Unit 2 - The Management of Digital Platforms and the Application of Digital Skills

Overview

The candidate can demonstrate best practice in managing their digital material and producing work for a specified purpose. Candidates will show a clear understanding of the need for good management and storage of digital material so that it is easy to search and retrieve as required. They will demonstrate an understanding of the implication of "Big Data" on society. They will demonstrate the ability to create or modify a digital management environment to suit their needs and be competent when importing and exporting different types and formats, including an understanding of the permissions involved. They will assess the strengths and weaknesses of various methods and systems and recommend best practice and suitable tools.

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

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. Candidates will understand the way digital information is managed and modified

“80% of all data currently in use was created in the past 2 years” - Professor L Floridi - Oxford University

Learners need a good understanding of the digital world around them and some semblance of how they can control what is being
collected about them.

1.1 I can describe the purpose of using IT in my work
Learners will appreciate the volume and variety of data now captured about them or by them.

Evidence: report on data volume and type

Additional information and guidance
Learners will begin to explore the range and nature of data that is currently being produced. Some of this will be generated by them,
but some will be generated about them and much of it without their knowledge or consent. Some of the different mechanisms are listed here for reference.

- location data when using smartphone
- school reports about them, school material for coursework
- house television habits or the “hacking of smart TVs”

- house Internet habits
- CCTV images when travelling
- Passport details when travelling abroad
- Travel information on public transport
- Social media images, chats, videos

Learners should be able to define some basic management needs based on their understanding gathered as part of their preliminary research. Learners should be able to begin to discuss some digital material related to them and know some of the facts and figures related to this level of data collection such as number of CCTV cameras in use or the nature of data collected at airports etc.

1.2 I can outline the ways that digital material is managed and stored
Learners will begin to demonstrate methods and means to manage their data or display understanding of how data is managed about
them.

Evidence: vlog or written report

Additional information and guidance

Learners should be able to begin to understand and therefore demonstrate an understanding of the different ways that data is
managed, either privately, publicly, locally or in the cloud etc. Some of the following areas can be explored for reference and guidance.

- public and private servers
- shared or protected folders
- compressed or uncompressed
- laws about location (i.e. UK based etc)
- social media account preferences
- evaluate the rise of “Big data”
- need for HPC (High Performance Computing)

Some of these areas will form the basis for more in depth analysis and evaluation later, such as location of data. Do they know where their data is stored and who can access it? How can they know and find out? Is it that important etc.

You need to read carefully before you click thing that may affect you later, especially when you are not protected by local laws.

1.3 I can explain the issues related to the amount of data now being collected and stored
Learners can begin to analyse the issues related to this volume and the impact it is having on the world

Evidence: vlogs, podcasts and written reports

Additional information and guidance

Learners should begin to investigate some of the issues around this phenomenal increase in material and the storage implications. Since this has a potentially huge impact on their future, what are the main concerns. Some are listed below for investigation.

- data centres consume more power than most large cities
- data once created never goes, so take care what you post
- Iceland emerging as “ethical” data centre due to natural cold for storage
- leaks and their impact - for good or bad

In 2013, IT consumed 10% of all the world’s electricity. It is quite difficult to find out how much energy Google uses in its data centres.
The last published data was in 2011 when they were consuming 260,000,000 watts, equivalent to the power for 200,000 homes. This
equated to 2 metric tonnes of carbon.

There is good scope here for some cross curricular work with science and mathematics to look at these numbers in context.

1.4 I can describe the need for open standards when sharing information
Learners will explain what open standards are and how they help with information sharing

Evidence: written report or video material, assessor feedback

Additional information and guidance

Learners may find it helpful to contrast open versus closed standards when describing some of these elements. The list below is a few of
the areas of investigation.

- list some standards used: http, smtp, ftp, pbx etc and their purpose
- explore WC3 (World Wide Web Consortium) and its impact
- explore interoperability issues and reasoning

Learners will cite examples of open versus closed standards with examples to illustrate their views.

1.5 I can describe the difference between local and remote storage solutions with working examples
Learners will compare and contrast the features of local and remote storage

Learners will understand the different methods of securing data on these devices including the principles of encryption and decryption

Evidence: Assessor feedback or shared server project

Additional information and guidance

It is clear that in the last couple of years and going forward, there is a big move from local storage solutions to cloud or online ones.

Learners will discuss the various issues involved in deciding on the best options. Some potential areas for investigation and discussion
will be:

- types of storage: HDD, SSD, tape drives etc
- costs of different solutions
- local server vs cloud
- access speed
- transmission rates
- RAID (Redundant Array of Inexpensive Drives)

Learners will carry out some practical tasks on local versus remote servers such as file transfer

speeds and moving files between folders
etc. to get a practical feel for advantages. Some cloud based services can be accessed on a trial basis for testing purposes such as Amazon AWS.

1.6 I can recommend storage solutions based on specific requirements
Learners can use their knowledge to recommend the correct storage for a tasks or project

Evidence: ePortfolio pages or video recordings

Additional information and guidance
The above skills and knowledge, coupled with some hands on practical experience, should be a good grounding for learners to be
able to make some recommendations. For example, a local charity may wish to move their services from their offices to the cloud. What would the learner need to do in order to advise them. Some areas to explore and tools to use could be:

- find out the requirements, survey, interview, on-site visit etc.
- future proofing - “I use 500GB now, but the company is growing. How much storage would you recommend for thenext 5 years”
- detail the TCO (Total Cost of Ownership)
- highlight the strengths and weaknesses of different storage types (HDD, SSD).
- cloud or local?

In the last of these bullet points, learners should be prepared to be able to say that staying local is the best approach, as long as they
can back it up with evidence.

2. Candidates will plan, create and manage different digital material as required

It is getting easier and easier to create and share digital material, from images on social media to videos or blogs about yourself. The
speed of this creation process makes it imperative to not send out the wrong message. The extension of cloud based services also
makes it easier to work with others across the world, what issues does this bring and what advantages.

2.1 I can create different forms of digital information for a specified purpose
Learners should show competence in creating different media depending on the specific needs and target audience.

Evidence: different files and materials, assessor feedback

Additional information and guidance
Learners work should demonstrate an understanding of impact, layout and form to best display the information or message. Some of
the materials and forms they should investigate will include:

- documents
- web pages
- podcasts
- videos
- presentations
- spreadsheets
- databases

Many of these materials they will be creating for other subject areas, but they can use their IT skills and understanding to fully evaluate
the way they have been made, the tools and formats that have been used, and how they meet their stated purpose. They can also
evaluate materials from other areas such as local companies.

Much of this material will go towards building their electronic portfolio in their extended project work.

2.2 I can describe the file formats and standards required for my digital information
Learners will be able to differentiate between open standard files and ones that are more proprietary.

Evidence: Written work and assessor feedback

Additional information and guidance

Learners will appreciate that open standards offer more choice, though may come with some limitations.

Learners will have done some basic investigations of files in Unit 1 (2.3 and 3,2), and here they can describe the choices more in terms
of the standards that they are working towards and the the needs they are trying to fulfil. This could be related back to their extended
project.

2.3 I can import and export different digital materials and merge the results as required
Learners will be able to demonstrate practical skills in the import and export of files from a range of applications.

Evidence: video screen recordings, assessor feedback

Additional information and guidance

Learners will be proficient in choosing the right format to import/export depending on some of the tasks further on during the
process. This overall understanding of the entire lifecycle of the material they are using and creating will help them make more
informed choices.

Learners working on digital files should appreciate that an svg file will allow them more modification of an image as it progresses towards
an end point than some less flexible formats. They should also demonstrate an appreciation that collaborative tools work better with
open standards and starting with a heavily modified proprietary format will force others to find that same software, rather than use
more flexible choices.

2.4 I can collaborate with colleagues on digital information projects
Learners will demonstrate the ability to work with others

Evidence: Video recording of team work

Additional information and guidance

It seems obvious, but working as part of a team on projects does not always come naturally to everyone and there are certain soft skills
that learners should be encouraged to employ in their collaborative work. Some of these are:

- politeness
- appreciation
- critical feedback, not criticism
- understanding of differences - cultural, linguistic, personal etc

Learners will be able to apply these skills to their collaborative project work and take them forward into their further studies or work
based learning.

2.5 I can organise shared digital information to make collaborative work more efficient
Learners will show competence in organising their collaborative systems for maximum efficiency and productivity.

Evidence: ePortfolio shared work or video material.

Additional information and guidance

Learners will structure their systems in a way that helps their best practice. They should show competence in creating clear names
and structures so that it is easier for them to find and therefore share their work. On large and complex documents they should be able to
work to add clear comments to others working on the system so that the overall work is carried out efficiently and effectively.

2.6 I can apply the permissions and access rights required for successful collaborative work
Learners will understand the different levels of sharing involved in collaborative systems and services.

Evidence: video material or screen recordings.

Additional information and guidance
Learners will be able to show that they can effectively apply the right sharing permissions to their work. In most systems there will be
permissions that allow different contributions, such as contributing rights or full editing rights.

Systems have different ways of sharing material for collaborative work and learners can show examples of some of the systems they
use in different subject areas.

3. Candidates will assess the strengths and weaknesses of digital material management and systems

3.1 I can determine the best type of digital information to use for a project
Learners will be able to plan and determine the best tools and assets when presented with a task so that their work is more efficient.

Evidence: Written report and assessor feedback

Additional information and guidance

Learners will demonstrate a skill and practical knowledge of a wide enough range of tools and applications to make an informed choice.

Using their knowledge gained from other practical tasks, learners will be able to quickly decide which type of digital resource would be
appropriate to complete a task set, such as the correct type of graphic for different applications or the most portable file format for a

video or audio project.

3.2 I can explain the best format for a given project and need
Learners will be able to justify their choice of digital asset and link this to the needs of the project relating to elements such as data
rates and flexibility.

Evidence: vlogs, podcasts or written material.

Additional information and guidance

Learners should be able to detail some attributes of the file formats they choose for different projects in terms of their best fit, or in some
cases that they have had to make a compromise in one area, perhaps for quality, in order to meet another.

3.3 I can describe why file types are most appropriate in set circumstances
Learners will be able to give some detailed responses to their decisions in order to fully justify why they have taken an action and
what some of the strengths and weaknesses of that decision will entail.

Evidence: video material and assessor feedback

Additional information and guidance

Some of the work students will undertake in this qualification will not always be straightforward. Learners may be very comfortable using
a certain application for creating graphics, but find that it does not output the type of file requested by a client.

The more exposure they have to different file formats and the more details they can understand about their attributes and application, the easier it will be to adapt quickly to changing demands from clients.

3.4 I can analyse and recommend the best tools for collaborative project work
Learners will bring together all of their skills and understanding to begin demonstrating the ability to work as part of a team on a
project.

Evidence: Written report or vlog.

Additional information and guidance

Learners will examine a number of different collaborative applications and rate them in terms of their features such as:

- tools available
- ease of use
- ability to extend via add ons
- customisation of look and feel
- automation potential
- interoperability

Most learners will be familiar with the collaborative Office tools offered by Google and others, but there are also many other collaborative tools depending on the purpose such as video based,note taking etc. The following link has a summary of some of the more popular ones.

http://www.capterra.com/collaboration-software/ [1]

3.5 I can demonstrate the strengths and weaknesses of collaborative tools
Learners will be able to compile a list of the strengths and weaknesses of systems they have investigated.

Evidence: Written or video based report

Additional information and guidance

Learners will be able to present their findings in a clear and concise way such that another person could use the details to make an
informed choice. They can use the above link and focus on an area of their interest, such as online meeting tools etc.

3.6 I can write a report outlining my findings and present these to an audience for feedback
Learners should be able to summarise all that they have researched and learned and put it together for critical feedback.

Evidence: Final report or ePortfolio page collection and feedback (preferably from external client)

Additional information and guidance
A very useful skill for any IT related career, or indeed any further education course, is the ability to provide a succinct summary of research findings. Ideally students can have a real "client" to present to and perhaps parents who are in a related field could offer their time up or local businesses. Learners will need to present their material and also either have direct feedback or produce a feedback form. This will help them clarify their understanding and perhaps prompt further research and analysis of the topics.

Source URL: https://theingots.org/community/opdsl2u2x

Links
[1] http://www.capterra.com/collaboration-software/