



Australian Government

ICTGAM414 Create audio for digital games

Release: 1

ICTGAM414 Create audio for digital games

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to produce and manipulate audio assets for computer games, using a variety of tools.

It applies to individuals who support the design, development and programming of basic digital games as part of a larger development team.

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

Unit Sector

Game development

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research and document game audio requirements	1.1 Explore the evolution of audio hardware and audio formats 1.2 Provide a historical perspective on how audio has become integrated into computer games 1.3 Identify current trends and consider their impact on the future of game audio
2. Research and document the use of audio in computer games	2.1 Identify the different methods for using audio in computer games 2.2 Explore the role of music in creating mood and atmosphere 2.3 Explain how sound effects and vocals are used within computer games

ELEMENT	PERFORMANCE CRITERIA
3. Source existing sound effects, music tracks and voice recordings	3.1 Find sources of sound effects, music tracks and voice recordings 3.2 Create and maintain a small collection of audio assets 3.3 Identify the different audio formats 3.4 Differentiate between compressed and uncompressed audio formats 3.5 Identify the different genres of music 3.6 Develop an awareness of audio copyright laws and royalty-free audio
4. Record and manipulate audio for a game	4.1 Record character voices, music and sound effects 4.2 Develop a sound track for a game using audio-editing 4.3 Use audio-editing software to rearrange audio samples, and apply audio effects 4.4 Select an appropriate sample format and bit rate 4.5 Normalise the audio samples to make volume uniform 4.6 Trim the audio samples 4.7 Apply the audio effects 4.8 Export audio to a suitable format
5. Create sound effects or music for a game	5.1 Identify digital sound waveforms 5.2 Apply basic music theory to simple music-creation tool 5.3 Determine the suitable musical notation 5.4 Identify and use musical creation tools 5.5 Compose a simple piece of music for a game 5.6 Create various sound effects for a game
6. Research audio-programming libraries	6.1 Compare and contrast the functional capabilities of audio-programming libraries 6.2 Explore the use of channels and mixing
7. Integrate sound, music and vocals into a computer game	7.1 Play a mixture of cached and streaming audio sources 7.2 Integrate the sound effects in response to different events 7.3 Incorporate the ambient music into sections of the computer game 7.4 Locate and play the positional audio sources

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.3, 2.1, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, 6.1	- Identifies and evaluates documentation containing complex technical and audio terminology, to research the current and future use of audio in games, and to identify appropriate hardware, software and assets - Interprets and comprehends computer-generated text, audio tracks, abbreviations, symbols, icons, numbers, and letters necessary to use audio-editing software
Writing	1.1, 1.2, 2.2, 2.3, 6.2	Uses correct spelling and grammatical structures and clear language, and technical terminology
Oral Communication	1.1, 1.2, 1.3, 2.1, 2.3, 3.1, 3.3, 3.4, 3.5, 3.6, 6.2	- Elicits information using effective listening and open-questioning techniques - Speaks clearly and concisely, converting highly technical language and terminology to plain English
Numeracy	3.4, 4.1-4.8, 5.1-5.6, 6.1-6.2	Uses whole numbers, decimals and percentages relevant to file size, software and hardware specifications, measurement, pitch, speed, tempo, time, frequency, amplification and other attributes/variables in the development of audio
Navigate the world of work	3.6	Takes personal responsibility for adherence to legal/regulatory responsibilities relevant to own work context, in relation to copyright laws
Get the work done	1.1, 2.2, 2.3, 3.1-3.6, 4.2-4.8, 5.1-5.6, 6.2, 7.1-7.4	- Plans, organises and implements tasks required to achieve required outcomes - Implements actions as per plan, making slight adjustments if necessary - Uses exploration, analytical and lateral thinking to identify new ideas and adapt existing ideas to current context - Uses digital systems and tools to create and save files in required formats

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTGAM414 Create audio for digital games	ICAGAM414A Create audio for digital games	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTGAM414 Create audio for digital games

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Performance Evidence

Evidence of the ability to:

- research game audio requirements
- locate and obtain suitable audio resources
- record and manipulate audio
- generate sound effects
- compose simple music tracks for a game
- use audio programming libraries in a game.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe audio-editing tools
- discuss and explain different audio formats and their application to games
- discuss and explain the capabilities of audio-programming libraries
- explain copyright as it applies to audio recordings
- discuss music-creation tools and their relation to music theory.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the game development field of work, and include access to:

- appropriate computer hardware, software and peripheral devices
- digital audio editing software
- games engines and file storage

- copyright and intellectual property legislation.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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