ESKIDIS3 (SQA Unit Code - F9C9 04)
Design and imaging software

Overview

This is the ability to use a software application designed to create, modify and layout artwork or images for display in print or on a screen (eg vector graphics for design and drawing; raster graphics for photo manipulation or illustration).

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Performance criteria

You must be able to:

Obtain, insert and combine information for designs or images

P1. Obtain, insert and prepare images

P2. Use appropriate techniques to organise and combine information of different types or from different sources

P3. Store and retrieve files effectively, in line with guidelines and conventions where available

You must be able to:

Use design and imaging software tools to create, manipulate and edit designs or images

P4. Select and use suitable tools and techniques efficiently to create designs or images

P5. Use guide lines and dimensioning tools appropriately to enhance precision

P6. Select and use appropriate tools and techniques to manipulate and edit designs or images

P7. Check designs or images meet needs, using IT tools and making corrections as necessary

P8. Identify and respond appropriately to quality problems to ensure that outcomes are fit for purpose and meet needs

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Knowledge and understanding

You need to know and understand:

Obtain, insert and combine information for designs or images

K1. Explain what designs or images are needed

K2. Explain how the context affects the way designs and images should be prepared

K3. Provide guidance on what and how any copyright or other constraints may apply to the use of own and other's designs or images

K4. Explain when and how to combine information using appropriate file formats

K5. Explain how file format affects image quality, format and size and how to choose appropriate formats for saving designs or images

You need to know and understand:

Use design and imaging software tools to create, manipulate and edit designs or images

K6. Explain what technical factors affecting designs and images need to be taken into account and how to do so

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Additional Information

Scope/range

An advanced user can select and use a wide range of advanced design and imaging software tools and techniques to complex and non-routine designs and images.

Design and imaging software tools and techniques will be defined as 'advanced' because:

1. the software tools and functions used will be complex and at times require new learning, which will involve having the idea that there may be a tool or function to do something (eg improve efficiency or create an effect), exploring technical support, self-teaching and applying;
2. the inputting, manipulating and outputting techniques will be multi-step and complex, and will involve research, identification and application; and
3. the user will take full responsibility for inputting, structuring, editing and presenting the information.

Example contexts: logo for a company or touching up and removing unwanted elements from a photograph.

Examples of Content
The examples given are indicative of the learning content at each level and are not intended to form a prescriptive list for the purpose of assessment

Obtain, insert and combine information for designs or images
Designs or images: Designs or images will vary according to the task for example, photos from a digital camera, scanned images, graphic elements, drawings, clip art

Prepare images: Size, crop and position

Copyright constraints: Effect of copyright law (eg on use of other people's images), acknowledgment of sources, permissions

Combine information: Insert, size, position, wrap, order, group, layer

Context for designs and images: Contexts will vary according to the software and task, for example: on screen display, publishing on a web site, hard copy print out, digital file

File formats for designs and images: Will vary according to the content, for example jpg for Internet photo display, png for Internet drawing display, svg for graphic designs

(the ISO standard most likely to be fully supported by web browsers);

1. Digital picture format (e.g. jpeg and psd)
2. Bitmap or raster picture formats (eg raw bitmaps, bmp and compressed formats jpeg and png)
3. Vector graphics (eg svg, wmf, eps, ai)
4. Open formats (eg html, odf, pdf and rtf)
5. Proprietary formats (eg pub and qxd)
6. Method of compression (lossy, non-lossy)

Converting files between different formats (eg JPEG to TIFF, compression of image data or Grayscale)

Store and retrieve: Save, save as, find, open, close*, import, export to other file formats; reduce file size*

Use design and imaging software tools to create, manipulate and edit designs or images

Technical factors affecting designs and images: Page or canvas size; colour mode; file size and format; image resolution; method of display or printing; colour depth; technical differences between vector and bitmap or raster graphics

Create designs and images: Draw basic shapes and edit vector properties to create new and more complex shapes; download digital photos from a camera; scan and resize images; add text and other elements such as lines, boxes and arrows; create more complicated designs using painting, drawing or image manipulation software; use layers for different elements (eg background, picture and text); use bleeds and crossovers; three dimensional (3D) objects and designs

Manipulate and editing techniques: Basic techniques – align, rotate, flip, arrange, cut, paste, resize, change font, text and colour, group, ungroup
Image manipulation software – transform, scale, rotate, distort; filters, effects; colour balance, levels and curves; masks and layers
Illustration software – masks and layers; rendering three dimensional (3D) objects; tracing
Advanced techniques – change resolution, colour depth and file format to suit different uses; adjust images to ensure compatibility between different software and operating systems

Check designs and images: Size, alignment and orientation, suitability of file format, appropriate choice of colour mode and use of filters, fitness for purpose of image resolution

Quality problems with designs and images: Will vary according to the content,

for example, levels, contrast, resolution, colour balance, unwanted content

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Original URN	ESKIDIS3
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Suite	IT Users 6.2
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