Unit 16: Digital 2D and 3D Graphics

Guideline

Introduction

Write about digital 2D Graphics
Write about digital 3D Graphics
Include some details from Assignment brief

A.P1 Explain the purpose and legal considerations for different digital graphic products.(minimum of 3 products)

The purpose and legal requirements for digital graphics:

- **The purpose of digital graphics** is to:
  - o convey information, messages and meaning to an audience, including a target market, customer and/or user
  - o visualise, communicate, verify and evaluate potential ideas, solutions, intentions, requirements and alternatives to an audience.
- The **current and relevant local legal requirements** for digital graphics.

A.P2 Explain the technical characteristics of different digital graphic products, including a limited explanation of how they impact on their usability and accuracy. (minimum of 3 products)

The principles of 2D and 3D in digital graphics.
Two types of digital graphic, raster- and vector-based, and the differences between them:
o **raster image principles**: – 2D arrays, resolution, dimensions, sampling, bit depth, colour modes
o vector image principles: – geometrical primitives, nodes, paths, voxel
Principles of representing 3D images in digital format, including:
geometric theory: – vertices, line, curve, edge, polygon, mesh, coordinate geometry, mesh construction: box modelling extrusion modelling primitives, e.g. cube, sphere
rendering:- lighting, radiosity, ray tracing, pixel shading, level of detail, rasterising, including scan conversion
impact of the 2D and 3D digital graphic representation principles on their usability and accuracy, e.g. dimensions, scalability, colour management, rasterising, rendering, quantisation, anti-aliasing.

Hardware and software tools for digital graphics:
Capture: - camera, scanner, graphics tablet
graphics card: - random-access memory (RAM), cache, processor
output: - screen, print
software applications for manipulating graphics: vector based, raster based, 3D image editors, image galleries, file conversion.
impact of the hardware and software tool selection on the digital graphic usability and accuracy, e.g. export ratios, compressions, channels, file format, proofing, testing, combining raster and vector graphics, image manipulation techniques

A.M1 Discuss the purpose and characteristics of different digital graphic products, including how they impact on their usability and accuracy.
Provide detailed discussion

A.D1 Evaluate the purpose and characteristics of different digital graphic products, including how they impact on their usability and accuracy.
Advantages of the purpose and characteristics of different digital graphic products, including how they impact on their usability and accuracy.
Disadvantages of the purpose and characteristics of different digital graphic products, including how they impact on their usability and accuracy.
Conclusion

B P3Produce designs for 2D and 3D digital graphic products to meet the client's brief
Design documentation:
Design brief including: requirements of the brief, target audience, purpose, client requirements.
Research (evidence for research conducted)
Visual themes and aesthetics
Local legal and ethical considerations: copyright, accessibility, ethical issues, representation, decency, intellectual property rights.
File naming and storage location
Sources of images
Sketches for 3D graphics
Sketches for 2D graphics
Intended platform for delivery (both 2D and 3D graphics
Hardware requirements
Software requirements
Ready-made assets
graphic processing and editing: rotation, scaling, translation,3D viewing, file sizes
user experience: quality, compatibility, usability, hardware requirements, software requirements

B.P4 Review the designs for 2D and 3D digital graphic products to identify and inform refinements.
working with clients and others to improve the quality
gathering feedback from clients and users (for both 2D and 3D graphics)
communicating with clients
updating design specification based on feedback (for both 2D and 3D graphics)
conclude

B.M2 Justify design decisions for 2D and 3D digital graphics products, showing how they will provide effective solutions to meet the client's brief.
Provide proper justification with in- text citation

C.P5 Develop 2D and 3D digital graphic products to meet the client's brief.
Write about the **software** which you are using to develop your **3D graphics**(Blender,Maya)
write about the **3D graphic tools** which you are using to develop your 3D graphics

1.geometric models, e.g. cube, sphere
2. mesh, e.g. vertices, polygons)

Include 5 screenshots showing different phases of your 3D graphics development and the final image
Provide explanation about the things you added in each screenshot
Write about **the software** which you are using to develop your **2D graphics**(. Photoshop, Pencil)
write about the **2D graphic tools** which you are using to develop your 3D graphics

1.freehand draw
2.transformations
3.grouping colour balance

Include the **screenshot of your 2D graphics**

C.P6 Review the extent to which the 2D and 3D digital graphic products meet the client's brief.

Collect feedback from others and include the evidence
Analyze the feedback and state the enhancements

C.M3 Optimise the 2D and 3D digital graphic products to effectively meet the client's brief

Optimise both 2D and 3D graphics and show screenshot as evidence of optimization

BC.D2 Evaluate the 2D and 3D digital graphics product designs and the optimised product solutions against the client's brief.

Show the **image** of final design of 2D and 3D digital graphics and the final optimized product
write about the **benefits** and **limitations** and include the conclusion

BC.D3 Demonstrate individual responsibility, creativity and effective self-management in the design, development and review of digital graphic products.

Document the development and optimization process, including the rationale behind each improvement and the methods employed.
Provide evidence of effective time management throughout all the phase, including meeting deadlines and responding promptly to feedback.
Exhibit professionalism and accountability in addressing client feedback and implementing necessary changes.

review of digital graphic product: both 2D and 3D

1) how far the solution meets the client's requirements (brief), including audience and purpose
2) quality of digital graphics
3) local legal and ethical constraints
4) technical constraints
5) how the digital graphic products could be improved to better meet the needs of the user and fulfil the identified needs