Gold - Unit 14 - Audio Software

Relevant LINKS

BACK TO ITQ UNITS **[1]**

Handbook home page **[2]**

Overview

This is the ability to use a software application designed for the creation, editing and production of audio. This unit is about the skills and knowledge required by an IT User to use a range of basic audio editing and recording tools and techniques to produce appropriate, straightforward or routine sound files. Any aspect that is unfamiliar will require support and advice from others.
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the software tools and functions will be predetermined or commonly used; and
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Audio tools and techniques will described as ‘basic’ because:

- the software tools and functions will be predetermined or commonly used; and
- the techniques needed for audio manipulation and outputting will be straightforward or routine.

Example of context: Using editing tools to remove noise and improve the quality of a pod cast recorded on a Smartphone.

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.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed.

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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 L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 S on all the criteria to achieve the unit.

Expansion of the assessment criteria

1. The candidate will use audio hardware and software to capture sequences.

1.1 I can identify the combination of input device and audio software to use to capture information, to avoid any compatability issues

Candidates should be able to identify a microphone, pickup or line source as an input device and the need for software to convert the sound signals to digital sound files.
Evidence: from tests and tasks set that require candidates to identify these tools.

Additional information and guidance
Sound waves are analogue compressions and rarefaction in the air. A microphone is required to convert the signal into an analogue electrical signal and then an analogue to digital convertor samples this signal converting it to digital data. The quality of the audio will depend on the quality of the microphone and the resolution and sample rate of the analogue to digital conversion process. Once in digital format, sounds can be directly transferred between systems without any loss in quality. In the case of a line input, an analogue electrical signal comes from a line source and will need to be converted to digital format in much the same way as with the microphone. Some systems are end to end digital so it is only getting the sound signal in at the microphone and out at the speaker where conversion takes place between analogue and digital. At gold level they need to identify recording devices and software, ad demonstrate an awareness of how the hardware and software will interact to avoid any later problems.

1.2 I can select and use an appropriate combination of input devices and audio software to record sequences.

Candidates should use a digital audio system to record information for a purpose.

Evidence: Results of a digital audio project.

Additional information and guidance

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Typical set up would be a smartphone and recording software to record a podcast identifying input devices and associated software in order to provide evidence for criterion 1,1. Recording a commentary for a video or recording a podcast on a subject they are learning. They will need to show a clear awareness of the suitability of the equipment and software chosen.

1.3 I can describe the impact the file size and file format will have on saving sequences.

Candidates should be able to check the file format and size from its file extension or its name and its attributes.

Evidence: Assessors checking, contents of candidate documentation of projects.

Additional information and guidance
In this case the "input device" includes the whole recording system. The candidate should be familiar with .wav .mp3 and vorbis in addition to any proprietary formats specific to the application. This is because these three formats are commonly used for transferring files between different systems. They should show a knowledge of being able to find the file size attributes.

1.4 I can identify when to use different types of information coding and compression.

Candidates should be able to identify what type of file type to use and why..

Evidence: Assessors checking, contents of candidate documentation of projects.

Additional information and guidance
In most cases, audio files will be created for someone else to us, such as an artist to mix or perhaps a local radio station to broadcast. The candidate needs to work on the assumption that they need to understand the needs of their client and if the client requires high quality and high bandwidth recordings, they have chosen the right combination of file types and compression ratios. The type of coding will also depend on what they have been asked to produce. They need to show flexibility and understanding of a range of systems for inputs and outputs.

1.5 I can store and retrieve sequences using appropriate file formats and compression, in line with local guidelines and conventions where available.

Candidates should demonstrate that they can open/save pre-recorded files or tracks.

Evidence: Assessor observations, student completed projects.

Additional information
In keeping with level 2 descriptions, some practice will be needed to establish a routine supported by instructions, but candidates need to show the ability to be self-sufficient. Assessors should be confident that candidates can repeat the procedures routinely in similar circumstances.

2. The candidate will use audio software tools and techniques to combine and edit sequences.

2.1 I can identify the sequences to add, keep and remove.

Candidates should demonstrate good management practices.

Evidence: Assessor observations, candidate project documentation and successful projects.

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Additional information and guidance
Candidates should appreciate that some material they create may be re-used as it is generic, while some material was for a very specific purpose and perhaps in a one off format so is more than likely not worth storing..

2.2 I can select and use appropriate audio software tools to mark-up and edit sequences.

Candidates should demonstrate competence in editing tracks for the purpose of their project.
Evidence: Candidates finished projects and documentation of projects, assessor observations.

Additional information and guidance
Candidates should already be competent with basic editing tools such as cut and paste, but here need to demonstrate the ability to fully edit sequences and be aware of why they are changing the material and for what purpose. As an editor, they are making detailed judgements and need to explain why.

2.3 I can organise and combine information for sequences in line with any copyright constraints, including across different software.

Candidates should demonstrate that they can combine different samples while being fully aware of their origin.

Evidence: Candidates' finished projects and documentation of projects, assessor observations.
Additional information and guidance
An example might be to put a music track to a video. Music tracks can be taken from the Wikimedia Commons as it is licensed under Creative Commons for sharing. A commentary can be put over the top of the background music by direct recording. This is combining audio from two different sources.

2.4 I can describe how copyright constraints affect use of own and others' information.

Candidates should understand the need to check copyright on any audio samples that they do not originate themselves as well as their own.

Evidence: Candidates' work is free from copyright violation. Documentation acknowledges copyright.
Additional information and guidance
Candidate's should be introduced to three fundamental types of license (Note there is no such thing as copyright free in that all originators of original work own the copyright, They then license it and the license might be completely free use. One exception is to put the work in the public domain). A restrictive license where no-one can use the work without paying a royalty, a liberal license where the work can be used by others usually as long as the source is acknowledged, a copyleft license where the work can be used and modified as long as the results are distributed with the same conditions.

3. The candidate will play and present audio sequences.

3.1 I can describe the features and constraints of playback software and display devices

Candidate's should be able to describe and evaluate the software they are using to play back their projects.

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Evidence: Candidates' project documentation, assessor checking.

Additional information and guidance

For the purpose of this unit it is likely that the software application used will cover recording editing and playback. An obvious example is the popular open source application Audacity [3] but there are also an increasing range of on-line tools.

3.2 I can select and use an appropriate combination of audio playback software and display device to suit the file format.

The display device could be a general purpose computer or a dedicated hardware technology such as an mp3 player. In both cases, candidates need to show they understand the constraints and have created content to match them.

Evidence: Candidates documentation of projects, assessor observations.

Additional information and guidance
Candidates should be aware of a range of devices that can play digital audio files beyond the editing system they use to create the sequence. Portability is often a key factor. It is worth mentioning midi here because sequencing is often associated with midi even though this is a more specialised musical activity whereas the audio unit is more about audio in general. Midi uses pre-sampled recordings of instruments and is therefore associated with compositions from these pre-recorded sounds rather that direct live recording of music. Midi can be used for playback assessment but on its own it will not fulfill all the assessment criteria for recording. Candidates should be aware of cost-benefit when selecting their tools. Most straight-forward work can be achieved with high quality using free tools like Audacity and a low specification general purpose computer including smartphones, tablets and Netbooks. If a professional recording system is available there is nothing to prevent it being used but it is probably overkill for anything that does not need to be of professional broadcast quality. Mobile technologies are much more important now and so portable music players are likely to be key targets for many candidates.

3.3 I can identify the settings which could be adjusted to improve the quality of presentations.

Candidates should be able to demonstrate a good working knowledge of the equipment they use.

Evidence: Candidates final project products and project documentation. Assessor observations.

Additional information and guidance
Candidates will be using a range of software and hardware and need to show that they can use these efficiently and effectively. They may receive material that is not suitable for display, but could be modified with editing tools to be suitable for example.

3.4 I can adjust playback and display settings to enhance the quality of the presentation.

The candidate should be able to adjust attributes such as sample play rate and volume appropriately and know what effect this will have.

Evidence: From candidates' project documentation and assessor observations.

Additional information and guidance
The quality of the playback should be of appropriate quality for the purpose. Candidates should be aware of the factors that affect this. Sample rate and playback rate, noise in the recording (and how

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to remove it), amplification, (clipping etc), stereo/mono.

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 dialogue 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. Before authorising certification, the Account Manager must be satisfied that the assessors judgements are sound.

Source URL: https://theingots.org/community/sil2u14x

Links
[1] http://theingots.org/community/ITQ_UNIT_development
[2] http://theingots.org/community/handbook2
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