Australian Government

Department of Education, Employment and Workplace Relations

CUSMPF502A Incorporate interactive technology into performance

Revision Number: 2

CUSMPF502A Incorporate interactive technology into performance

Modification History

Release	Comments
Release 2	Created to fix formatting errors only. Released with CUS09 Music Training Package version 1.2

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to incorporate music technology into music performance as a creative tool designed to enhance performance outcomes. Musicians and artists working in this field need a sophisticated understanding of the fusion of music technology and music performance so that they can develop creative and innovative ways to exploit the potential of technology to enhance performances.

Application of the Unit

Technological interactivity in music performances focuses on the increasing use of audio software applications and sensor/gesture-based electronic instruments, which allow performers to manipulate a performance while it is happening. Interactive technology can be applied in all musical genres and styles, from electronic dance music DJs, to solo or ensemble performances, to experimental sound sculptures and installations.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable

Employability Skills Information

Not applicable

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Generate ideas for enhancing performances through the use of interactive technology	1.1 ***Undertake research*** to identify the range of creative ***ways*** in which interactive technologies can be applied to music performances 1.2 Listen to or view recordings of performances where interactive technologies have been used, as a way of generating ideas in relation to own music practice 1.3 Collaborate as required with ***appropriate personnel*** to ensure that a range of creative ideas are generated for incorporating interactive technology into planned performances 1.4 Identify ***factors*** that may affect how interactive technology can be incorporated into planned performances and adjust ideas accordingly
2. Prepare interactive elements	2.1 Use features of relevant ***software*** and/or electronic devices to generate a sample of interactive elements required for performances 2.2 Discuss and evaluate the effectiveness of work in progress with appropriate personnel 2.3 Incorporate feedback and new ideas into the preparation of interactive elements as required 2.4 Review and test interactive elements and make necessary adjustments to ensure that performances proceed as planned
3. Integrate interactive elements into performances	3.1 Incorporate interactive technology elements into own performance in line with agreed plan 3.2 Respond flexibly and effectively to contingencies to maintain the integrity of the performance 3.3 Interact considerately and constructively with stage management and other artistic, venue, studio and organisational staff as required 3.4 Respond promptly and effectively to musical, stage or studio direction 3.5 Contribute to a cohesive performance by taking and giving cues reliably, promptly, accurately and sensitively
4. Review performances	4.1 Assess own contribution to interactive technology aspects of performances in terms of success in achieving the required effect 4.2 Discuss strengths and weaknesses of performances with appropriate personnel and identify strategies for improving interactive technology aspects of future

ELEMENT	PERFORMANCE CRITERIA
	performances

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and teamwork skills sufficient to:
  - collaborate effectively with other artists and technical personnel involved in performances
  - provide constructive feedback on performances to others involved in performances
  - respond positively to constructive feedback on own performance
- literacy skills sufficient to read and understand software user manuals
- initiative and enterprise skills in the context of:
  - undertaking research into the ways in which interactive technologies can be used in music performances
  - using technology as a creative music tool
- learning skills sufficient to keep up to date with new versions of software applications relevant to incorporating interactive technology into music-based performances
- planning and organisational skills sufficient to:
  - prioritise work tasks
  - meet deadlines
  - plan the creation of interactive elements in a logical sequence
- problem-solving skills sufficient to promptly and effectively rectify sound defects, system failures and mechanical breakdowns
- technology skills sufficient to use industry-standard software applications relevant to incorporating interactive technology into music-based performances

Required knowledge

- industry knowledge, including:
  - musical terminology, systems, elements and genres
  - group and solo performance protocols and customs
  - features of a range of hardware and software tools/packages for automated music production
  - fusion of music technology and music performance
- principles and techniques of incorporating interactive technology into music-based performances, including:
  - manipulating sound to achieve technical and creative outcomes
  - using effects to achieve a range of functional sound requirements
  - automating events, e.g. lighting, sequence playback, sample playback and control of effects
  - compatibility of different digital standards

    - formats and technical standards
- issues and challenges that typically arise in the context of incorporating interactive technology into music-based performances
- OHS principles of:
    - safe listening, including safeguards against hearing loss
    - using a computer and keyboard for periods of time

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • demonstrate sound understanding of the fusion of music technology and music performance • develop and present at least two technology-based interactive music performances • collaborate effectively with others involved in the performances.
Context of and specific resources for assessment	Assessment must ensure: • access to relevant instruments and computer workstations, including sound playback facility • use of culturally appropriate processes, and techniques appropriate to the language and literacy capacity of the candidate and the work being performed.
Method of assessment	The following assessment methods are appropriate for this unit: • observation or video recordings of performances in which the candidate has been responsible for developing and implementing aspects of interactive technology • written or oral questioning on performance strategies • discussion of principles and techniques of incorporating interactive technology into music-based performances • authenticated details of relevant courses or training sessions • authenticated details of relevant artistic and/or commercial achievements • written or oral questioning to test knowledge as listed in the required knowledge section of this unit • case studies and scenarios as a basis for discussion of issues and challenges that typically arise in the context of incorporating interactive technology into music-based performances.
Guidance information for	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,

assessment	for example: • CUSMCP501A Compose music using electronic media • CUSMPF404A Perform music as part of a group • CUSMPF501A Prepare a program for performance • CUSMPF602A Manage stagecraft aspects of performances • CUSSOU403A Perform advanced sound editing.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Undertaking research may involve:	• keeping abreast of industry trends through:
	  • searching the internet
	  • reading industry publications
	• keeping up to date with latest developments in:
	  • software applications
	  • sensor or gesture-based electronic musical instruments
	  • emerging technologies
	• attending trade shows
	• participating in conferences and master classes
	• participating in online discussion forums.

Ways to apply interactive technologies may include:	• creating music with virtual instruments
	• adjusting sounds generated by real instruments
	• adding effects to sounds generated by real instruments
	• using computer interfaces with sensor/gesture based-electronic musical instruments
	• automating events in a music-based performance, including integrating and sequencing:
	  • music
	  • sound effects
	  • voice-overs
	  • visual effects
	  • videos
	  • digital images
	• undertaking virtual sound checks.

Appropriate personnel may include:	• performer • ensemble member • composer • presenter • musical director • stage director • stage manager

	• production manager
	• production supervisor
	• sound engineer
	• technical crew
	• designer:
	  • sound
	  • lighting
	  • costume
	  • make-up and hair
	  • special effects
	• client
	• marketing and promotions personnel
	• artist's agent
	• conductor
	• tutor
	• mentor.

Factors may include:	• purpose of performance:
	  • entertainment for the general public
	  • concert
	  • dance
	  • corporate purposes
	  • cultural purposes
	  • marketing and promotion
	  • educational purposes
	  • schools or other institutions
	  • special communities
	  • special occasions
	  • public and/or religious ceremonies
	  • auditions
	  • audio or video recordings for online products or interactive games
	• available personnel
	• available resources
	• available budget
	• client's expectations
	• intellectual property
	• technical parameters, including:
	  • technology constraints
	  • console
	  • platform

	• bandwidth • memory/RAM • timelines • target audience.
Software applications may include:	• Logic Audio • MAX • Pro Tools • Sibelius • Reason • Ableton Live.

Unit Sector(s)

Performing arts - music performance