Level 3 - Unit 8 - Using the Internet (5 credits)

Platinum - Unit 8 - Using the Internet

Relevant LINKS

BACK TO ITQ UNITS **[1]**

Handbook home page

Overview

The candidate can understand, explain, set-up and use the Internet and related facilities. They need to be able to set-up an appropriate connection to fully benefit from the services available. They need to be able to successfully use a range of browsers and use these in the most effective and efficient way. These browsers have many tools built into them to enhance their usage on th Internet and candidates need to demonstrate their detailed understanding of these tools. They also need to use the communication features of the Internet, particularly with an emphasis of on-line systems. In all of these activities, they need to fully demonstrate their understanding of threats and mitigate these where possible.

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 – an example might be set-up and document an Internet service for a local company or primary school that do not have the expertise or understanding to carry this out for themselves. The support will enable the customer to take full advantage of the Internet they have.

Activities supporting the assessment of this unit **[2]**

Example of work at this level **[3] (coming soon)**

Assessor's guide to interpreting the criteria

General Information

QCF general description for Level 3 qualifications

- Achievement at QCF level 3 (EQF Level 4) reflects the ability to identify and use relevant understanding, methods and skills to complete tasks and address problems that, while well defined, have a measure of complexity. It includes taking responsibility for initiating and completing tasks and procedures as well as exercising autonomy and judgment within limited parameters. It also reflects awareness of different perspectives or approaches within an area of study or work.

- Use factual, procedural and theoretical understanding to complete tasks and address

problems that, while well defined, may be complex and non-routine.

- Address problems that, while well defined, may be complex and non-routine. Identify, select and use appropriate skills, methods and procedures. Use appropriate investigation to inform actions. Review how effective methods and actions have been.

- Take responsibility for initiating and completing tasks and procedures, including, where relevant, responsibility for supervising or guiding others. Exercise autonomy and judgement within limited parameters information and ideas

Requirements

- Standards must be confirmed by a trained Platinum 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 and files 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 3 learner 50 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. Candidates will select and set-up an appropriate connection to access the internet

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

Candidates should be able to detail the different connections that can be used.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

It is unlikely that any students are still using a dial-up modem to access the Internet these days, though there may still be some in operation for specific purposes in the country. It might be useful to compare this type of service and look at the characteristics, at least to see how they compare ot more recent carrier technologies. Most people will be using some type of DSL (Digital Subscriber Line), this could be ADSL, ADSL+2, vDSL etc. These technologies are generally called broadband and candidates can describe some of their characteristics such as speed and connectivity. Other connections will be ISDN, cable, optical/fibre, wireless and satellite. Most schools and companies, larger ones at least, will be using leased lines to connect to the Internet which will give them 0 contention.

1.2 I can explain the benefits and drawbacks of different connection methods
Candidates should be able to explain in some detail each of these technologies.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Each one has different strengths and weaknesses and it would be useful to identify what these are and to what extent they would make service better or worse. It would be useful for candidates to research these and provide some other details such as the range of speeds available, effective distances and elements such as interference levels. This will give a good overall grounding in the unit.

1.3 I can analyse the issues affecting different groups of users
Candidates should be able to show a clear understanding of the issues in relation to group access.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Any Internet connection is basically connecting to an existing network or network, the Internet. This means that similar permission and role issues will be relevant. Candidates will need to show an awareness of these issues and how it will affect people. As a simple example, schools sometimes set up their wireless network to allow guests to access the network. However, due to the range of some wireless routers, this could open the system up to "drive by" use which might compromise the security of the school. How is balance achieved to give access, but not too much? Similar considerations should be considered for schools. Schools need to make an Internet connection and access suitable for such a range of users. Content which may be suitable for 6th form students would not be suitable for Y7 students. Staff will need different access to the Internet compared to students etc. There is also the issue of filtering. What constitutes a good level of filtering? Is over filtering destroying the potential for students to learn. Isn't it better for students to see more and discuss it and be able to make good judgements, rather than everything be stopped and they never get a choice? What is the moral argument and how is it applied? Who has control over what students or employees can see and do?

1.4 I can select and set up an Internet connection using an appropriate combination of hardware and software
Candidates should be able to have a good enough understanding to determine what is required to get Internet access in most normal situations.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

In most cases, students experience of setting up an Internet connection will be from their own home environment. This will likely involve using a pre-set router and cables to use a standard RJ-11 phone socket. They will probably just plug in the router to the phone socket and their computer, and then run some software on the main machine. In school or a company, it may well be a DSL or Fibre connection. In both cases, they will need to show that they understand the different hardware and software required. It may be useful to get some input from a network manager on the Internet connection type and other considerations.

1.5 I can recommend a connection method for Internet access to meet identified needs
Candidates should be able to recommend connections for pre-specified situations.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

It would be ideal to allow a real situation for students to solve, though this is probably impractical in most instances, therefore, the centre should organise a range of scenarios with different requirements and allow students to recommend solutions. The quality of the solution can be discussed collaboratively with the students with input from the assessor or network manager.

1.6 I can diagnose and solve Internet connection problems
Candidates should be able to use basic diagnostic techniques to fix connection issues.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Candidates should be able to find and solve a range of hardware and software problems that affect an Internet connection. It would be useful if they could be introduced to basic tools and techniques nd use these in a real world situation if possible. Some elements might be hard to create, but basic hardware and software problems could be created. All of this could also be easier if students work with older equipment or virtual machines as this will present more challenges for them to find and solve. A possible exercise might be to have an older machine and a spare modem/router to try and set it up with the Internet. Even if it can't be completely solved, some of the problems can be diagnosed and solutions searched for and tried. If students have carried out these types of exercise at home, they can make some notes and use these for evidence.

2. Candidates will set-up and use browser software to navigate webpages

2.1 I can select and use browser tools to navigate webpages effectively
Candidates should be able to use browsers effectively.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

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 e.g. based on security, support for open standards, plugins and extensions.

2.2 I can explain when to change browser settings to aid navigation
Candidates should be able to demonstrate self-sufficiency in browser use and be power users.

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Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

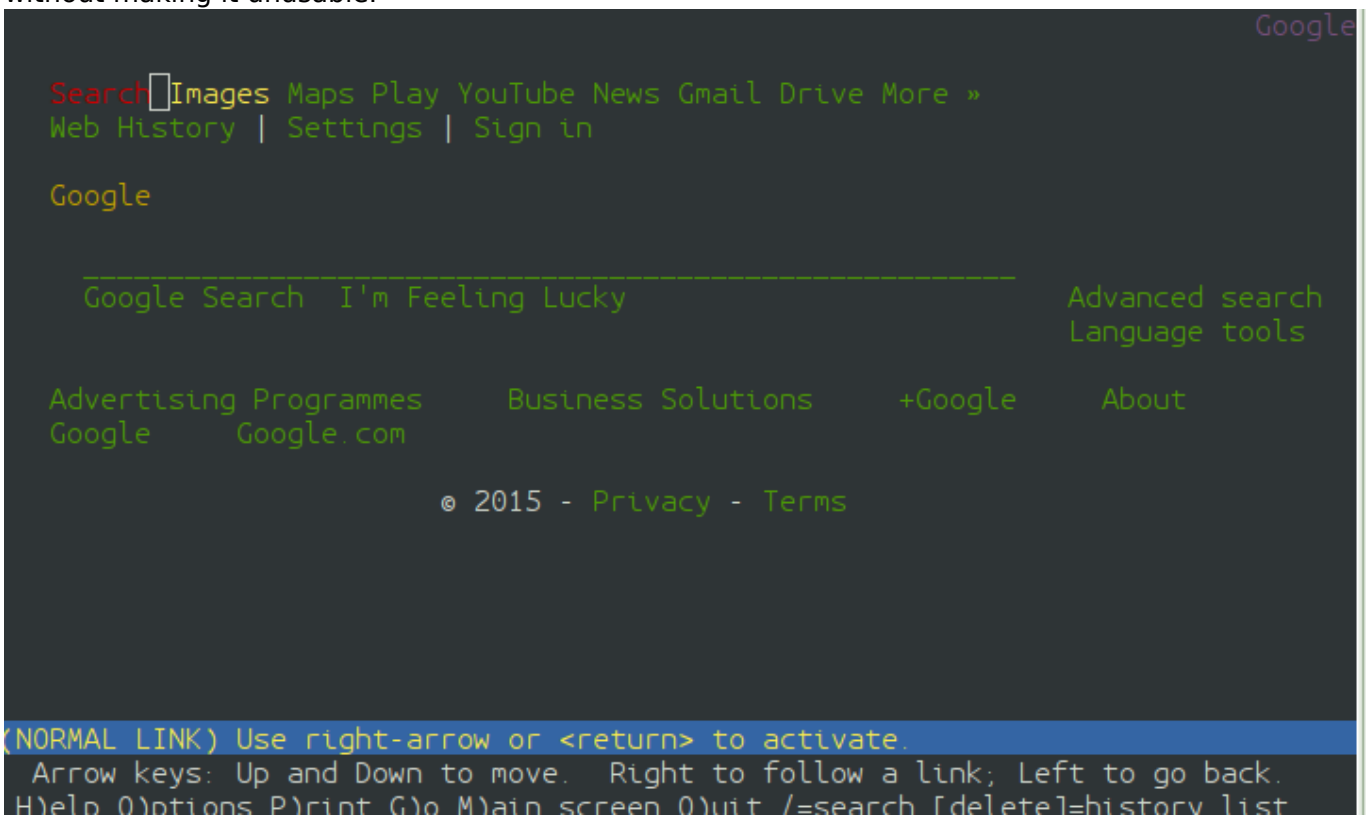
This will include an understanding of how to add or remove add-ons and extensions to make the browser work more effectively and work for them rather than make them work.

2.3 I can adjust and monitor browser settings to maintain and improve performance
Candidates should be able to make performance adjustments based on real evidence and understanding.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

The fastest browser around is something like Lynx [4], but is impractical for most users. candidates need to demonstrate that the understand the trade-off between performance and usability. The more graphical and user friendly their browser, the more likelihood it is going slower. Using something like an add blocker will greatly increase performance, though might cause other issues. The might want to disable other plugins and download options to see which is the most effective, without making it unusable.



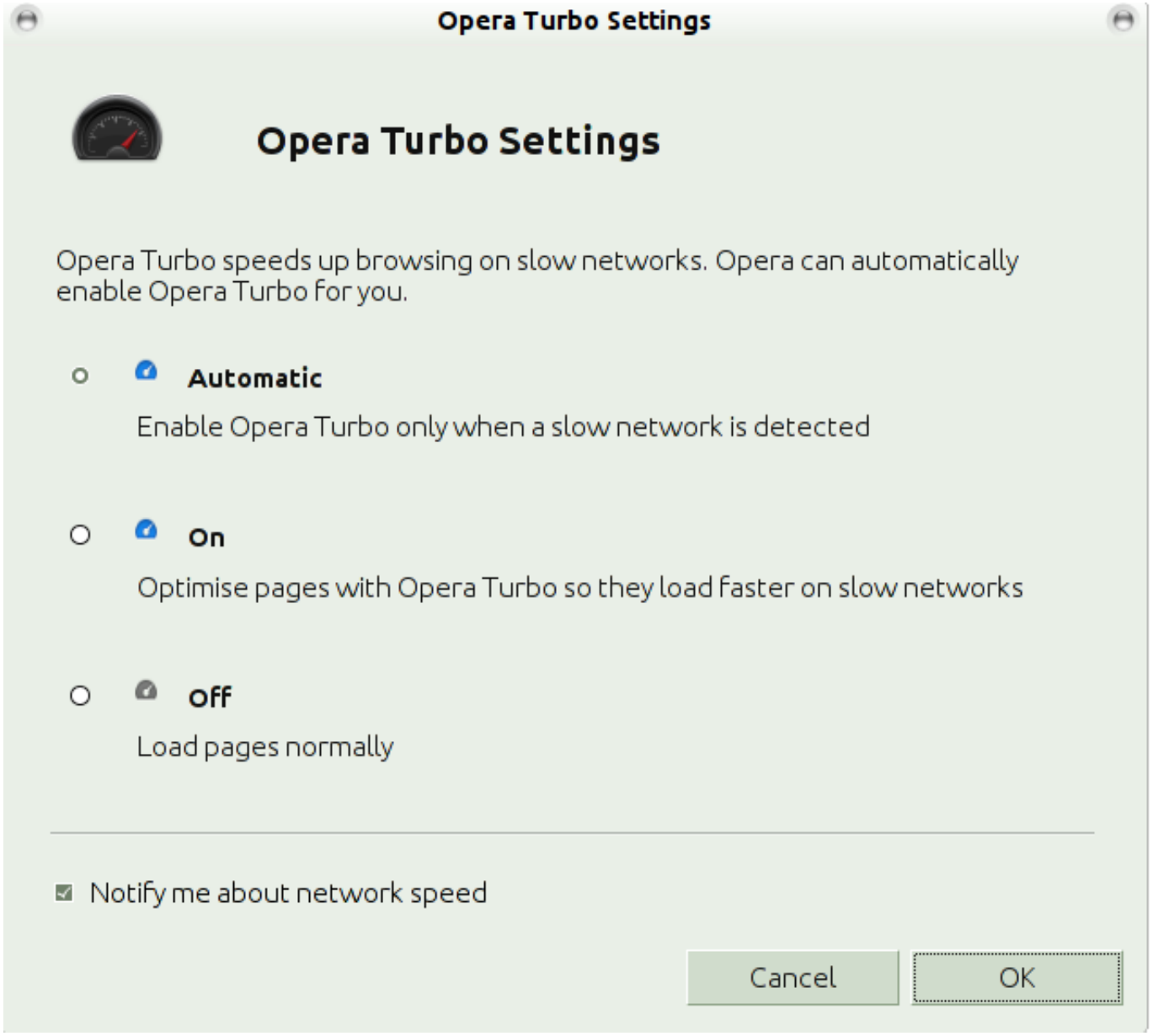
Google on Lynx is lightening fast and no adverts, but is it usable?

2.4 I can explain when and how to improve browser performance
Candidates should be able to explain what makes a browser perform better and how to optimise it.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Some browsers have built in features to optimise slower connections.



Not sure if it warrants a "Turbo" name, but it is designed to improve performance. candidates should be able to explain what some of the factors are that might limit the browser performance. One of the issues is that many web designers are artists and make excellent graphics, but are not always concerned about how they are being downloaded. A beautiful looking web site that is full of excellent graphics is also a potentially very large set of file downloads and each one of these can slow doen the process. Other element such as animated files might also slow down the experience. Some eLearning systems use composite packages called SCORM [5] (Shareable Content Object Reference Model). These packages might contain text, images, video, audio and animation sequences based on proprietary systems such as flash. All of these need to be managed and handled so create extra load. Candidates need to explain how different features of web pages can affect overall performance and any means and methods to control these where appropriate.

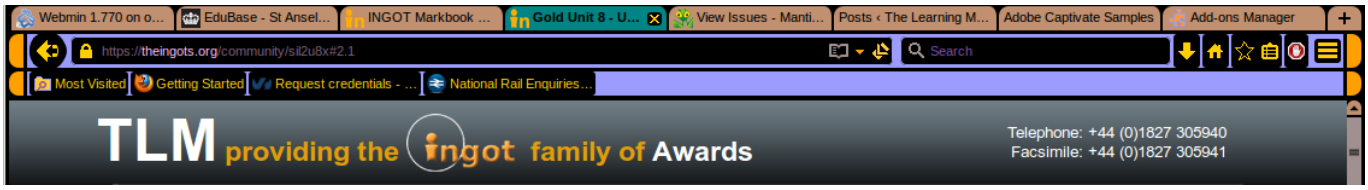
2.5 I can customise browser software to make it easier to use
Candidates should be able to customise the browser to suit different needs.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Most modern browsers can be heavily customised to suit different needs, whether this is to suit

particular tastes in colours and layout, or altering available menu options and tool visibility, to managing and adapting add-ons and extensions. A simple thing might be to add a language pack for a specific person who is learning a second language so they can explore in their practice language as required. many browser can apply complex themes and looks to suit people's tastes. Firefox can even cater for traditional Star Trek fans for example.



This may be the desired look and feel, though in most cases going towards more simplicity and cleaner lines would be more optimal. Candidates need to be able to adjust any browser to suit someone's specific requirments.

3. Candidates will use browser tools to search effectively and efficiently for information from the Internet

3.1 I can select and use appropriate search techniques to locate information efficiently
Candidates should be able to use effective and efficient use of Internet searches.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Google is the de-facto search engine these days, though it by no means the only one. Candidates need to be able to compare and contracts search engines such as DuckDuckGo [6], Yippy [7] or Infospace [8]. What techniques can be used to make searches more effective. Are they the same for all search engines? Do you need ot use these techniques anymore, or are search engines designed well enough to find what you are looking for?

3.2 I can evaluate how well information meets requirements
Candidates should be able to evaluate the way search engines function.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Are search engines like Google benevolent? Is the information that it finds for you completely free from bias or influence [9]? If Google is the only search engine available, how do we know the information we get is worth while? How can the candidates determine of the information is accurate and reliable? What tests can be applied against the requirements to make sure it is OK for what they need?

3.3 I can manage and use references to make it easier to find information another time
Candidates should be able to use referencing techniques to make their searches more efficient.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

With so much information available so easily, it might be easy to not bother using ways to track it for future references, however, the way that the algorithms work on search engines, some useful website they find with a particular search one week might not appear with the same criteria the following week. This means that tools such as bookmarking and organising into folders is a good

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

practice to get into. 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 ***[10] 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
Candidates should be able to use different techniques to gather, store and organise Internet data.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Most elements from websites can be downloaded and the sites themselves can also be saved as html folders to be played locally. Other files will need to be carefully stored and the candidates need to show that they understand that certain files will require specific software to play them.

4. Candidates will use browser software to communicate information online

4.1 I can identify and analyse opportunities to create, post or publish material to websites
Candidates should be able to say what tools they might use for communicating on the web, such as blogs, micro-blogs etc and why and when they would use these

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Most students these days will communicate with social media rather than more traditional means such as email, which a few years ago was seen as relatively cutting edge. It is likely that students at this level will have a range of sites they use to communicate information and they can discuss these with examples. The sites will include popular (at present) systems such as Facebook, Twitter, Instagram, Flikr etc. These systems are designed to make content creation quick and easy. How is this achieved, how effective is it, could it be improved in any way? How easy is it to create their own websites and publish to these? This learning site can also be used to publish material to. How effective is it compared to sites like those mentioned above? How much personal information [11] should you put on public sites?

4.2 I can select and use appropriate tools and techniques to communicate information online
Candidates should be able to use web based communication tools such as blogs effectively

Evidence: will be provided by candidate's portfolios and blogs, tweets etc

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 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. They should also show an awareness of the purpose of their communications and when these tools should not be used.

4.3 I can share and submit information online using appropriate language and moderate content from others
Candidates should be able to moderate what they write and be professional in their online demeanor

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

As with any communication, there are formal and informal ways to communicate. Many stories are in the popular press where students have lost jobs or failed at interview because potential employers have been able to go to their Facebook page and see inappropriate conduct. Equally, candidates need to show good manners and behaviour on-line where it is all too easy to be rude or offensive to people as they are not physically present. Good manners and behaviour should be encouraged and endorsed in self and others. If candidates can set up their own blogging site using Wordpress or similar, it will allow them to get some moderation skills. TLM provide a site [12] to do this and assessors can apply as required.

5. Candidates will develop and apply appropriate safety and security practices and procedures when working online

5.1 I can explain the threats to system performance when working online
Candidates should be able to explain in detail some of the main threats when working on the Internet.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

The Internet is a large and relatively unregulated network and though it is policed in parts, it is too large and diverse to be properly policed. There are many ways that this is exploited by people or gangs of people to try to extort information or money from others. Most of these threats involve placing some remote controls onto machines and these will affect the running of the local machine, whether it uses some of the processing power or uses the existing Internet connection for other purposes. Candidates will need to research and explain some of the main threats [13] in terms of their impact on the host computers. If nothing else, the large and complex software used to deal with threats is usually a large drain on resources.

5.2 I can work responsibly and take appropriate safety and security precautions when working online
Candidates should be able to demonstrate that they understand the threats and know some ways to minimise them.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Once the main threats have been identified in 5.1 above, candidates should be able to further explain how they minimise the impact of some of these threats. They should be able to explain a number of activities and actions they take to make sure they are as safe as possible when on-line and be able to document a wide range, from their own personal actions, such as not engaging with people they don't know, to system based methods such as firewalls and anti-virus software etc.

5.3 I can explain the threats to information security and integrity when working online
Candidates should be able to explain how systems are threatened in terms of the key terms of security and integrity.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

Computers in and of themselves are not of value directly on-line, but the information they may or

may not contain, or their ability to access the information of other machines is where their value lies. How can you make sure that information on your own machine, or some other machine you are responsible for, does not go outside of itself. Candidates should be able to explain how encryption works, for example, and how this helps to maintain the security of information. They should also be able to explain how data is transferred between devices and how processes and basic protocols make sure that the data gets to the right person and in the right form without any loss. Some of the key ideas here are man in the middle attacks or threats such as phishing which are masquerading as someone or something they might usually trust.

5.4 I can keep information secure and manage user access to online sources securely
Candidates should be able to demonstrate a good understanding of security and account management.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

The most obvious way to protect information is through physical access and most systems with sensitive data have complex means of protecting the information and only allowing authorised people to access it. If candidates have an on-line bank account they will appreciate the systems in place to protect how the information gets accessed. They will need to be able to demonstrate some aspects of account management and other methods of data security they use or are familiar with. If possible, the centre should set up some on-line system to allow students to exercise and practice these skills directly. Even something like a shared blogging site will require some user management skills and checks of data integrity.

5.5 I can explain the threats to user safety when working online
Candidates should be able to explain in detail how people will be threatened on-line.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

The main threats to users on-line will be based on fraudulent activity where people pretend to be someone trustworthy in order to gain trust and be able to gain access to important information. Candidates need to list the main threats and give some clear examples about how they will affect on-line users.

5.6 I can explain how to minimise Internet security risks
Candidates should be able to explain practices and procedures they can use to reduce threats.

Evidence: will be provided by candidate's portfolios and assessor observations and feedback.

Additional information and guidance

The sheer volume and nature of on-line threats means that candidates will not be able to eliminate all of them, but at least they can adopt practices to make sure they are significantly reduced. They can explain how they set-up their system or use other systems and what they do to protect their on-line usage. They could explain how the main software and hardware systems work in order to help them and what knowledge they need and checks they carry out to protect themselves.

5.7 I can develop and promote laws, guidelines and procedures for safe and secure use of the Internet
Candidates should be able to create a user guide for Internet use including the relevant laws and processes.

Evidence: will be provided by candidate's guide.

Additional information and guidance

All of the information and guidance they have created for this unit can be placed into a short user guide so that they can show their overall understanding. This guide will also need to include some laws and regulations. They should include short summaries of laws such as Copyright or the Data Protection Act and how users need to act to comply with these laws.

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.

Links
[1] http://theingots.org/community/ITQ_unit_development
[2] http://www.theingots.org/community/ITQcourse1
[3] https://theingots.org/community/sites/default/files/uploads/user4/PupilFNC7.pdf
[4] https://en.wikipedia.org/wiki/Lynx_(web_browser)
[5] http://elearningtools.us/cp6/flash/Overview%20of%20SPSS/Overview%20of%20SPSS.htm
[6] https://duckduckgo.com/
[7] http://yippy.com/
[8] http://infospace.com/
[9] http://clickherethebook.com/
[10] https://www.grammarly.com/plagiarism-checker
[11] http://www.inc.com/meredith-fineman/what-we-post-online-is-forever-and-we-need-a-reminder.html
[12] http://blog.tlm-resources.co.uk/
[13] http://www.norman.com/home_and_small_office/security_center/internet_security_tips/internet_security_tips_top_10_internet_threats