



Australian Government

ICTGAM533 Create complex 3-D interactive games

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to use original and innovative ideas and industry-standard production techniques, to create functional games according to specific design briefs.

It applies to those who support the design, development and programming of interactive 3-D media, and 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. Prepare to create game	1.1 Obtain project brief and other required documents and organisational procedures 1.2 Identify game production assets required to meet creative and production requirements and technical specifications 1.3 Discuss formats of assets and issues of asset integration with required personnel 1.4 Determine sequence for development of beta-version prototype for testing game play 1.5 Create schedule for production and testing 1.6 Determine strategies for monitoring production progress against schedule
2. Evaluate capability of	2.1 Identify and review range of industry-standard game-engine

ELEMENT	PERFORMANCE CRITERIA
game-engine software and tools	software and development tools available 2.2 Assess software and tools related to specified game concept and play requirements 2.3 Discuss considerations for selection of game-engine software with required personnel and confirm selection will meet specified outcomes 2.4 Select game-engine software and development tools
3. Prepare required assets for a game	3.1 Establish environment for project that supports sharing of project assets produced by team members 3.2 Review attributes of assets required in a game project related to game engine 3.3 Create or acquire visual assets for a games project 3.4 Customise asset attributes according to game design and chosen game engine
4. Use game-engine software and development tools	4.1 Create, modify or access scripts or code and combine assets 4.2 Create and check game-play elements according to creative and technical requirements 4.3 Test and run game prototype as a presentation and confirm sequences meet creative, production and technical requirements
5. Evaluate game prototype	5.1 Demonstrate initial prototype to required personnel and seek feedback 5.2 Evaluate prototype against criteria including achievement of a creative and user-friendly product 5.3 Discuss and agree on required changes 5.4 Assist if required in tests and user trials 5.5 Evaluate feedback from user trials 5.6 Confirm endorsement from required personnel and develop prototype into a complete product
6. Transform prototype into final publication	6.1 Make required changes as indicated by user trials 6.2 Integrate all game elements as required by specifications 6.3 Make final checks and confirm sequences conform to navigation design 6.4 Obtain final sign-off from required personnel 6.5 Assemble final publication for distribution according to organisational procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Interprets and comprehends a large range of textual and diagrammatic information, to inform instructional, technical and conceptual requirements
Oral Communication	Uses listening and open questioning techniques to obtain required information and concepts using appropriate industry language for intended audience
Numeracy	- Uses whole numbers, decimals and percentages when manipulating software according to technical and design component requirements - Defines timeframes according to schedule requirements
Teamwork	Cooperates and collaborates with others as part of routine activities to achieve team results, and to confirm that outcomes meet requirements
Initiative and enterprise	Uses creativity and initiative in game design
Planning and organising	- Plans, organises, and completes work according to defined requirements and schedules, taking responsibility for decisions, and sequencing tasks to achieve efficient outcomes - Plans, organises, and completes work according to defined requirements and schedules, taking responsibility for decisions and sequencing tasks
Self-management	- Sources, analyses and evaluates applications, tools and assets for their potential to meet creative requirements - Uses a systematic process to evaluate work and to implement improvements
Technology	Identifies purposes, and uses key features, of specific digital systems and tools, and operates them in order to complete design tasks

Unit Mapping Information

Supersedes and is equivalent to ICTGAM503 Create a complex 3-D interactive computer game.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTGAM533 Create complex 3-D interactive games

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- create a complex 3-D interactive game according to a design brief, on at least one occasion.

In the course of the above, the candidate must:

- apply a variety of strategies for game trialling and testing
- apply original and innovative approaches to creative development of a 3-D game
- collaborate in use of tools and features of software applicable to game-production process
- implement game development and production strategies
- maintain integrity of the design brief and game design document
- communicate, collaborate and participate in a team environment
- compare different controller designs required according to different devices
- confirm functionality on at least two different browsers and at least two different digital devices.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- basic programming techniques and language
- capabilities and constraints of game engines
- processes used for games development, including specific terminology
- production and testing scheduling techniques
- key features of game-play hardware and software products
- risk and critical path management techniques
- technical constraints that hardware imposes on:
 - graphics requirements

- code development
- creative visual design
- creative, production and technical requirements of creating 3-D games
- asset formats and issues of game asset integration.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- hardware and software applicable to creating 3-D interactive games
- project brief
- games engine
- browsers and digital devices
- file storage
- the internet.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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