Gold Unit 8 - Using the Internet

Relevant LINKS

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Overview

This is the ability to set up and use appropriate connection methods to access the Internet; make the best use of browser software tools and techniques to search for, retrieve and exchange information using a browser or public search engine, and work safely and securely online.
This unit is about the skills and knowledge needed by the IT User to understand and make effective use of a connection method and intermediate Internet software tools and techniques to search for and exchange information for, at times, non-routine or unfamiliar activities. Any aspect that is unfamiliar may require support and advice from others.

Internet tools and techniques at this level will be at times non-routine or unfamiliar. The range of techniques used for searching and exchanging information will involve a number of steps. The task or context is likely to require some analysis, 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 and meaning) before an approach can be planned; and the user will take some responsibility for the selecting how to search for and exchange the information.

Example of context:
Making a comparison of the results produced by 3 search engines and determining which was the most successful for the particular query used. appreciating that this might vary with different searches.

Activities supporting the assessment of this award

Assessor's guide to interpreting the criteria

General Information

QCF general description for Level 2 qualifications

- Achievement at QCF 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.

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- 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.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their Account Manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 2 learner 40 hours of work to complete.

Assessment Method

Assessors can score each of the criteria N, L, S or H. N indicates no evidence. L indicates some capability but some help still required. S indicates that the candidate can match the criterion to its required specification. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least a S on all the criteria to achieve the full award.

Expansion of the assessment criteria

1. Connect to the Internet

1.1 I can identify different types of connection methods that can be used to access the Internet

The candidate should identify different types of connection and understand that connections vary in data transfer rates.

Evidence: Discussion of connection rates in general work, centre set controlled test/task on connection types and their quality.

Additional information
Internet access is getting easier and less expensive. Quoted access speeds can be misleading

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because in most cases connections are shared (Contention). The only real way to be sure is to test although internet searches should find independent comparisons. One of the biggest changes in recent times is the possibility of internet connection through mobile devices such as cell phones. This is likely to increase and candidates should realise that a cell phone is a small computer. A cell phone can act as a wireless access point to several computers. Wireless connections to the internet tend to be slower and less reliable than cable connections. Cell phone access can be expensive particularly if used abroad. It is likely that, speed reliability and cost will fall and it could be that in the future the vast majority of internet connections are through wireless mobile devices. For this reason it is highly desirable for candidates to have experience of e.g. WiFi and 3G connections that can be made via smartphones to determine the advantages and disadvantages of each. If the phone is on a contract that includes data it might be better value than paying for "hotspot" access through WiFi whereas a free WiFi hotspot is probably going to give a better connection than a 3G phone. This is not always the case and will also depend on how many users are accessing the particular point (contention).

1.2 I can identify the benefits and drawbacks of the connection method used

The candidate should be able to make comparisons and draw conclusions about connection methods. This is what differentiates level 2 from level 1 performance.

Evidence: Candidate's coursework, centre devised controlled tests/tasks

Additional information and guidance
A good way for candidates to demonstrate competence against this criterion is to identify strengths and weaknesses in several connection methods. A dialup connection will usually be slower but less expensive if used sparingly since usually payment is by the time connected. A broadband connection through subscription is likely to give faster data rates. In terms of cost per unit of data transfer, broadband subscription is likely to be least expensive. Short term connections at hot spots are likely to be most expensive especially in remote placed that need satellite connection, e.g. on a ship. Some places provide free access in order to attract people e.g. in coffee shops and bars. Increasingly mobile 'phones provide mobile access "anytime, anywhere". Costs depend on the contract and speeds depend on a range of factors including contention with other users and distance from a transmitter/receiver. Mobile access outside the country can be very expensive. Another consideration is reliability of the connection and coverage of the service. The candidate should be able to analyse data associated with connection costs, connection coverage/reliability, and data rates and draw conclusions.

1.3 I can get online with an Internet connection

Candidates should show that they can use a terminal to get on-line.

Evidence: Candidates' work on-line, assessor observations

Additional information and guidance
Candidates simply need to demonstrate that they can get on-line in the context they are working.

1.4 I can use help facilities to help solve internet connection problems

Candidates should show that they can use various forums and help sites to find solutions to common problems.

Evidence: Candidates' work on-line, assessor observations

Additional information and guidance
Candidates simply need to demonstrate that they can get on-line and find some help and guidance

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on common problems related to connections.

2. Use browser software to navigate web pages effectively

2.1 I can select and use browser tools to navigate webpages

Candidates should appreciate that there is a choice of browsers and on-line comparisons are available. Ability to make comparisons is a level 2 characteristic and comparing browsers in order to make an informed selection is a key difference between Level 2 and Level 1. They should use browser facilities such as forward and back icons, tabs, links, bookmarks and history.

Evidence: Direct observation by the assessor, description of reasons for selecting a particular browser in candidate's work.

Additional information and guidance: Candidates should be self-sufficient in simple navigation using their browser. They should know about local book marks and book marking sites. They should know conventions such as links usually in blue and pointer changes to indicate "hot spots" on a page. They should know about right clicking to download graphics and tabs to browse more than one site at a time. They should make comparisons between browsers eg based on security, support for open standards, plugins and extensions.

2.2 I can identify when to change settings to aid navigation

Candidates should know about CTRL + and CTRL - to change the size of text. They should be able to identify the trade off between working space and the number of tool bars, menus etc that are available. They should identify when settings such as blocking advertising, clearing a browser history, switching JavaScript on and off and similar preferences for cookies and blocking particular sites are useful. The difference between level 1 and level 2 is that at level 2 candidates should show that they can respond to unfamiliar circumstances effectively without help from their assessor or peers.

Evidence: Candidate work on changing browser settings, centre administered test on browser settings.

Additional information and guidance
At this level, candidates need to be beginning to learn how to get the best from their browser. This includes some basic security and accessibility features. They are not expected to be fully self-sufficient in all their browser settings with a full list of browser extensions but they should be confident with a few key ones as described and they should know where to look for useful extensions that add further functionality to the browser eg to download videos.

2.3 I can adjust browser settings to optimise performance and meet needs

Candidates should show that they can make a range of adjustments to their web browser in order to improve its usability in specific circumstances

Evidence: Candidate work on changing browser settings, direct observation, centre administered test on browser settings.

Additional information and guidance
Candidates should show that they can self-sufficiently make adjustments to the settings of their browser for specific reasons. eg using CTRL+ and - to alter text size, making more pace by removing tool bars, adding browser plugins such as a download helper for video. They should be able to switch on JavaScript, clear the browser history, cookies or cache.

Users might also want to speed up performance, at least in terms of unwanted distractions, by using

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ad blockers to remove adverts from web sites, especially social media sites. They might also use something like Pi-Hole [3] to remove adverts from their network completely.

2.4 I can identify ways to improve the performance of a browser

Candidates should show that they can make a range of adjustments to their web browser in order to improve its performance in specific circumstances

Evidence: Candidate work on changing browser settings, direct observation, centre administered test on browser settings.

Additional information and guidance
Candidates should show that they can self-sufficiently make adjustments to the settings of their browser for specific reasons. e.g. enabling and disabling add ons or viewing web pages as text only . They should be able to switch on JavaScript, clear the browser history, cookies or cache.

3. The candidate will use browser tools to search for information from the Internet

3.1 I can select and use appropriate search techniques to locate information efficiently

Candidates should demonstrate that they can vary the content of their searches in order to make them more effective, compare different search engines and make use of any "advanced" options provided in the search engine.

Evidence: Outcomes of comparisons of search techniques. Evaluations of search methods. Centre set controlled tests or tasks.

Additional information and guidance

The overall aim is for the candidate to be able to search effectively for information that is useful to them and/or their colleagues. This should be done in the general work context and there should be many opportunities to use search engines. At least one exercise in comparisons of different search engines and their effectiveness should be undertaken. Yippy [4] is a metasearch engine: it queries several top search engines, combines the results, and generates an ordered list based on comparative ranking. This "metasearch" approach helps raise the best results to the top and push search engine spam to the bottom. Is it better than Google, the current market leader in search? Why? Candidates should comment on any particular strategies they think have been effective such as using particular combinations of words. e.g. "Flights to Kuala Lumpur" and "Flights to Kuala Lumpur from Birmingham", (latter will be more specific); "Picture of the Queen" and "Picture of Queen Elizabeth Wikipedia". The latter is more likely to find an image that can be legally reused without infringing a copyright license.

3.2 I can describe how well information meets requirements

Candidates should provide evaluations describing how well the results of information searches meet the purpose of the search and include any unexpected useful information found.

Evidence: Evaluations of search methods. Centre set controlled tasks.

Additional information and guidance
Candidates must show evidence of describing strengths and weaknesses in the information they find compared to the information they need. They should consider at least the following three attributes of the information. Is what they find understandable to them and any audience to whom they intend

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to provide it? Is the information accurate? Is it valid? Accuracy and validity are not necessarily the same thing. Validity requires relevance as well as accuracy. Information should be relevant to the requirements as well as accurate. This implies that candidates should show evidence of checking their sources. Finding two independent sources that say the same thing is a reasonable check at this level.

3.3 I can manage and use references to make it easier to find information another time

Candidates should be familiar with bookmarking [5] and making links. They should provide references to information they find by routinely providing links to it in their work.

Evidence: Candidates can provide a list of bookmarks and/or links to sources of information
Additional information and guidance

If candidates are sharing computer they should consider web based bookmarking sites [6]. They could make their own page on the INGOT website with a list of links to useful sources of information. They SHOULD NOT simply cut and paste large chunks of information and present it as if it was their own work. They should provide a summary and link it to the more detailed work from their web pages. ***Deliberate plagiarism is taken seriously and assessors should be careful to check that presented work is that of the candidate.***

3.4 I can download, organise and store different types of information from the Internet

4. Use browser software to communicate information online

4.1 I can identify opportunities to create, post or publish material to websites

Candidates should be able to name specific circumstances where they might create, post or publish information and state where they might do so.

Evidence: From candidate work in web pages, blogs or other documentation. Centre devised controlled tests or tasks.

Additional information and guidance
Assessors should be sure that the candidate knows about social networking site, discussion groups and forums where they might take part in discussions about things that interest them. Evidence should demonstrate some breadth, for example across blogs, forum discussions, attaching files and instant messaging. They should pay some attention to "netiquette" and web based communication conventions.

4.2 I can select and use appropriate tools and techniques to communicate information online

Candidates should select software or features of a software application and then use this to communicate information for a useful purpose.

Evidence: From candidate work in web pages, blogs, tweets or other documentation. Centre devised controlled tests or tasks.

Additional information and guidance
Typical examples will include presenting information in Blogs, forums, user generated web pages, Tweets or other on-line information systems. More ambitious learners might use video to

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communicate e.g. through video sharing sites such as You Tube, School Tube or similar. Provision of podcasts use of Skype and similar facilities are all included. Candidates should demonstrate that their use is relevant to their work and that they can choose their tools independently.

4.3 I can use browser tools to share information sources with others

Candidates should demonstrate that they can use browser bookmarks to record information sources that other people can use.

Evidence: List of sources in a book marking system e.g. stored in an image and embedded in a web page.

Additional information and guidance

Information sources could be stored on a local browser in a book mark or in on-line book marking sites accessed through the browser.

4.4 I can submit information online

The candidate should demonstrate that they can provide on-line information in specific applications.

Evidence: e.g. Provision of evidence to an assessor through a browser based system

Additional information and guidance
The simplest way to demonstrate evidence for this criterion is for the candidate to use the on-line system on the INGOT community learning site to pass evidence to their assessor and to receive feedback and respond to it. Other possibilities include blogging, contributing to forums and making files available for others to download. Level 2 candidates should be able to adapt to at least some such systems that are unfamiliar and that they are meeting for the first time. It is likely that both 4.2 and 4.4 will be met by similar activities so candidates should demonstrate some diversity in their work.

5. Understand the need for safety and security practices when working online

5.1 I can describe the threats to system performance when working online

The candidate should be able to describe several ways in which system performance can be adversely affected.

Evidence: Description provided in a web page, answers to questions in a controlled test set by the Centre.

Additional information and guidance

Here are some typical factors.

Contention. Most people have shared internet access with others, if everyone starts downloading video at the same time the speed of web access will slow down. Even on a single machine, starting an activity that downloads or up loads unnecessarily large files will slow the system down.

The local computer. If the computer on which you are working is doing something very intensive either on or off line it will slow down your on-line work.

Malware. If malware finds its way through your computer's security system it can seriously affect performance in the same way as described above but without the user being able to stop it. Typical

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malware is a program that takes over you computer and relays spam messages across the internet using you machine as a server without you knowing.

Anti-virus software. If you are running a virus checker it will slow down the computer while it checks through what can be 100s of Gigs of disc space.

5.2 I can work responsibly and take appropriate safety and security precautions when working online

The candidate should take responsibility for security and ask more experienced users if in doubt. Keeping passwords strong and safe is particularly important.

Evidence: General usage and behaviour, answers to questions in a controlled test set by the Centre.

Additional information and guidance

Apart from passwords it is essential that the candidate does not open any e-mail attachments about which they are unsure, sits with good posture, and does not make any attempts to "hack" the system or other people's accounts. They should generally use aliases rather than their real name when working on-line and not provide details of their specific location or physical home address or place of work. They should not respond to strangers or unsolicited e-mail or text messages. They should understand that information they put out about themselves on-line will persist almost indefinitely. Do not leave the computer while logged in!

5.3 I can describe the threats to information security when working online

The candidate should describe threats to information security when working on-line

Evidence: Descriptive answers to questions in a controlled test set by the Centre, descriptions in a project on security.

Additional information and guidance

Hardware failure can result in loss of data. Always make sure that any important information is backed up. Usually service providers do this on behalf of users. Viruses and other malware downloaded from the web are a danger to any locally held important information. This is most significant on Windows PCs. Most other threats to information security are fundamentally about people who have some reason to do your system harm. There is useful information here [7]

5.4 I can manage personal access to on-line sources securely

The candidate should demonstrate respect for passwords and know about secure connections where the link to the source is encrypted.

Evidence: Observed secure use of personal on-line account over a period of time. Centre devised tests or task.

Additional information and guidance

Having an account on the INGOTs web site provides secure and encrypted log on to accounts. Candidates should realise that it does not matter how secure their connection if they leave their computer without logging out. This is a very common failing. If someone comes along they have free access to the account in the same way as the user. Secure connections encrypt information such as username and password automatically before transmitting them over the internet. There are a pieces of computer hardware and software that can intercept and log information passing over a digital network or part of a network. This could be your username and password. In general it is best

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to have a unique username and password for e.g. an on-line bank account. The bank will encrypt your username and password, but if it is the same as one you use for a non-encrypted access a criminal could find your details on the unencrypted site and then find your bank access and use your details to log in. Candidates should be starting to way up risk and take precautions that are at a sensible level for the risk depending on how sensitive the information.

5.5 I can describe the threats to user safety when working online

Candidates should be able to describe several threats in some detail.

Evidence: Descriptions in coursework. Descriptive answers to questions in a centre set test.

Additional information and guidance
There is a lot written on this subject. Candidates should not simply cut and paste chunks of text from other sources. They should precise or write their own view and interpretations. Here are some relevant links.
Wikipedia [8]
INGOTs [9]

NWLG [10]
Safety audit [10]

5.6 I can describe how to minimise internet security risks

Candidates should show that they can carry out a simple risk assessment and devise strategies to minimise risk

Evidence: Descriptions in coursework. Descriptive answers to questions in a centre set test.

Additional information and guidance

Candidates should draw on their learning in the rest of this unit.

5.7 I can apply laws, guidelines and procedures for safe and secure Internet use

Candidates should demonstrate compliance with any acceptable use policies, legal requirements and any other guidelines through a long enough period for the assessor to be sure that they meet this criterion.

Evidence: Assessor observations. Descriptive answers to questions in a centre set test.

Additional information and guidance
Note that if this is tested through a controlled test or task, the assessor should be sure beyond reasonable doubt that the candidate can apply their learning for prolonged periods in the general context of their work.

5.8 I can explain the importance of the relevant laws affecting Internet users.

Candidates should be able to describe the relevant UK laws relating to IT use.

These include, copyright, data protection and the Computer Misuse Act. They should explain how these laws protect them, the consequences of breaking the laws and guidance on how to avoid breaking the laws.

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Evidence: Descriptions in coursework. Descriptive answers to questions in a centre set test.

Additional information and guidance
There is a lot written on this subject. Candidates should not simply cut and paste chunks of text from other sources. They should precise or write their own view and interpretations.

Moderation/verification

The assessor should keep a record of assessment judgements made for each candidate and make notes of any significant issues for any candidate. They must be prepared to enter into dialog with their Account Manager and provide their assessment records to the Account Manager through the on-line mark book. They should be prepared to provide evidence as a basis for their judgements through reference to candidate e-portfolios and through signed witness statements associated with the criteria matching marks in the on-line markbook. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

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