



Australian Government

ICTGAM549 Collaborate in design of 3-D game levels and environments

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 plan and implement the design of an interactive 3-D game in a team environment.

It applies to those with high-level technical and communication skills working as concept artists, game designers, games programmers, animators and other personnel working in the game development industry.

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 plan design process	1.1 Establish project and 3-D game design requirements according to organisational needs 1.2 Research and select project planning methodology according to project requirements 1.3 Discuss and identify design practices and considerations in collaboration with other team members 1.4 Identify team roles and responsibilities applicable to level creation and design processes 1.5 Plan and implement a design process using time-management principles 1.6 Document stages of design process according to

ELEMENT	PERFORMANCE CRITERIA
	organisational procedures
2. Conceptualise 3-D environment design in collaboration with team	2.1 Identify key level specifications and purpose of 3-D environment 2.2 Gather and analyse reference materials in collaboration, and assist with visualisation of 3-D environment 2.3 Catalogue required objects of level environment 2.4 Research and select 3-D modelling and animation software, and painting, shading and texturing software required to create 3-D environment 2.5 Document design decisions made before and during design conceptualisation, according to organisational procedures 2.6 Produce concept art of designed environment according to project brief
3. Present conceptualised environment to peers and finalise project	3.1 Present conceptualised environment to peers and receive feedback 3.2 Report on how design decisions have met requirements for game-play elements 3.3 Justify why certain design decisions were made to required personnel 3.4 Evaluate and incorporate peer feedback to design as required 3.5 Implement and apply quality assurance principles to design according to organisational procedures 3.6 Finalise design decision documents in preparation for creating 3-D environment

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, analyses and comprehends briefs, instructions and conceptual information to inform job requirements
Writing	• Prepares documentation detailing decision-making process, design and instruction for specific audiences, using clear and detailed language
Oral	• Uses listening and questioning techniques and effective mode of communication to articulate complex concepts and present

SKILL	DESCRIPTION
Communication	conceptualised environment to peers using relevant industry language
Teamwork	• Cooperates and collaborates with others to achieve shared outcomes
Planning and organising	• Takes responsibility for planning and organising tasks required to achieve outcomes, including coordinating tasks with others
Problem solving	• Makes a range of critical and non-critical decisions in relatively complex situations, using analytical processes to evaluate and choose applicable options • Analyses and applies some basic principles of analytical and lateral thinking
Technology	• Identifies ways in which digital systems and tools are used, or could be used, to achieve work goals for modelling and animation • Manages and maintains files in a variety of storage media and formats

Unit Mapping Information

Supersedes and is equivalent to ICTGAM523 Collaborate in the design of 3-D game levels and environments.

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 ICTGAM549 Collaborate in design of 3-D game levels and environments

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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:

- collaborate with others to plan and implement the design process for creating an interactive 3-D environment.

In the course of the above, the candidate must:

- produce and present draft design documents to produce an interactive 3-D environment
- gather reference materials and visualise 3-D environment, including environment profiles, game genre, game design and game-play elements
- gather feedback from peers to review and modify designs to create a finalised design for a 3-D environment
- render design on at least one small device and one large device and confirm pixels are optimised.

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:

- required budgeting and scheduling considerations for game design
- capabilities and constraints of industry standard game engines
- features and functions of industry standard 3-D modelling and animation software, and painting, shading and texturing software
- process used for digital game development
- industry standard project planning methodology and processes
- design practices and considerations applicable to designing 3-D game levels and environments
- applicable time-management principles
- 3-D environment visualisation techniques

- quality assurance principles applicable to 3-D design processes
- industry standard game-play hardware and software products, together with technical constraints that products impose on graphics and code development and creative visual design
- different team member roles and responsibilities required in designing 3-D game levels and environments
- technology and human resources required in the process of creating a game, including the team's respective skills
- organisational procedures applicable to designing 3-D game levels and environments.

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 designing 3-D game levels and environments
- project and design brief
- games engine
- digital devices
- file storage
- the internet
- organisational procedures applicable to designing 3-D game levels and environments.

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

Links

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