.13a: Pages designed in a fixed layout look reasonably alright (on the left). The same layout when designed using the liquid layout, seems stretchy with unnecessary negative spaces which do not "unify" the design (on the right)
Source: http://www.webstyleguide.com/wsg3/7-page-design/5-page-frameworks.html
(c) **Adaptive Layout**

Adaptive layout makes use of CSS media queries to detect the width of the browser which displays the webpages (see Figure 5.14). Similar to static layout, the adaptive layout also uses fixed units like pixels.

However, the difference is that for an adaptive layout there will essentially be multiple fixed widths defined by specific media queries. In adaptive web design, the layout used depends on the screen size used, therefore, there are normally several different layouts for multiple screen sizes. Adaptive design detects the device and other features (through CSS media queries) and then provides the suitable feature and layout based on predefined sizes (fixed unit) and certain features.

![Adaptive Layout Example](image)

**Figure 5.14:** An adaptive layout sample

*Source:* http://blog.teamtreehouse.com/which-page-layout

(d) **Responsive Layout**

Responsive layout design aims at providing optimal viewing of webpages, regardless of any type of device used to view these webpages. This layout technique makes use of intelligent CSS media queries, responsive images and flexible grids and layouts; somewhat like combining the liquid layout and adaptive layout schemes (see Figure 5.15). This flexibility is based on screen size, orientation and platform.

Normally responsive layout designs are built first for mobile devices’ platforms and then subsequently for wider display screens on tablets and desktops. It is much easier to expand a design for bigger display areas, than it is to simplify layout designs. As the browser increases or decreases in width, a responsive layout will change accordingly as defined by values obtained through media queries.
(e) **Hybrid Layout**

Hybrid layout designs are layout designs which combine the features of two or more types of layout design (see Figure 5.16). Hybrid layouts mainly use a combination of different units of measurement to specify the width of various columns which make up a page. For example, for certain parts of the layout, the designer uses fixed pixel sizes for the sidebar, while for the remaining portions, the designer assigns percentages with variable width.

This hybrid layout makes use of the positive features of various layout designs, while at the same time supresses the negative features of these chosen layout designs. The website “http://vanseodesign.com/css/hybrid-layout-code/” provides a good example of how to create a hybrid layout website. Figure 5.16a illustrates an example of a hybrid layout approach which combines the liquid layout – in green coloured segments, and fixed layout – in blue coloured segments.
**Figure 5.16**: A webpage which uses the hybrid layout design  
*Source*: http://sixrevisions.com

**Figure 5.16a**: A hybrid approach layout design which mixes the liquid layout (green) and fixed layout (blue) elements. This mixture results in pages that can adapt to a variety of screen sizes and media  
*Source*: adapted from http://www.webstyleguide.com
When designing the layout of a webpage, web designers must consider the following factors:

- Screen resolution;
- The type of web browser used to display the site;
- Whether the browser is in the maximised style;
- Whether additional toolbars are opened (such as history or bookmark toolbar); and
- The platform’s operating system and hardware used.

The main objective of page design, regardless if it is for web pages or printed materials, is to communicate information clearly and effectively to readers or users. Hence, to ensure that key messages are delivered to the intended audiences clearly, a balanced layout page must be created (by the layout designer). These balanced layout pages are crucial in assisting readers to find what they are looking for quickly and at the same time be visually appealing.

As mentioned earlier, page layout usually encompasses a lot of placement, rearranging and formatting of type and other visual elements (see Figure 5.17). Therefore, the layout process entails several interrelated goals:

(a) To fit visual elements into a limited space; so that the pages are balanced and visually appealing;

(b) To facilitate communication through proper arrangement of visual elements. This arrangement will enable these visual elements to “function” as they should, unified and easily accessible to viewers; and

(c) To create a harmonious visual impact.
ARRANGING VISUAL ELEMENTS

A good page composition should be both pleasing to the eye and also communicate key messages clearly to the intended audiences. Although there are numerous methods to place visual elements on a page, here we will only discuss in more depth three basic principles of arranging elements (from the perspective of page layout goals).

Most of these principles have been discussed in details in earlier topics. In this topic, we will discuss these principles briefly from the perspective of the page’s layout design. These “traditional” principles must be applied differently (in web design) than that of printed or static compositions. These principles are:

- Emphasis;
- Unity; and
- Balance.
(a) **Emphasis in Layout**
To establish a focal point, designers must create a main area of interest within the layout of the page. To do this, the designer must choose which element (either type or visual elements) to be the focal point. This selection of a focal point, ideally, should be based on certain factors. To start with this selection process, designers must ask themselves these questions:

(i) Which element will relay or communicate the primary message or information?;

(ii) Which is the most important element?;

(iii) Which element will engage viewers the most?; and

(iv) Which element will enhance viewers’ experiences the most?

Undoubtedly, visual hierarchy is very important in determining the layout design of a page. This simply means that designers need to arrange or place the type or visual elements on a page according to emphasis. Designers must ask themselves which elements have priority over the others. What should the viewers see first? What should the viewers see secondly or thirdly? Designers must arrange many elements on a page. The layout of type and other visual elements must have seamless relationship amongst the elements.

Factors such as value, size, colour and visual weight must be considered when laying out elements on a page. To emphasise some of these factors as focal points, designers may use the concept of “contrast”. For example, render the emphasised element in focus, whilst in contrast, the rest of the visual elements are rendered out of focus. Some important points to consider when applying the concept of emphasis in layout design are:

(i) **Placement:** Element’s position on the page and its relative position to other visual elements establish a visual hierarchy;

(ii) **Colour:** Viewers tend to be more attracted to brighter colours. But, elements which have colour schemes that differ from the surroundings also tend to stand out (see Figure 5.18);

(iii) **Value:** Gradation of values, moving from high contrast to lower contrast can set the flow from higher visual hierarchy elements to lower ones in the design of the page’s layout;
(iv) **Movement:** Viewers tend to “read” visual elements in the direction of their own languages;

(v) **Size:** Hierarchy is normally achieved when viewers typically tend to look at bigger visual elements first than the smaller ones (see Figure 5.19);

(vi) **Texture:** Give it a texture, or different texture from the other elements (see Figure 5.20);

(vii) **Shape:** Make it a different shape than the other elements (see Figure 5.21);

(viii) **Typography:** Sizes, colours and different fonts may create emphasis in layout design; and

(ix) **Background and Foreground:** Contrasting different elements based on the plane in which they are located.

![Figure 5.18: Emphasis through contrasting colour in layout design](http://webdesignledger.com/the-principle-of-contrast-in-web-design/)
Figure 5.19: Using size to achieve emphasis in layout design
Source: http://www.webdesignerdepot.com/

Figure 5.20: Adding texture/pattern to emphasise focal point in layout
Source: https://designshack.net/articles/graphics/5-ways-to-boost-contrast-in-your-web-design/
Figure 5.21: Having contrasting shapes as a visual element in layout design will create the focal point
Source: http://www.webdesignerdepot.com

(b) Unity in Layout
For a layout to be affectual, it must reflect oneness. It must hold together and seem organically integrated, that is, reflect totality of related parts. In layout design, there are many ways to achieve unity. To achieve **unity** and **harmony** in a layout design, these approaches can be used:

(i) **Correspondence (Repetition)**
Visual connection or correspondence among the elements may be achieved when elements or element’s attributes are repeated (see Figure 5.22). **Repetition** of colour, shape, texture or visual elements may help to achieve unity.
Unity can be achieved when visual elements’ edges or axes are lined up with one another. This is done by simply using visual lines and edges to group elements together (see Figure 5.23). This continuation of lines and edges will create visual connections among elements, shapes and objects in the layout design of a page (see Figure 5.24).

In layout design, the concept of alignment is used to organise page elements, group page items (such text, images, hyperlinks and background images), create order in the arrangement of page’s visual elements and create visual connections. There are several types of alignment in layout design:

- Vertical alignment;
- Horizontal alignment;
- Edge alignment;
- Centre alignment; and
- Visual or optical alignment.
Figure 5.23: Visual elements are aligned from header, body of the page until the bottom section of the page.
Source: http://www.glidedesign.com/website-design-crap/

Figure 5.24: Headings and buttons are all aligned. Even the three buttons at the lower bottom of the page are aligned and almost evenly spaced.
Source: https://www.portent.com/blog/design-dev/six-basic-web-design-mistakes.htm
(iii) **Flow**

Flow is the way the viewer’s eye travels when design elements lead the eye through a composition. Flow creates a combination of visual weight and visual direction. Visual flow starts with the dominant element – the entry point into the layout composition.

From there, designers provide directional cues for the eye to follow through the design. These cues will lead viewers from one element to another in the layout. The “Z” layout is considered as a standard solution or approach to use, when arranging visual elements on a page. In this layout, the human eyes follow a pattern in the shape of the letter Z, starting from headline, imagery, body copy, captions and signature or call to action. If the page is dominated by texts, the viewer’s eyes typically move in the shape of the letter “F” when scanning the text-laden page, see Figure 5.25.

Another pattern of how viewer’s eyes move when scanning a page is called “The Gutenberg Diagram” (see Figure 5.26). Please take note that these patterns are described for languages that are read left to right.

![Figure 5.25: The F-pattern and Z-pattern layout](http://vanseodesign.com/web-design/3-design-layouts/)
The flow of the viewer’s eye movement may also be influenced by certain **directional cues** when placed on a page. These directional cues are:

- Arrows (see Figure 5.27);
- Faces of people looking in a certain direction (see Figure 5.28);
- Repetition of elements;
- Rhythm;
- Implied action;
- Diagonal lines;
- Gestural lines;
• Directional lines;
• Perspective;
• Subject matter of elements; and
• Gradation.

Figure 5.27: An example of “arrow” as a directional cue
Source: https://speckyboy.com/2010/06/18/how-to-control-flow-within-your-web-designs/
(iv) **The Physical Proximity of Elements**
Proximity can simply be defined as how close the visual elements (and texts) are to each other on a page (see Figure 5.29). In proximity, grouping these visual elements together will “tell” viewers that these elements belong together in the same group.
The third basic principle is **balance**. Balance can simply be defined as an equal distribution of weight in a layout. Establishing balance is crucial in a layout design. To balance a layout, amongst the factors designers must consider are: The **visual weight** as well as **position** and **arrangement** of visual elements in a layout.

Visual weight can be defined as, the measurement of the force which a visual element exerts to attract the viewer’s eye, or to draw attention to itself. The stronger the attraction is, the greater the visual weight of the element. There are many factors which contribute to the visual weight of an element. Some of these factors are size, value, texture, shape, density, depth, saturation and colour – for example, red is considered the heaviest colour and yellow the lightest.
In terms of position, visual elements which are positioned higher in the composition are perceived to weigh more than elements positioned lower in the layout composition. The arrangement of visual elements in the layout is important too – visual elements which are arranged further in the foreground of the layout carry more weight than elements which are placed in the background of a page, see Figure 5.30.

The concept of balance has been discussed at length earlier, hence, we will only discuss this concept briefly with respect to the layout design. A few examples taken from various online sources will be shown to illustrate balance in web layout design (see Figure 5.31, 5.32, 5.33, 5.34 and 5.35).

\[\text{Figure 5.30: Foreground element (a large grey circle) combines with background elements in layout design} \]

\[\text{Source: http://www.webdesignerdepot.com}\]
Figure 5.31: Symmetrical balance – the mobile phone image divides the layout in two, and blocks of text are located on both side of the page

Source: https://www.sitepoint.com

Figure 5.32: An example of radial balance. The visual elements radiate from the centre of the page

Source: http://www.onextrapixel.com
**Figure 5.33:** An example of asymmetrical balance in webpage layout design
*Source:* http://www.vandelaydesign.com

**Figure 5.34:** Horizontal balance in web layout design
*Source:* http://tympanus.net
Figure 5.35: Vertical balance in web layout design. If you fold the design along the horizontal axis, the top and bottom elements remain balanced vertically

Source: http://tympanus.net/codrops/2011/09/13/developing-balance-in-web-design/

5.5 LAYOUT GRIDS

Another important concept in page layout design, regardless of printed materials or digital media is “grid”. A grid can be defined as an invisible structure used to guide the placement of design elements on a page. The grid upon which is used in the layout design is a useful way of providing balance, consistency, alignment, proportion, emphasis and flow of the viewer’s eyes to the design layouts.

A grid is a plan for the page layout. Grids can either be simple or complex depending on the needs of the design and designers. Figure 5.36 depicts elements which make up the anatomy of a grid. Margins define the outside boundary of a page, and they also frame the contents. Alleys are the white space between the units of the divided interior space of the page. They may run horizontally, vertically or both directions on the page depending on how the grid was set up.

Grid units are the primary locations on the page where designers place the visual elements. A gutter is the inside margin of a two-page spread, it is the space on either side of the fold. The types of grid can be classified based on the orientation – vertical or horizontal, and the number of columns – even or odd number of columns. Figure 5.37 and Figure 5.38 depict these classifications of grid (Source: http://www.designersinsights.com/designer-resources/using-layout-grids-effectively).
Figure 5.36: Elements of a grid

Figure 5.37: Examples of basic vertical layout grids
Another vital concept in designing grids for page layout design is “The Rule of Thirds”. The Rule of Thirds is perhaps the most well-known technique used by photographers in photographic composition. This rule has been adopted, and used in graphics and web layout design. The rule of thirds visually divides a page into even thirds either vertically or horizontally resulting in nine equal sections.

Dividing the page in such a way creates four placement points for key visual elements of the layout design (see Figure 5.39). These four intersections are the natural focal points of the page’s composition. For some examples of webpage layouts using The Rule of Thirds, see Figure 5.40 and Figure 5.41.
Figure 5.39: The four potential focal points in The Rule of Thirds  
Source: Adapted from http://www.creativebloq.com/

Figure 5.40: An example of using Rule of Thirds in layout design  
Figure 5.41: Placing emphasised visual elements on the four focal/intersection points

5.6 THE GOLDEN RATIO – THE COMPOSITIONAL TOOL IN LAYOUT DESIGN

The Golden Ratio is a mathematical constant which is commonly found in nature, architecture and in many art works. This mathematical constant has an approximate value of 1.6180, and is symbolised by the Greek letter Phi “ϕ”. It is also known as the “Golden Mean” or the “Divine Proportion”.

The Golden Ratio is a law of proportion which describes a perfectly symmetrical relationship between two proportions in a design. The Golden Spiral is based on the Golden Ratio, and can be used as a compositional tool (see Figure 5.42). Very similar to the Golden Spiral is the Fibonacci Spiral (see Figure 5.43). This similarity can be defined numerically.

When the ratio of two successive numbers in the Fibonacci Series is taken, and each divided by the number before it, the values will be: 1/1 = 1, 2/1 = 2, 3/2 = 1.5, 5/3 = 1.6666..., 8/5 = 1.6, 13/8 = 1.625 and so on. The ratio seems to be almost revolving around a particular value of approximately 1.618 (that is, the mathematical constant of the Golden Ratio – Phi). The same theory can be used to construct a rectangle, called the golden rectangle. See Figure 5.44.
Figure 5.42: The Golden Spiral

Figure 5.43: The Fibonacci Spiral (within the Golden Rectangle)

Figure 5.44: The Golden Rectangle
Source: http://www.webdesignstuff.co.uk
The Golden Ratio, when applied properly to web design processes, can create visually appealing websites. The most common way to use The Golden Ratio is with a page layout. For example, when the website layout width is 960 pixels, to create the main content column, one needs to divide 960 by 1.618. Hence, the width of the main content column is 593 pixels. This will give the width of the side bar (that is, the second column), 367 pixels (see Figure 5.45). The same Golden Ratio method is used to determine the height of the webpage’s main content area, and the bottom bar. For example, let us say the total height of the webpage is 760 pixels. To ascertain the height of the main content area, the designer needs to divide 760 pixels by 1.618. This gives the height of the main content area – 470 pixels. Take 470 away from 760, and this gives the height of the bottom bar – 290 pixels (see Figure 5.46). Figure 5.47, Figure 5.48, and Figure 5.49 illustrate some examples of the use of The Golden Ratio in webpage layout design.

**Figure 5.45:** A two column layout with widths of the golden ratio

*Source:* http://www.creativebloq.com
Figure 5.46: The height of the webpage, according to the concept of the golden ratio
Source: http://uxmovement.com

Figure 5.47: The Golden Spiral in web page layout
Source: http://www.companyfolders.com
Figure 5.48: An example of Golden Rectangle in layout design  
Source: https://lespaceblanc.files.wordpress.com

Figure 5.49: Golden Ratio grid is used to place the visual elements on the page  
Source: http://www.webdesignstuff.co.uk/
1. Why is having good “hierarchy” of visual elements in designing a poster or website is important?

2. List and explain the THREE important principles all designers must take into account when placing visual elements in their design.

3. List and explain the FIVE common webpage layout schemes.

4. Identify the type of balance used in the following designs:

   (a)

   (b)
In this topic, you have learned about the various layout design techniques and principles which a designer can use to arrange or place visual elements in a design (be it an artwork layout such as posters, or a webpage). Using suitable layout methods will result in “harmonious” design outcomes. More importantly, it will achieve hierarchy (thus, good viewer eye flow) in the designed artworks or webpages.

**TERMINOLOGY**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Layout</strong></td>
<td>A layout can be defined as the arrangement and placement of type and other visual elements on either a printed or a digital page.</td>
</tr>
<tr>
<td><strong>Visual communication</strong></td>
<td>The communication of an idea or information, using a visual display or a visual aid. Typically associated with using 2D images, such as posters, text, art, typography, colour or design elements and electronic resources.</td>
</tr>
<tr>
<td><strong>Visual elements</strong></td>
<td>The visual elements of line, form, colour, texture, value, shape, space and direction; which makes up the building blocks of art in designs.</td>
</tr>
<tr>
<td><strong>Grid</strong></td>
<td>A grid can be defined as an invisible structure used to guide the placement of design elements on a page.</td>
</tr>
<tr>
<td><strong>The Rule of Thirds</strong></td>
<td>A concept originated from photography, film and video production; where a page is divided into even thirds, either vertically or horizontally resulting in nine imaginary equal sections.</td>
</tr>
<tr>
<td><strong>Golden Ratio</strong></td>
<td>The Golden Ratio is a mathematical constant that has an approximate value of 1.6180. It is a law of proportion which describes a perfectly symmetrical relationship between two proportions in a design.</td>
</tr>
</tbody>
</table>
INTRODUCTION

Apart from other elements, shapes and space are among the crucial elements that have to be considered when it comes to Web design. Designing is an activity of arranging shapes and space. In order to be able to use space effectively, we must first become aware of it and learn to see the shapes that space forms and how this space communicates. Hence, this topic will discuss form and space as part of design elements and how to design effectively by considering space.

FORM AND SPACE AS DESIGN ELEMENTS

Space plays a vital role in Web design as it gives room for the positive elements in a design to breathe. It gives the freedom for the eye to move through a design and discover the elements in it. Its function is similar to silence in music. Music occurs when sounds are contrasted against silence. Without the silence, there is
no music. In the same context, without space we will not have a design. But instead we will have visual noise.

With space in our design, we can do the following:

(a) Establish contrast, emphasis and hierarchy;
(b) Generate drama and tension; and
(c) Provide visual rest between groups of elements.

Above all, the more important function of space is to improve readability and legibility. There are two main spaces; micro and macro.

(a) **Micro Space**
Space within elements in a group. It mostly refers to the space between letters, words and paragraphs.

(b) **Macro Space**
Space between major elements. It separates elements and provides avenues for the eye to follow and to rest between elements.

The good use of space can give good attributes to our Web design, such as:

(a) Quality;
(b) Sophistication;
(c) Simplicity;
(d) Luxury;
(e) Cleanliness;
(f) Solitude; and
(g) Openness.

Therefore, if we do not consider the use of space in our design properly then it will go to waste. Do not hesitate to use space and consider it as an important element when designing your website.

**Form and shape**, on the other hand, are areas or masses which define objects in a space. Form and shape will definitely involve space as they cannot exist without it. It can be any positive element we place on a space of our design which includes point, line, plane, volume, dots, text and textures. The space is considered the negative element in a design.
The form and shape can be thought of as either two dimensional or three dimensional. Two dimensional forms have width and height while three dimensional forms have depth as well as width and height.

Try to answer these questions:

(a) Why do we need to consider space in our Web design?
(b) What is the relationship between form and space?

6.2 THE GESTALT PRINCIPLES

The Gestalt Principle refers to a theory of visual perception developed by a German psychologist in the 1920s that describe how people tend to organise visual elements into groups or unified wholes when certain principles are applied. These principles can be used as good guidelines in Web design or redesign. Let us now look into these principles in greater detail.

6.2.1 Law of Pragnanz (Good Figure, Law of Simplicity)

Normally, we prefer things that are simple, clear and ordered. When we are given complex shapes, we tend to reorganise them into simpler components or into a simpler whole. In the following image, seeing three distinct objects is simpler than seeing one complex object as it is safer and takes less time to process, hence, presenting less dangers and surprises. However, in some other cases, it is easier and simpler to see a single object.
6.2.2 Closure

The principle of closure also seeks for simplicity. It occurs when a space is not completely enclosed or when an object is incomplete. It combines different parts to form a single object as opposed to the Pragnanz law which considers seeing several distinct objects as simpler.

In the preceding image, you should see a white triangle and a panda even though the images are not complete and actually comprise of several different individual parts. However, enough information is provided and the eye can fill in the rest. When the viewer’s eye completes a shape, then closure occurs.

6.2.3 Proximity

Proximity occurs when elements are placed close together. They tend to be perceived as a group rather than as individual elements. This is especially true when the elements in the group are closer to each other than they are to any elements outside the group.

The squares on the left figure above are placed without proximity, hence, they are perceived as separate shapes while the squares on the right are placed in close proximity and perceived as one group. This is where unity occurs.
6.2.4 Continuation

In this principle, elements that are arranged on a line seem to be more related than elements that are not on a line. Normally, once we move our eye in a particular direction, we continue to move in that direction until we see something that is not significant.

As in the image above, continuation occurs when the viewer’s eye follows the line or curve as the smooth flowing crossbar leads the eye from the “H” to the maple leaf.

6.2.5 Similarity

When several objects look similar to one another, it is often perceived as a group or pattern. This is what we call the similarity principle. The similarity can be in any form of characteristics such as colour, shape, texture, size, etc.

In the above image, red and black circles seem to be dissimilar even though they are in the same shape. On the other hand, red circles are seen as related to other red circles as well as black circles to other black circles. This is mainly because of the similarity of colour.
6.2.6 Figure and Ground

According to this design principle, elements of any design can be perceived as either figure or ground. “Figure” refers to the element that is in focus while “ground” refers to the background on which the figure is placed. An image can be perceived clearer if the figure and ground are balanced. In this case, the eye will separate whole figures from their background in order to see and understand the image. It is naturally one of the things that people will do earlier when looking at any composition.

For example, as in the preceding image, the figure and ground relationship is changed because our eye will perceive it as the form of a shade or the silhouette of a face. Other than that, one of the classic examples of this relationship is in the following image where we can see a vase or two faces. It depends on what we see as figure and ground.
Answer all questions. You are not required to turn in your answers, but answering them will notify you of how much you have understood what you have learned.

Which Gestalt principle is being used?

Which Gestalt principle is being used?

Which Gestalt principle is being used?

Find one website that you think is very aesthetic. Identify the design principles it incorporates.
In this topic you learned about form and space as design elements. Also you learned about Gestalt Principles as Web design guidelines.

Firstly, you have learned about the importance of form and space as part of the elements of Web design. You are expected to be able to distinguish and apply them when you are designing any website.

Next, you have also learned about Gestalt Principles which can be used as guidelines in designing a good website in terms of the look and feel.

**Form**

- Refers to a three-dimensional composition or object within a three-dimensional composition.

**Shape**

- Refers to a flat, enclosed area of an artwork created through line, texture, colour or an area enclosed by other shape.

**Space**

- Refers to the area that a shape or form occupies.
INTRODUCTION

Designing websites need to go beyond beauty because websites are used on the Internet. You have to realise that reading on paper and on screen are different. More importantly, accessing information online happens quickly, hence, you have to make your websites respond fast to your users’ requests. In this topic, you will discover the criteria for good performance, and how design implicates the performance of a website.

7.1 UNDERSTANDING THE WEB

When talking about websites, we have to understand their nature. They are developed to provide content for the users in different forms than those in printed materials. With that, it is far more sophisticated and involves various media elements.

What is the web? It refers to online applications that provide huge content to users from everywhere on earth. The content could be accessed at any time, in real time. While it is online, the contents could be made rich with high precision through rich colours and complicated animation. However, it has to be tailored critically to the goals of the website. While books have pages to flip, the website...
inherits this metaphor. Consequently, the pages in websites could be traversed using hyperlinks and hypertext, which are referred to as links or navigation.

Remember! You must have a clear goal when developing a website:

(a) The **purpose** of the website (educational, entertainment, medication, etc);
(b) The **target users** – discussed in detail in Topic 9; and
(c) The **locations** of the target users.

There are different categories of websites, as seen in Figure 7.1. For the purpose of sharing information only, you can develop an informational website. When there are some transactions you expect from your users, such as in a school registration system, you could develop a transactional website. Meanwhile, when you are developing a website for businesses, think of an e-commerce website.

![Figure 7.1: Categories of a website](image)

**How to develop a website?** Developing a website depends on the goals. When you have a clear goal, you can decide on the categories. Then, you could decide on how you are going to develop your website. Basically, Figure 7.2 outlines the options you may have.

From the figure, it can be seen that developing an informational website is simple. You can just use any tool to design and develop it.

There are various tools available to you, in which many of them like Front Page and Dreamweaver, provide What You See Is What You Get (WYSIWYG) editors. This means you do not have to imagine the look and feel of the website when your users access it because it is exactly similar to the one you see when you are
designing it. In the tools, you can include all media elements: text, images, graphics, animation, video and audio.

The same steps could be used in designing and developing transactional websites. However, some scripts are necessary to enable the transactions to happen. In such contexts, the scripts are elements you have to put effort in. It is not too difficult, because samples of scripts are available in books and on the Internet. You can always adapt them. You just need to know where in your source code you should embed the scripts.

Meanwhile, developing e-commerce websites requires you to be good at programming. You have to make the programming the anchor, while form design as cosmetics. It involves various files and complex databases. Queries are parts of the anchor. Links must assist users to do their transactions, as discussed in detail in Topic 10. The famous programming tool for websites is PhP. It is recommended to work with MySQL database.

Because websites have certain goals, they are expected to have not only aesthetical values, but also and more importantly, usability values.

### 7.1.1 What are Aesthetical Values?

Colours and some additional cosmetics make websites aesthetic. Remember, what you have learned in previous topics could be used to make your websites more aesthetic. In other words, they make your websites look beautiful and attractive. Some people prefer to incorporate animated elements in their websites to make them aesthetic. Some people prefer motion graphics.
7.1.2 What is Usability?

Usability refers to how easily users can access your website. Basically, there are six attributes for usability that are used to measure how usable your website is from users’ perspectives:

(a) **Learnability** – How easy it is to learn using the website.

(b) **Efficiency** – How good your website is at doing things it should do. How fast your users could accomplish a task. How quick your website loads.

(c) **Effectiveness** – How good your website is at doing things right.

(d) **Memorability and retainability** – Whether your users can memorise the steps in your website after using it.

(e) **Low error rate and error tolerance** – Number of errors and clarity of error recovery steps.

(f) **Attitude and satisfaction** – How well your website speaks to your users.

(g) **Usefulness** – Whether your users accept your website or not.

(h) **Control and flexibility** – Whether your users have control over your website.

(i) **User characteristics** – Terminologies, language, visual representation must be suitable for the target users.

(j) **Context and purpose** – Terminologies, language, visual representation must be suitable for the context of use.

(k) **Interface and design** – Must fulfil the goals of your website.

In some ways, aesthetical values do not meet usability. Hence, you have to consider balancing them. There will always be some trade-offs. You could develop your understanding on usability more by reading discussions from Nielsen Norman Group at https://www.nngroup.com/topic/web-usability/.
7.1.3 The Trade-off

There are trade-offs between aesthetics and usability. What are trade-offs? It refers to something that you have to sacrifice to employ something more significant. It is simple to understand. Look at the examples in Table 7.1. The table lists examples only for the support of understanding. However, when you apply the trade-offs, think from all perspectives.

<table>
<thead>
<tr>
<th></th>
<th>Usability</th>
<th>Aesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learnability</td>
<td>Simple navigation</td>
<td>Too simple is less aesthetic</td>
</tr>
<tr>
<td>Efficiency and effectiveness</td>
<td>Very straight to the point</td>
<td>Too normal is less aesthetic</td>
</tr>
<tr>
<td></td>
<td>No heavy content</td>
<td></td>
</tr>
<tr>
<td>Memorability and learnability</td>
<td>Straightforward approach</td>
<td>Straightforward is boring</td>
</tr>
<tr>
<td>Low error rate</td>
<td>Straightforward approach</td>
<td>Not challenging</td>
</tr>
</tbody>
</table>

7.2 WEB PERFORMANCE

First, you need to realise that websites provide services for users to access information online. Users access your websites for various purposes. Some are for information retrieval, while some are for certain transactions. Nevertheless, some do online business using your websites. Hence, ensuring good performance is very important, to support user experience. In light of that, try to answer these questions:

(a) What are mistakes people always do that affect web performance negatively?

(b) What is your advice to ensure websites perform at their best?

Good... You’ve got it...
It could be said that web performance is mostly concerned with the loading time. But, that alone is not necessarily true. How fluent you users are at understanding your website also matters. Thus, the performance of your websites are influenced by:

(a) The media content (animation, video and the like really makes your website heavy).
(b) The libraries you use in the design.
(c) The complexity of your navigation style.
(d) The standardisation of your information architecture.

### 7.2.1 Media Elements

Common media elements include text, images, graphics, animation, audio and video. Besides that, interactivity is also considered part of the media elements. In this advanced environment, the use of various media elements is possible, and is highly helpful in explaining things. You must know what each media element is for.

However, you have to use media elements appropriately. If they are misused, you may distract your users and make them cognitively tired. Remember, they serve a certain purpose, not merely to make your website look aesthetic.

Now, express what the following are for:

(a) **Text** – ...........................................................
(b) **Images** – ...........................................................
(c) **Graphics** – ..........................................................
(d) **Animation** – ......................................................
(e) **Audio** – ..........................................................
(f) **Video** – ..........................................................
(g) **Interactivity** – ..................................................
Now, look at the Figures 7.3 through 7.5. They illustrate graphics, video and animation. These are very powerful tools. Discuss them with your coursemates.

**Figure 7.3:** Graphic  

**Figure 7.4:** Video  
Source: YouTube
7.2.2 Impact of Media Elements

Different elements have various impacts. You may be familiar with the phrase that “a picture tells a thousand words”. This actually expresses that visuals are more powerful than text alone or audio alone. Imagine our solar system. Through books, the text can explain the movement of planets. This is supported with some images and graphical representations. Thus, our understanding upon this based on such explanations becomes clearer.

Some of you may have also seen the solar system on TV, or in the Internet through actual representations in videos captured by astronauts, or at least in animated representations. If you compare them, you will realise that they are able to make you understand better rather than those based on text and graphics.

Another example is to consider information about a company. Previously, they wrote in a booklet, and people read it to know more about a company. Now, these contents are transferred into digital form. Books are made digital. With that, rich graphics and images are used, coupled with audio and video. As a result, studying about a company becomes really enjoyable.
Those are some impacts of media elements. Now, could you think of some more examples?

### 7.2.3 Effect of Media Elements on Web Performance

Of course, you may be impressed with animated elements. You may also want to embed videos onto your website. Great! You have made up your mind, aligning your way of thinking with current trends.

But you must also know that your decision may make your website slow. If you compare the sizes of text and animation files, they are extremely different. The text is small, only in kilobytes. In contrast, the animation file is extremely large. Similarly, audio and video files are huge. For images, the richer colours you use, the bigger the file size is.

Media elements also affect your web performance, specifically in terms of loading time. When you overuse rich elements, your website takes time to load. This influences your web performance negatively.

However, if the loaded materials are highly useful, a considerable waiting time is worth it. You have to carefully decide on this, on the trade-offs between media elements and your web performance.

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**ACTIVITY 7.1**

Answer all questions. You are not required to turn in your answers, but answering them will show you how much you have understood what you have learned.

(a) What makes websites aesthetic?

(b) What makes websites usable?

(c) How would you balance the trade-off between aesthetical and usability values for your website?

(d) Discuss all media elements you would use in your website.

(e) How would different media elements implicate your website?
In this topic you learned the aesthetical and usability values with their trade-offs. Also you learned about web performance.

First, you have learned about the aesthetical and usability values of websites. You are expected to be able to distinguish them. More importantly, you realise that there are trade-offs between them.

Next, you have also learned about web performance, where it is very much determined by the media elements you embed in your website.

**ACTIVITY 7.2**

Gather five websites. Analyse them based on their media elements and their performances. Discuss what makes their performances so.

**SUMMARY**

- In this topic you learned the aesthetical and usability values with their trade-offs. Also you learned about web performance.

- First, you have learned about the aesthetical and usability values of websites. You are expected to be able to distinguish them. More importantly, you realise that there are trade-offs between them.

- Next, you have also learned about web performance, where it is very much determined by the media elements you embed in your website.

**TERMINOLOGY**

- **Usability** – Refers to how easily users can access any website.
- **Trade-off** – Refers to something that users have to let go in doing something else.
- **Aesthetic** – Refers to something that invokes the feel of happiness.
- **Web performance** – Generally refers to the loading time of a website.
INTRODUCTION

In Topic 7 you have learned some general information about websites. You have been advised on the trade-offs between aesthetical and usability values. It is hoped that you will appreciate them, because you have to remember that you are developing a website for your audience, not for yourself. Always think of how your users will feel when you design your website.

8.1 OVERVIEW

Did you know that there are various types of websites? You may have experienced using some of them, but never thought of their different types. For your information, different types of websites need to be designed with different considerations. In all types, the issues we discussed in Topic 7 are highly relevant, and are expected to be applied.
If you revisit the categories of websites in Figure 7.1, you can group them into the following types:

(a) Personal websites;
(b) Photo sharing websites;
(c) Writers/authors websites;
(d) Community building websites;
(e) Mobile device websites;
(f) Blogs;
(g) Informational websites;
(h) Online business brochure/catalog;
(i) Directory websites; and
(j) E-commerce websites.

The following sections describe each type in detail.

8.2 PERSONAL WEBSITE

You can design your own website to share information with your friends and colleagues. It could include family photos and an online diary. You can also embed some javascript items for some real time cosmetics, such as calendar, rolling quotes and visitor counters. The javascripts could be adapted from online examples, which could be retrieved from many sites like JavaScript Source (www.javascriptsource.com) and Free JavaScripts (www.free-javascripts.com). This type is not advisable for a small business.

There are two ways you can develop your personal website. First, you could design your own. It is very good if you could imagine something creative. Otherwise, you could use templates to guide you. This could help you a lot. Figures 8.1 and 8.2 showcase two templates for your personal website.
Figure 8.1: Personal Website template  
Source: http://www.smartwebby.com/DreamweaverTemplates/

Figure 8.2: Weebly template  
Source: https://www.weebly.com/
PHOTO SHARING WEBSITE

Photo sharing websites are very famous now. It is purposely created for sharing photos. Accordingly, you will have no difficulty in uploading photos because the loading will not be slowed down. People visit photo sharing websites to view photos, hence, they know about the loading time. Flickr.com\(^1\) (Figure 8.3), Photosite.com\(^2\), Google’s Picasa\(^3\), Photopages\(^4\), and Instagram\(^5\) are examples of this photo sharing website.

There are also online tools for you to design your own website. All connections to the Internet should be ready and available for the world to view your photos. Many digital cameras and photo printers have now come with software enabling you to create digital photo slide shows and upload them to the website immediately. In fact, most smart phones have appropriate apps for this. On top of that, some tools provide certain cosmetics in making up your photos.

It is very interesting because photo sharing websites also provide features for you to embed some captions for your photos. Also, your viewers can include their comments on your photos. With that, many people will be able to share your memories with you.

\(^1\) https://www.flickr.com
\(^2\) www.photosite.com
\(^3\) https://picasaweb.google.com
\(^4\) www.photopages.in
\(^5\) https://www.instagram.com
Having developed your personal website, now try to have your own photo sharing website. It is easy.

Go to www.instagram.com, and start developing your photo sharing website. Upload some of your favourite photos in your website, and place some captions for every photo. Create a story to link the photos. Then, copy the address and place it in your personal website.
8.4 WRITER/AUTHOR’S WEBSITE

Writer’s websites provide information about an author. As an example, your website will provide information on articles you have written, books, magazine and scripts. They have to be interactive, linking information in your website with the location where your manuscripts are located. ResearchGate\(^6\) (Figure 8.4) and Google Scholar\(^7\) (Figure 8.5) are examples of this type of website. You could develop such websites yourself. In these websites, you could market your work and your career.

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\(^6\) https://www.researchgate.net  
\(^7\) https://scholar.google.com/
You will benefit tremendously if you join any writer’s website, especially for your studies. From the writer’s website, you can get access to various quality papers easily.

Now, go to www.researchgate.com and follow the instructions to register yourself.

Then, try to contact five authors sharing similar interests with you, and try to get their publications.

When you have developed your writer’s website, paste the address in your personal website.
8.5 COMMUNITY BUILDING WEBSITE

This type of website could further be categorised into social websites, forum websites and sharing websites. They build up online communities gathering people in active digital social landscapes. Among the most famous examples for this type of website are Facebook\(^8\) and LinkedIn\(^9\). In such websites, the community can share and discuss their interests in real time forums.

In fact, in other examples like Prezi\(^{10}\) (Figure 8.6) and Google Drive\(^{11}\) (Figure 8.7), online collaborations could be executed, enabling people from remote areas to work together on a single document in real time. This really enriches the collaboration experience. This is possible because such websites work with the cloud, enabling rich media including animation and video to be distributed, without slowing down the loading. Photo sharing and other forms of sharing websites can also be considered as community building websites.

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8  https://www.facebook.com/
9  https://www.linkedin.com/
10  https://prezi.com
11  www.google.com
Figure 8.7: Google Drive
This type of website is special. Imagine the screen sizes of mobile devices. They are small; hence they are not able to display normal websites efficiently. In such conditions, users have to scroll left-right and up-down consistently. This is burdening. Hence, you have to design websites especially for small displays.

Normally, such websites will accommodate themselves with small displays automatically. You can experience such websites with mudah.my\textsuperscript{12}, bankislam.biz\textsuperscript{13}, and amazon.com\textsuperscript{14}. You will find that the displays on big screens and small screens are different.

\textbf{ACTIVITY 8.4}

It is good for you to have some online collaboration experience. You will be able to enhance your creativity through skill sharing and peer comments.

Now, go to www.prezi.com. You can register yourself if you do not have a Facebook account. If you have a Facebook account, you could sign in using your Facebook ID and password.

When you have entered into Prezi, start creating your slides. Insert text, images, graphics, animation and videos in your slides. Enjoy zooming in your slides.

Then, invite your coursemates to collaborate with you on the slides. You need their e-mail addresses for this.

Once you have invited them, they have to approve your invitation. Then, you and your coursemates can modify the slides simultaneously.

Now, if you have a Facebook account, promote your personal website by posting its address.
8.7 **BLOG**

Blogs are inherited from web logs. They are very practical for writing and sharing journals and diaries. Besides sharing writings, you can also share photos through your blog. Nowadays, they are provided online – enabling you to automatically write in contents without having to think of any technical necessities. Wordpress\(^\text{15}\) and Instagram\(^\text{16}\) are famous tools for this type of website. Similar to other sharing websites, blogs also allows for comments.

Besides sharing information, people also use blogs for small businesses. It enables everyone to reach their target audience easily because blogs eliminate the needs for technical skills. Besides, authors can share their thoughts with the society easily using blogs.

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**ACTIVITY 8.5**

Besides personal websites and Instagram, you could also develop your personal blog.

Now go to www.blogspot.com or www.twitter.com. You can create your blog there. In your blog, place your activities. Combine text, pictures, and other media elements in your blog. Try to update your blog consistently every day.

Now, paste the address of your blog in your personal website.

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8.8 **INFORMATIONAL WEBSITE**

Informational websites are like books. They provide information. The difference is that they provide information in various media elements. While books provide limited interaction, information in websites could be integrated with very rich interaction in supporting user tasks. While books can only provide limited sound, websites can provide all kinds of sounds. Imagine learning about animals through books. How can the books entertain you? Now, what can a website do in supporting your learning about animals? You can hear the sound of the animals and showcase their habitat in real videos. Figure 8.8 is an example of an informational website.

\(^\text{15}\) https://wordpress.com/create/  
\(^\text{16}\) https://www.instagram.com/
Businesses benefit a lot from the Internet and websites. They can advertise their product or services on the Net. Think of hair-stylists, dentists or day-care services previously known only by local people. With the Internet, their services reach a wider audience. For products, when customers see them on the Net, they can place orders. This doubles the business income easily.

Such opportunities have benefitted various businesses like card printing, souvenirs and stationery. Besides that, these websites also reduce operational costs.
8.10 DIRECTORY WEBSITE

As the Internet enables searching quickly, the directory function benefits a lot from this. While using printed directories requires us to flip pages, the websites simplifies it. They provide a search engine that gives exact search results in a very short time. You must have used the online yellow pages for this, or at least a directory of any organisation. Google\textsuperscript{17} and Yahoo\textsuperscript{18} are large directories, which provide very rich information.

8.11 E-COMMERCE WEBSITE

Many people shop online. They view products, make purchases and pay online. Later, the goods are delivered to their location. This is common now. If you go to mudah.my\textsuperscript{19} (Figure 8.9) and Amazon.com\textsuperscript{20}, you will find that it is a huge e-commerce website. It gathers books from all topics and other goods. Such websites also match products with customers, based on their history. They use various strategies in approaching their customers. Information about the products are also clearly seen by the customers.

![Figure 8.9: Mudah.my](image)

\textsuperscript{17} www.google.com
\textsuperscript{18} www.yahoo.com
\textsuperscript{19} www.mudah.my
\textsuperscript{20} www.amazon.com
In this topic you learned about different types of websites. They are used for different purposes.

Various types of websites are recommended for various purposes. On your part, you need to consider the best one that fits your purpose or necessity. With the advancement of technology, the feasibility of every one to have a number of websites is high. To support that, templates for websites are provided free on the Internet. This enables everyone to design and develop websites and publish them easily.

**TERMINOLOGY**

- **Writer/Author** – A person who publishes his writing for the public.
- **Community Building** – Works focusing on developing a society, in terms of spiritual or physical.
- **Mobile Devices** – Multimedia and communication devices that could be carried by hand. They have small displays, small capacities and small processing power, but are able to perform computing functions.
Designers can freely design their websites. However, as discussed in Topic 8, designers have to think of what best serves their audience, not how it satisfies the designers’ desires. Hence, this topic discusses some guidelines in designing the information in a website so that it wins the audience’s attention. The varied types of websites require different designs for their information.

By the end of this topic, learners should be able to:
1. Discuss the elements that make websites usable; and
2. Describe the design guidelines for a website.

Topic 8 outlines various types of websites. They are used for different purposes. However, some of them share similar purposes, such as for sharing. In every type of website, different media elements are appropriate, as discussed in Topic 7.

You must have understood each well by now. This topic extends the discussion into how information should be designed or organised in ensuring your target users are wisely addressed. Imagine what makes you feel happy when you are with your friends. In contrast, there are things you are not quite happy with. This analogy is similar when you design your website. Consider it like a friend, a waiter, or a receptionist, who is basically a person who entertains your needs.
In such situations there are, of course, things they should do and should avoid. In addition, the way they entertain different guests should be adapted accordingly. This is highly important because there are too many differences among various groups. These are among the things that this topic covers in support of your information design. In short, information design communicates meaning and ideas.

9.2 WEB USABILITY

Remember, a website is developed for access by a targeted audience. Hence, the website must be usable for the particular target audience. Consequently, it may not be usable for other groups.

As an example, a website for female teenagers may be annoying for males. Similarly a website for kids might not suit the needs of a nurse. Having understood the differences, ask yourself the following questions as a check and balance.

(a) **Does your website grow with your visitors?**

Your website should accommodate the needs of novice and experienced audiences. Features for novices must appear by default, while experienced audiences normally do not mind when features are hidden. For experts, they may want to use short-cut keys to perform tasks. This has to be handled wisely.

(b) **Is your website consistent?**

Make your website consistent in terms of terminologies, colour, convention, menu and others. This makes things clear. If they are not consistent, your users may get confused easily.

(c) **Is your website using appropriate language?**

Use language that your users are familiar with. All jargon would just make them confused. As an example, language for children must not be similar with the language for adults. Similarly, language for common people in educating about diabetes must not be similar with the language in educating nurses about diabetes.
(d) **Does your website present information accurately and precisely?**
Avoid elaborating irrelevant information. Ensure only appropriate text and visual elements appear on the screen. It is a strong strategy in winning your audiences’ attention. But, never make it too short where significant information is missed. Some information could be better represented visually rather than textually, and vice versa. You really have to consider which is better by basing it on the objective of the information.

(e) **Does it provide feedback to users?**
Ensure your website provides feedback when something changes, such as an icon lighting up or text telling a visitor that their task was successful. Note also the progress of certain processes, such as when something is being loaded or transferred. This is important to make your users aware of the actual situation. This prevents them from guessing.

(f) **Does your website let audience have control and freedom?**
Is it easy to find things? If visitors make a mistake, be sure there are easy ways to go back, start over or continue a different way. If there are multiple pages, allow them to move freely among the pages. As an example, a single click can take them from page 2 to page 16. Audio could be turned up and down, or muted

(g) **Does your website force audiences to remember things?**
Make actions and options visible to visitors so they do not have to remember things from one point to another. Most people are busy, and distracted. Providing “tabs” is a good option to notify their current locations in your website. The navigation pane can always be displayed with the history of visited pages.

(h) **Does your website help audience recognise errors and recover from them?**
Your best efforts aside, to err is human. If visitors make mistakes, use plain language to explain what happened and how they can successfully complete whatever they were trying to do. Use appropriate language, keep sentences short and simple. Show solution for them when necessary. As an example, telling “you entered a wrong format for the date” is confusing, but prompting “please use dd/mm/yy format for the date” is more meaningful.

(i) **Does your website help visitors avoid mistakes?**
Try at your best to reduce complexities and excise. Clicking on the mouse unnecessarily is an excise. Having to memorise steps or location is also an excise. All these have to be minimised.
(j) **Is the help in your website useful?**
Ideally visitors should not need to use documentation to successfully use your website, but sometimes it is necessary to provide help or customer support. Make these resources easy to find, read and search. Focus on the most important things your visitors are trying to do. Guide them clearly through easy language and phrases, with illustrations.

**ACTIVITY 9.1**

It is good for you to practise with these check and balance questions.

Now, select five websites randomly.

For every website, answer all the questions that you come across browsing through.

Log the answers on a sheet of paper dedicated for every website.

You should understand how those questions help you in designing your website.

### 9.3 UNDERSTANDING USERS

Who are your users? Do you realise that your users differ? Surely they are different. They are different in terms of:

(a) Gender;
(b) Age;
(c) Educational background;
(d) Previous experience;
(e) Level of exposure to public;
(f) Level of access to information;
(g) Level of motivation; and
(h) Types of application they use.
In addition, among those who are similar in age and gender for example, some are beginners, while some are intermediate and others experts.

You can see the difference. Also, what you believe will impact your design. If you are not quite clear about the implications, the following list will help you clarify further:

(a) Talking about diabetes to normal people should be pitched at a different level than telling it to nurses.

(b) Pitch language at a lower level when talking about diabetes to children.

(c) Professionals prefer a straight-to-the-point approach, while creative people may be happy with something abstract.

(d) People who want to read about pianos prefer different things than people wanting to sell a piano.

Understanding these points is the pre-requisite for designing a usable website, because they will be the ones using it, not yourself. If you do not understand your users, you are not going to understand the real requirements. Accordingly, you tend to design ambiguously, and later, your users will not be happy using your website. Figure 9.1 depicts an example of a good design for children.

![Website for children](image)

**Figure 9.1:** Website for children
In Figure 9.1, the website makes use of good strategies for approaching children, such as:

(a) Bright colours;
(b) Simple sentences;
(c) Simple navigation style; and
(d) More graphics.

In a situation where appropriate designs are not employed, people may use your website, but with negative perceptions. Eventually, such perceptions and competitiveness will not sustain your website.

How do we understand our users?

It is easy. The following are some techniques that you could practise:

(a) Read about them;
(b) Meet them;
(c) Speak with them;
(d) Do things with them;
(e) Ask from their stakeholders; and
(f) Observe their context (location, time, space, etc.).

It is not necessary for you to do everything in the list. Basically, some are appropriate for certain conditions, while some others are necessary for other conditions.
Now, you know and understand your users. You are also clear about the requirements of your website. How are you going to design your website?

It is recommended that you divide your plan into stages. You could do it your own way; however, the stages in the following figure are those commonly practised.

ACTIVITY 9.2

This is an interesting activity which will demonstrate to you the differences of children and adults in terms of design.

Select a topic that you are interested in. Imagine that you want to develop a website for that topic.

Interview five children and five adults – ask on characters that appear in the website, information to include in the website, fonts that they prefer and others, relating to the design and content.

Compare the results of the interview.

Can you see the difference?

9.4 DESIGNING TECHNIQUES

Now, you know and understand your users. You are also clear about the requirements of your website.

How are you going to design your website?

It is recommended that you divide your plan into stages. You could do it your own way; however, the stages in the following figure are those commonly practised.
(a) **Storyboarding**

Putting ideas on paper. The effects and feedback of user interactions should also be noted. This task demonstrates the language and complexities of navigation styles to be used. If there are forms in the website, detail the form elements. Every significant thing to appear in the website needs to be showcased in the storyboard. The following is an example of a storyboard:
Main Page

Screen: picture of the ducks in the pond.
Title: Anak Itik Yang Hodoh
Background: light blue and purple.
Voiceover: Anak itik yang hodoh (voiceover is audible when the user clicks on the title)

Button: square button with the picture of each page in top of the screen to show each narration of page.

Page 1

Screen: the picture of the chicken and six eggs
Background = light blue & purple.
Sound effect: voice of chicken is audible when user clicks on circle button.
Background music: the user can choose either to switch on the background music or not.

Script (voiceover): Disebabkan ibu ayam sedang bangun tidur, nenek memiliki 6 biji telur. Suara riuh ibu ayam sedang bangun tidur mengganggu seekor ibu itik yang baru berkelur 1 biji di rebah sebelah. (voiceover is audible when user clicks on circle button).
The storyboard in the example is for an edutainment programme for children. Hence, it is simple. The navigation is simple. Contents are in illustration mostly, with less text. Note that the storyboard also spells out the audio, audio effect and visual effect.

If you are developing a transaction website, stress the navigation style in the storyboard.

Discuss with your users about the website through the storyboard.

(b) **Alternative Designs**

Based on the agreed storyboard, you may prepare a sample of alternative designs. At this stage, your design could already go digital. This could be called **prototypes**. When you have a few designs (three to five may be enough) to discuss with your users, you will have plenty of ideas. Focus your discussion based on the alternative designs on usability, depending on the type of website you are developing – either informational, transactional, or e-commerce (Topic 7).

(c) **Selecting Design**

Having come out with alternatives designs, select the most appropriate one and go through it together with your users. You must be able to justify the strength of every design.

(d) **First Draft**

Having decided on the most preferred design, extend the development and finish the website. Remember, by then, your development should be based on the requirement and storyboard agreed upon earlier. This first draft is your finished website, with all contents, in its real look. It is important so that your users value the real experience.

(e) **Amendment**

Consider your users’ feedback to improve your website. Based on the first draft (provided that you critically design it as it is desired), your users will express many things that they feel dissatisfied with. As a result, you can significantly improve your website.

Otherwise, the evaluation may take a number of rounds until your users are satisfied. In design, this iterative process is common. Never get fed-up with it.

(f) **Launching**

Having finished the amendments, launch your website.

One simple tool to design a website (for informational websites only) is Weebly. You may try it as a kick-off.
DESIGN GUIDELINES

This section lists design guidelines for a website that considers its users wisely. Remember, when designing a website, try to design it as best as how a very good person would serve you. You need to be creative and apply some of these guidelines in designing your website.

(a) **Take an interest in its users** – Make your website “remember” what your users like or dislike. If you are developing an e-commerce website, you have to apply this because with that, your website could recommend products that they have always purchased. This saves the user’s time.

(b) **Always make an offer, but avoid making an order** – This is very important. Your website caters for your users, the users do not have to follow what the website asks of them. Example, in a 10-page form, let them decide which page they want to fill first, never force them to traverse linearly from page 1 to 10.

(c) **Always be forthcoming** – But be wise in recommending anything. The way of recommendation and things being recommended must be something not annoying. This is related to understanding the interest of the users. As an example, when a user is browsing a book, avoid offering things like groceries, because they are in different categories. It is forthcoming, but annoying.

(d) **Use common sense** – It is very important to make your website be able to use common sense. As an example, there are only 12 months in a year, so your website should provide a list of months rather than asking your users to type the month when filling a form.

**ACTIVITY 9.3**

Go to Google search, click on image. This enables you to do image searching.

Then, in the input box, type storyboard and press ENTER.

Then, Google will display to you various examples of storyboards. This explains that there are various ways you could represent your website, so you can make your selection here.
(e) **Anticipate users’ needs** – Keep a record of your users. Your website should anticipate based on their behaviour then. As an example, when your users enter into your website that sells various products, it should anticipate that at the beginning of a new year, they would want to look for back-to-school goods.

(f) **Be conscientious** – Complete a job without being told each step in detail. As an example, when a waiter is asked to clean a dining table, he knows already that he has to remove the dishes, wipe the table, wash the dishes, dry them, etc.

(g) **Never burden users with unnecessary errors** like broken links.

(h) **Keep users informed** – Notify and give feedback after user action.

(i) **Avoid asking too many questions** – Ask questions to confirm it is good, but avoid asking too many questions. It is irritating, especially if the asked questions are not significant.

(j) **Avoid being cruel to users** – Users hate it when they have to re-fill all information they have typed in a form, but is not successful. As an example, if a user has to fill a 10-page form for a visa, suddenly, while inputting data in page 9, the system black out. All typed data are gone, and the user has to type again from the beginning. Users are not happy with this.

(k) **Take the responsibility** – Your website should be responsible for the job it is doing. If while processing something it is asked to stop, it should be able to immediately stop.

(l) **Know when to bend the rules** – Sometimes, changes in a system can be tolerated. Humans can do it easily. Your website should also do that.

### SUMMARY

- In this topic you learned some guidelines in designing a website.

- It all begins with the usability aspects of a website. You learned also that understanding users is the pre-requisite for making a website usable for the target audience. Also this topic address design techniques and tips in making your website appropriate.
Information  –  Not only text, but everything (such as graphics, videos, animation and lines) that appear on screen is information. All these are very rich and support understanding.

Users  –  Mainly, they are the people who access your website for various reasons. If you sell your website, the entity who decides to purchase your website (like a government or a company) is also the user.

Considerate Website  –  Websites that act like human beings in entertaining users.
INTRODUCTION

Have you seen a Website without interactivity? I am sure you are surprised with the question. Of course because all Websites are interactive.

Interactivity is provided in a Website to enable users explore in the environment. Basically, users click to move. The clickable items depend very much on the nature and context of the Website, either text or figure. Besides to move, the following are some examples of the purpose interactivity.

(a) Input data;
(b) Change appearance;
(c) Adding contents;
(d) Executing process;
(e) Searching items;
(f) Establishing connection; and
(g) etc..
As a designer, you have to critically consider the interactivity in your Website. Remember, the previous topics emphasize that your Website should be usable for the target users. In accordance, this topic extends it that interactivity is part of factors that make your Website usable. Remember, the impact of interactivity is usable Website, otherwise your Website will have too much excise.

ACTIVITY 10.1

There are various types users could interact with Websites. Now imagine Websites on kiosk, tablet, mobile phone, and others. You can even use them to experience the navigation styles.

Now, can you list the interaction styles for all the different platforms. Obviously, mouse is not the only one.

If you have not experience them, you could do Google image searching.

10.1 WHAT IS EXCISE

What is excise? Good if you can explain.

Excise refers to anything that adds extra works on your users. It could be the interaction, the audio, the loading time, and others. When there are too much excise in your Website, your users will not enjoy using it. Hence, unless if your Website is too special, they will eventually stop using.

It refers to unnecessary actions users have to do. In such situation, it is taxing users with not only cognitive efforts but also physical efforts. As an example, if a user wants to fill a form, then every time clicking an input field, it pops-up a window. Then, the close button has to be clicked to close it when finished inputting. Imaging if there are ten such pop-up windows. What are excise in such situation that you could say?

Many, in which the following are some of them.

(a) Having to wait for the window to open;
(b) The difficulty to see the elements behind the pop-u window;
(c) Having to see the pop-up window;
(d) Having to relocate the window if need to see the hidden elements;
(e) Having to move the cursor to the “x” button to close the window;
(f) Having to click the mouse to close the window; and
(g) Having to wait for the window to close and displays the form.

Interaction and navigation are major reasons leading to excise. Hence, you have to design the interaction in your Website with special consideration on your users.

**ACTIVITY 10.2**

Analyse the Website that is designed for children below. Identify how the features eliminate excise. List your answer on a sheet of paper, and discuss with your friend.
10.1.1 Examples of Excise in Web

There are various elements leading to excise in your Website, other than the scenario in the Section 10.1. The following are some examples:

(a) Having to guess whether some graphics are hyperlinks;
(b) Having to click many times for accomplishing a task;
(c) Having to memorize steps;
(d) Having to recall activities and remember items;
(e) Having to type all inputs (like months, could just click from a list);
(f) Having to relearn about the navigation pane in every page;
(g) Having to wait for navigation links to appear;
(h) Having to move from page 1 to page 25 linearly;
(i) Having to re-type all input when system distorts;
(j) Having to deal with broken links;
(k) Having to deal with too many animations or animated graphics unnecessarily;
(l) Having to listen to audio unnecessarily;
(m) Having to wait for pages to load;
(n) Having to go to another window to perform a function that affects current window;
(o) Having to move pop-up windows; and
(p) Having to resize windows.
The above list are just examples. You have to use them for rationalizing other elements in your Website. The keys are excise impacts:

(a) The process;
(b) The error;
(c) The time taken;
(d) The smoothness;
(e) The complexity;
(f) The navigation; and
(g) The loading.

**ACTIVITY 10.3**

Now, you have to experience excise. You have to realize that there are excise in the Websites you are dealing with.

Select any five Websites.

Browse one-by-one.

Tick all excise that you have to deal with. Anything that you think an excise. This enriches your understanding.

**10.1.2 Impact of Excise**

Excise by nature adds loads to cognitive because the cognition has to process them, although they are unnecessary. Hence, users feel tired without they realize. Further, there are various consequences when the tireness continues.

Not only that, it impacts also physical efforts. Here are some examples of physical efforts:

(a) Having to move mouse;
(b) Clicking mouse;
(c) Shrinking eyes;
(d) Enlarging iris;
(e) Closing pop-up windows;
(f) Resizing windows;
(g) etc...

Although they are small things, but they are unnecessary. If they have to do it on time, it is OK, but if one person has to do it 10 times, it is not OK. If 1000 people have to do that, how much unnecessary efforts have been made? How much unnecessary time has been spent?.... Actually, this really affects emotions. Normally such unnecessary excise affects negatively, leading to demotivation.

Some practical consequences of excise are also on these:

(a) **Figuring Out an Item**

<table>
<thead>
<tr>
<th>GROUP / INDIVIDUAL</th>
<th>ALBUMS</th>
<th>Grammy's</th>
</tr>
</thead>
<tbody>
<tr>
<td>U2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Foo Fighters</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>The White Stripes</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Coldplay</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Green Day</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Beck</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Red Hot Chili Peppers</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Wilco</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Radiohead (Thom Yorke)</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>REM</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Tori Amos</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>PJ Harvey</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Pearl Jam</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>The Flaming Lips</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>The Smashing Pumpkins</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Bjork</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Incubus</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Modest Mouse</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Sigur Ros</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Arcade Fire</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Yeah Yeah Yeahs</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

*Figure 10.1: Item listing*
Figuring Out Origin Point, Finding Clickable Items

With reference to Figure 10.1, try to count groups with 6 albums.

Imagine if the list contains 100 records, is it easy for you to search for a person name Jordan?

Figure 10.2: Items on page

With reference to Figure 10.2, where would you start your work? Have you got any hint? Discuss this with your friends.

You could test yourself. You could compare your experience while interacting with a good Website with a bad Website. Then, learn from your experience. Explain your experience to your friend.
10.2 ELIMINATING EXCISE THROUGH INTERACTIVITY

Excise has to be eliminated. Sometimes, you tend to make things beautiful, but they do not help in accomplishing tasks. This section discusses how interactivity could help eliminate the excise, and ease your users tasks.

10.2.1 Significance of Eliminating Excise

While excise is unnecessary, eliminating them is significant. Consider this the process of applying for a passport. Previously, applicants have to spend for two weeks. Perhaps courtesy visits have to be made to ask for the status of the application. Phone calls were also made. Then, the process were shortened to one week. Now, applying for a passport ends in just an hour. This is a big impact. With such time reduction, more passports could be issued in the same time frame. On the applicants, they do not have to waste their time waiting, visiting the office, phone calling, thinking of the status, complaining, and the like. That is for a person. Imagine if 1 million applicants have to go through the same process. How much time wasted? How much money wasted? How much thinking consumed. How much ....

The scenario in the above paragraph visualizes the significance of eliminating excise. It is similar with the excise in a Website.

ACTIVITY 10.6

Discuss how excise in a Website could increase productivity. In this context, productivity refers to time reduced, works completed, error reduced, and others, which are intangible (unseen).
10.2.2 Elements that Eliminate Excise

The following are elements that could easily eliminate excise.

(a) **Hyperlink and Hypertext**

Hyperlinks and hypertexts enable users to jump from a point to another point with a single click. While hypertext refers to the use of text for clicking, hypertext can use other media elements, most commonly graphical icons.

![Figure 10.3: Hypertext and hyperlinks](image)

**ACTIVITY 10.7**

Discuss how the elements in Figure 10.3 support user tasks. What happens if the hypertexts are not provided?
(b) **Breadcrumb**

When a user is at a location, it is good for him to know his root to the destination. It is like a map, that visualizes checkpoints. In interactive applications, it is very useful to help users to quickly return to the location they previously traversed. In fact, it could be made in the form of tab (as seen in Figure 10.4), called breadcrumb. Users can click each tab to return to the previously traversed location.

![Figure 10.4: Breadcrumb](image)

**ACTIVITY 10.8**

Discuss the way breadcrumb in Figure 10.4 supports user tasks.
(c) **Tab**

Diaries provide small identifiers with different colors for months, to assist users to quickly flip to the desired month. It is also similar when a file contains many distinct sections, to allow users to quickly flip to the desired sections. The small identifier is called tab. In interactive products, the use of tab is highly efficient to allow users to quickly visit their desired section too. One of the examples is seen in Microsoft products (Figure 10.5).

![Figure 10.5: The use of tab](image)

**ACTIVITY 10.9**

Discuss the way tabs in Figure 10.5 support user tasks.

(d) **Clicking-based Input Type Rather than Typing-based**

There are many ways users can give inputs. Normally, they have to type. Besides, they could just be provided with options for answers, for them to only tick or circle. The impact is different, because writing “December” (8 characters to type) is long rather than just ticking for December option (one click).

![Figure 10.6: Clicking-based input](image)
All Navigation Panes are Available at All Time

Working with something visible is much easier than working with something we have to guess. When we guess, the tendency to make error is greater. Hence, in interactive products, make all navigation panes visible at all time, so that it reduces user efforts, physically and mentally.

Figure 10.7: Navigation pane

Discuss the way navigation pane in Figure 10.7 supports user tasks.
(f) **Drag-and-drop**

If we do an action, we will be very much appreciating when we could see the results immediately. In fact, it increases our confidence. It is highly appropriate in interactive products. It is called direct manipulation. There are many ways to do that, including drag-and-drop, where users can drag an element and drop it at a location they desire and see the result immediately.

![Figure 10.8: Drag and drop](image)

**ACTIVITY 10.12**

Discuss the way drag-and-drop in Figure 10.8 supports user tasks.
(g) **Closed Clickable Items**
Distance tends to open chance for users to make mistake. This is because an action involves eyes and fingers. If there is a distance, the eyes tend to view something before the desired clickable item. Hence, undesired action may be taken. Hence, the distance between clickable items should be eliminated.

![Figure 10.9: Closed clickable items](image)

(h) **Slide Bar**
Users always want to adjust something to meet their desire. They are not sure their exact decision. Hence, they have to make a few trials. Consider viewing a picture, without a slide bar, they have to type the size they want, and press enter. Then type another size and press enter again. The process repeats until they get the size they desire. There is an alternative for inputting the picture size, using a slide bar, that allows users to see the picture changes in real time while moving the reader head. It reduces the efforts of inputting the picture size and pressing enter.

![Figure 10.10: Slide bar](image)
ACTIVITY 10.13

Discuss the way slide bar in Figure 10.10 supports user tasks.

(i) Annotated Scroll Bar
In a long document, while sliding the scroll bar, users have to guess where they are in the document. It could be assisted with certain annotations telling appropriate information like what section, what page, and the heading.

![Figure 10.11: Annotated scroll bar](image)

ACTIVITY 10.14

Discuss the way scroll bar in Figure 10.11 supports user tasks.
This topic discusses the strategies in making your Website interacts as your users intend. The interaction styles must be designed suitable with the purpose of your Website. Remember, match your Website with the purpose it is developed and the users. When you have them in mind, you tend to design in meeting their needs. Otherwise, your Website may contain too much excise, which in common words, is difficulties.

When your users find your Website difficult, they will not be happy to use. Further, hey may leave your Website. It is still OK, but if they tell other users not to visit your Website, it is not OK...

OK students, beginning Topic 1, you have learned many things about designing. In the early topics, the foundation to designing are addressed. Later, they are mapped with the nature of Website. So, it is now your job to decide your design wisely. Never misregard your Website, know and understand your users in the first place.

**TERMINOLOGY**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excise</strong></td>
<td>Anything that forces users to perform unnecessary task(s). It could be in the form of reading, clicking, moving things, guessing, and others.</td>
</tr>
<tr>
<td><strong>Hyperlinks</strong></td>
<td>Any element that enables users to click to move to a new location, or open a new window, or open another application.</td>
</tr>
<tr>
<td><strong>Hypertext</strong></td>
<td>Any text that enables users to click to move to a new location, or open a new window, or open another application.</td>
</tr>
<tr>
<td><strong>Breadcrumb</strong></td>
<td>A tool that shows the route to the current destination.</td>
</tr>
<tr>
<td><strong>Navigation pane</strong></td>
<td>The pane that provides navigation links.</td>
</tr>
<tr>
<td><strong>Scroll bar</strong></td>
<td>The tool that allows users to move the contents in a window up-down or left-right. Users have to click and hold the provided button and move it as desired.</td>
</tr>
</tbody>
</table>

**SUMMARY**

- This topic discusses the strategies in making your Website interacts as your users intend. The interaction styles must be designed suitable with the purpose of your Website. Remember, match your Website with the purpose it is developed and the users. When you have them in mind, you tend to design in meeting their needs. Otherwise, your Website may contain too much excise, which in common words, is difficulties.

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References


