CCSMT39
Carry out software sound and audio manipulation

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You will need to carry out a full audit of the types and range of software programs available to manipulate sound. Pitch and timing correction operations are covered in detail and you will explore the diverse resources of commercial, shareware and freeware products that are available to manipulate sound through effects, dynamics, re-structuring or enhancement in various different ways.

You will also carry out an evaluation of these processes in order to maintain a reference to the original file.

Synthesis and sampling are not focussed on specifically.

This standard utilises the multi tasking skills expected of today's recording engineers, editing engineers, mastering engineers, mix engineers and programmers.

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Performance criteria

You must be able to:

P1   devise a system for categorising audio software
P2   evaluate categories of fully licensed, freeware and shareware software which can be used for creative transformative effects
P3   evaluate uses of manipulation techniques in examples of music
P4   evaluate potential for repair using audio manipulation
P5   execute timing adjustments on live performed audio tracks in line with tempo
P6   execute pitch adjustments on live performed audio tracks in line with specified root key
P7   adjust parameters of software manipulation tools
P8   audition and compare different recorded takes
P9   link and chain sounds and effects together
P10 record and automate manipulation processes to repeat/recall

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Knowledge and understanding

You need to know and understand:

K1   how to categorise audio software
K2   how to evaluate audio manipulation
K3   how to manipulate timing and pitch
K4   how to adjust parameters of manipulation processes
K5   the different forms of software licence
K6   the different platforms for audio manipulation software
K7   the difference between corrective and creative software processes
K8   available software resources
K9   the use of manipulation techniques in examples of music
K10 the use of tools for timing adjustment
K11 the use of tools for performance pitch adjustment
K12 audio quality of software manipulation tools
K13 suitability or audio interest inherent in different software processes

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Date approved	April 2012
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Validity	Current
Status	Original
Originating organisation	Creative & Cultural Skills
Original URN	CCSMT39
Relevant occupations	Maintenance engineers; technical support; Live sound Engineers; artists; Recording Engineers; recording Producers; mix engineers; assistant engineers; programmers; Mastering Engineers; editing engineers; OB/post engineers; writers; co writers; tape ops; Studio managers;
Suite	Music Technology
Key words	Bit-crushing; beat-slicing and pitch correction; Adjust timing; adjust pitching; adjust frequency balance; automatic processes; Insert effect chaining; sweetening effects with other effects; required repair or alteration using further chain/s of effects; Audio effect; dynamics effect; harmoniser, vocoder; MIDI effect; MIDI sequencing characteristic; arpeggiator; tape looping; drum or rhythm sample; A/B comparison of audio quality; music; sound; music technology;