Unit 1 - The Understanding of Digital Platforms and Open Standards

Overview

The candidate can understand how open standards help create and maintain open systems and how information and data is effectively managed, or mismanaged for illicit purposes. Candidates will investigate and report on their understanding of th range and type of digital materials that they deal with in their lives, including the capture and interpretation of this material. They will then demonstrate their skills and understanding of the nature of digital artifacts in order to control the outcomes of their use for different purposes and audiences. They will analyse the different aspects of digital artifacts and discuss the laws and regulations that serve to protect information online.

A work activity will typically be 'non-routine or unfamiliar' because the task or context is likely to require some preparation, clarification or research to separate the components and to identify what factors need to be considered. For example, time available, audience needs, accessibility of source, types of content, message and meaning, before an approach can be planned; and the techniques required will involve a number of steps and at times be non-routine or unfamiliar.

Example of context – this unit can underpin other units. For example, if learners are working on a DTP poster and a presentation to pitch the poster to a local company, how do they know what applications to use? How do they know how much time it will take? How will they organise their files and understand how to solve problems that arise? All of these are part of this unit so as long as they start planning using IT tools from the beginning, they will be gathering information to use for the IPU unit. This unit should be the start, middle and end of the course as it is related to all other units.

Assessor's guide to interpreting the criteria

General Information

RQF general description for Level 2 qualifications

- Achievement at RQF level 2 (EQF Level 3) reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.
- Use understanding of facts, procedures and ideas to complete well-defined tasks and address straightforward problems. Interpret relevant information and ideas. Be aware of the types of information that are relevant to the area of study or work.
- Complete well-defined, generally routine tasks and address straightforward problems. Select and use relevant skills and procedures. Identify, gather and use relevant information to inform actions. Identify how effective actions have been.
- Take responsibility for completing tasks and procedures subject to direction or guidance as

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needed.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- The work in the unit is recommended in order for candidates to have covered enough depth and breadth in the topic to successfully carry out their controlled assessment and take the external exam.
- When the candidate has covered as much of ths material as necessary to complete the controlled assessment element, they may be introduced to the topic
- This unit should take an average level 2 learner 25 hours of work to complete.

Assessment Method

This unit will be assessed synoptically via a controlled assessment and also through an external examination.

Expansion of the assessment criteria

1. Understand the structure and properties of digital material

1.1 I can understand the nature of digital material
Learners should be able to demonstrate they understand what digital material is at a basic level

Evidence: Written work and assessor feedback

Additional information and guidance
Learners need to show a clear understanding that data is the raw form of information before any meaning or context has been applied.
As they use their smartphone they will be sending out data about where they are.

If their friends also have smart phones, there will be data about who they are with and when. If they are searching for anything online or purchasing, there will be data about these habits. All of this will be raw text and numbers and on it’s own, pretty meaningless.

However, if the data can be correlated to show that they were at a sporting event and they purchased certain foods while there, this is information that can be used to send them targeted advertisements on upcoming sporting events at this venue or food promotions from the food chain they visited.

If they use personal information about themselves while online, this can then also add more focused targeting and the companies will know that they are of a certain age range and therefore can be expected to like similar things to other people of the same age range or gender being tracked.

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Learners need to show some examples like this to demonstrate they understand the nature of data in different contexts. They can be introduced to data samples from the assessor in order to help them frame their understanding, but they should then find their own suitable examples.

1.2 I can describe different types of digital material
Learners should be able to demonstrate they understand and can give examples of different types of digital material

Evidence: Written work and assessor feedback

Additional information and guidance

Learners need to show that they have investigated and understood a range of digital material in as many contexts as possible. There is
no set list here, but examples should include some or all of the following:

- Digitally stored documents
- Photographs
- Podcasts
- Blogs, Vlogs, Wikis
- Social media sites
- Email
- SMS (Short Message Service) and MMS (Multimedia
- Messaging Service) such as Whatsapp

1.3 I can demonstrate how different types of digital material are captured
Learners will know that much digital information is captured remotely or automatically by digital systems.

Evidence: Written work, video screen recording or assessor feedback

Additional information and guidance

Learners can investigate and report on some of the material that is captured as they go about their daily lives. This will include some of
the following examples:

- ANPR and Speed cameras on road networks,
- EPOS systems via barcodes or QR Codes in retail
- Mobile phone data as handsets are handed from mast to mast
- Satellite GPS data for use in SATNAV and other applications
- Sensors and Dataloggers in Aircraft nose-cones during international flights collecting weather data
- Satellite data in the form of IR UV and Visible images, for meteorology, mapping and surveillance.

Learners should be able to describe the advantages and disadvantages of automated v manual data capture

Learners should be able to discuss some ethical aspects of remote data capture presenting a cogent argument

1.4 I can demonstrate how digital material becomes information
Learners should be able to demonstrate they understand that until data is processed and given a context it remains relatively useless

Evidence: Vlog, diagrams, digital files or assessor feedback

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Additional information and guidance

Learners will be able to describe how a range of software apps take data, give it context and display it in a format that transforms it into
information. These will include:

- Document processing applications such as word processors, desk top publishers and numerical systems
- Presentation applications which enable data in multiple media formats to be combined
- Database applications (either flat or relational tables) that perform by performing queries and calculations allow data to be modelled in different ways
- Websites
- Video and or imaging applications that take raw images or footage and edit them to add context or detail.

1.5 I can describe how digital material is used for specific purposes
Learners should be able to demonstrate their capability to produce digital materials that display data in a context and manner that meets
the needs of a target audience.

Evidence: Vlog, diagrams, digital files or assessor feedback

Additional information and guidance
Learners may do this using three or more of the Applications named in 1.4

2. Plan, design and use digital information in appropriate ways

2.1 I can understand how to use digital information for different purposes
Learners should be able to demonstrate they understand that digital material can be used to:

- Communicate ideas to wider audiences
- Model and predict outcomes
- Provide proof in investigations

Evidence: Vlogs, podcasts, samples and assessor feedback

Additional information and guidance

Learners should be able to gather some examples of different types of material and write some reflective comments on why it was made and what it is supposed to achieve. Some material will be to persuade users to purchase something. Some government
information might be to warn people about problems, such as a recent campaign to warn car drivers not to use their mobile phones
whilst driving.

The more examples they can gather and comment on, the more in depth their understanding will be.

2.2 I can describe how digital information can affect outcomes and use this information to plan
Learners should be able to demonstrate they can describe the fact that the ways digital information is stored will affect the way that it
can be used.

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Evidence: Written work (table) or video

Additional information and guidance

For this a working knowledge of digital file types will be required. File types covered by this section could be presented as a table as
below:

Type	Proprietary	Open	Other	Comment
Word processing	.docx	.odt	.rtf, .epub	Used primarily for documents
Numerical data	.xlsx	.ods	.csv	Used for numbers, but can have text
Image files	.bmp	.svg	.png	Files have different properties based on use and purpose, i.e. .svg can be scaled to large posters and keep quality

There are extensive file types and the above is only an example.

Other files to explore could include:.pdf, .txt, .pptx, .htm, .html, .jpg, .gif, .wav, .mpv, .mp4, .mov, .wmf, .mp3, .psd etc.

Learners will also be able to describe the advantages and disadvantages in saving information in proprietary versus open standard formats.

2.3 I can demonstrate digital information in a number of different applications
Learners will in their coursework components be challenged to work with information presented in a range of file formats and for a range of audiences and purposes.

Evidence: Various digital files, best of in ePortfolio

Additional information and guidance

The applications learners will use will be determined by the coursework areas the centre chooses to cover but it is expected thatthey will cover the range detailed in section 1.4.

More able students will describe that certain proprietary file formats contain more than is required for the formatting of that file (metadata) and that this can affect the way that this data can be moved between applications

2.4 I can describe the way digital information is designed to be used in different situations
Learners should be able to demonstrate they understand that digital formats that they create or choose to use will have an effect on the final product.

Evidence: Various sample work and annotations

Additional information and guidance

Examples could be:

- Choosing to create artwork for a logo as an .svg as opposed to a .png
- Saving photographs that have been manipulated as a .psd as opposed to a .jpg
- Converting a spreadsheet of names and logins to .csv so that it can be imported into a web based database for logins to a Learning Management System.

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2.5 I can demonstrate the relationship between digital information I create and how it is used
Learners should be able to demonstrate in their coursework components work with information presented in a range of file formats and for a range of audiences and purposes.

Evidence: Range of files and assessor feedback

Additional information and guidance
The applications learners will use will be determined by the coursework areas the centre chooses to cover but it is expected that they will cover the range detailed in section 1.4 and a good cross section of the file types in section 2.2

3. Analyse and evaluate the control of digital material

3.1 I can evaluate the need for control of the use of digital information
Learners should be able to demonstrate that they understand strategies to prevent misuse of their personal digital information.

Evidence: vlogs or reflective journals, assessor feedback

Additional information and guidance
The strategies should include:

- Having reliable – regularly updated - antivirus systems on their devices
- Ensuring their PC systems are behind a firewall
- The use of strong passwords and non-reliance on a single password
- Setting online profile privacy levels
- Non-sharing of personal details and passwords
- Being aware of CEOP and other reporting mechanisms in the case of suspected abuse

3.2 I can describe the misuse of digital information
Learners should be able to communicate understanding of the risks of digital information being used for purposes other than it is intended.

Evidence: reflective journals, user guides for peers

Additional information and guidance

Students should be aware of any misuse and be able to describe accurately risks including:

- Phishing and pharming
- Trolling and Cyberbullying
- Hacking - including interception of mobile phone communications
- Misuse of social media for grooming and or sexting

3.3 I can discuss the laws that apply to digital information
Learners should be able to discuss the impact of a range of constraints upon the use of digital information.

Evidence: Written work and assessor feedback

Additional information and guidance

These constraints may be local agreements such as the school / college Acceptable Use Policy (AUP), national or international

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legislation. Learners will be expected to be able to discuss:

- Acceptable use policies
- Copyright constraints
- Investigatory Powers Bill
- Computer Misuse Act
- Data Protection Act and new (May 2018) General Data Protection Regulation
- Communication Act

3.4 I can discuss and describe the open standards that apply to digital information
Learners should be able to demonstrate they understand what open standards are in terms of file formats.

Evidence: table fo evidence or report

Additional information and guidance

Learners should be able to Identify key image file formats:

- svg, jpg and png as open standards associated with web browsers.
- CSS, HTML, XML, SQL, RSS and HTTP as open standards used in the production of websites

Learners should be able to discuss the difference between formats which are issued under the creative commons license framework
and those which are unlicensed.

Learners should also be able to discuss reasons behind the continual evolution of open licenses such as the development of HTML5 so that multimedia information can be embedded in websites without reliance on proprietary file formats such as “flash player”which is licensed by Adobe and has been shown to increase website vulnerabilities.

3.5 I can describe and evaluate my own digital material in terms of laws and standards
Learners should be able to show how they have applied or apply knowledge and theory in sections 3.1, 3.2 and 3.3 to their own
personal circumstance having carefully evaluated the risks created by their own online presence.

Evidence: ePortfolio content

Additional information and guidance
A detailed report to summarise their findings and thoughts on the impact of various laws and changes in digital use as it applies to them.

Source URL: https://theingots.org/community/opdsl2u1x

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