



**Australian Government**

# **ICTGAM415 Develop simple environments for 3-D games**

**Release: 1**

# ICTGAM415 Develop simple environments for 3-D 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 performance outcomes, skills and knowledge required to research, design, verify, validate, develop, and evolve simple environments for different genres of games.

It applies to individuals working in the game development environment as concept artists, matte painters, game designers, animators and other personnel.

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 analyse brief requirements       | 1.1 Interpret the brief and clarify the design requirements, in consultation with the client<br>1.2 Identify the design, technical constraints and innovative features of the environments<br>1.3 Identify the software, media and file formats for digital imagery<br>1.4 Identify the production workflow requirements, and develop the production pipeline to meet client requirements |
| 2. Design and visualise                          | 2.1 Develop the concept illustration for the environment,                                                                                                                                                                                                                                                                                                                                 |

| ELEMENT                                | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| the environment                        | <p>consistent with the game genre</p> <p>2.2 Conduct focus testing of the concept illustration with the client and the representatives of the target market audience</p> <p>2.3 Submit to the client for approval and feedback</p> <p>2.4 Make adjustments to the concept illustration, based on comment and feedback</p>                                                                                      |
| 3. Verify and validate the environment | <p>3.1 Create an environment prototype according to the design brief, guidelines, and feedback on the concept illustration</p> <p>3.2 Conduct focus testing and seek recommendations for the further enhancement of the documented environment prototype</p> <p>3.3 Make adjustments to the environment prototype, based on comment and feedback</p> <p>3.4 Submit to the client for approval and feedback</p> |
| 4. Develop and evolve environment      | <p>4.1 Further enhance the environment prototype based on recommendations generated from focus testing</p> <p>4.2 Submit to the client for approval and feedback</p> <p>4.3 Finalise the environment design</p> <p>4.4 Save and archive the files in agreed formats and repository</p>                                                                                                                         |

## 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 | 1.1, 1.2, 1.3, 1.4, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.3 | <ul style="list-style-type: none"> <li>Identifies and evaluates documentation containing complex technical terminology to interpret the design brief and conduct research into the design of 3-D game environments</li> <li>Interprets and comprehends computer generated text, diagrams, icons, symbols, numbers and letters necessary to develop environment prototypes</li> </ul> |
| Writing | 2.2, 3.2                                              | <ul style="list-style-type: none"> <li>Develops focus testing documentation according to organisational and user requirements</li> </ul>                                                                                                                                                                                                                                             |
| Oral    | 1.1, 1.2, 1.3, 1.4,                                   | <ul style="list-style-type: none"> <li>Participates in verbal exchanges of ideas using detailed and clear language, effective listening skills and</li> </ul>                                                                                                                                                                                                                        |

|                      |                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication        | 2.2, 2.3, 3.2, 3.4, 4.2                                                        | <p>open-questioning techniques to elicit and clarify information and feedback</p> <ul style="list-style-type: none"> <li>• Presents the concept illustration and environment prototype using persuasive presentation techniques, plain English, translating games specific terminology where necessary</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Numeracy             | 1.1, 1.2, 1.3, 1.4, 2.1, 2.4, 3.1, 3.3, 4.1, 4.3                               | <ul style="list-style-type: none"> <li>• Uses whole numbers, decimals and percentages relevant to file size, software and hardware specifications, measurement, scale, form, weight, volume, colour, shading and other attributes/variables in the development of environments for 3-D games</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Interact with others | 1.1, 2.2, 2.3                                                                  | <ul style="list-style-type: none"> <li>• Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction, and taking a leadership role when conducting focus testing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Get the work done    | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4 | <ul style="list-style-type: none"> <li>• Plans a range of routine, and some non-routine, tasks, aiming to achieve required outcomes efficiently and effectively</li> <li>• Implements actions as per the plan, making slight adjustments if necessary, and addressing some unexpected issues when developing and evolving the environment design</li> <li>• Analyses feedback from others to make design decisions</li> <li>• Identifies and adapts ideas being used in similar contexts and understands and explicitly applies some basic principles of analytical and lateral thinking</li> <li>• Understands the key principles and concepts underpinning the functions of digital systems and tools</li> <li>• Manages and maintains the files securely in a variety of storage media and formats</li> </ul> |

## Unit Mapping Information

| Code and title<br>current version                      | Code and title<br>previous version                      | Comments                                        | Equivalence status |
|--------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------|--------------------|
| ICTGAM415<br>Develop simple environments for 3-D games | ICAGAM415A<br>Develop simple environments for 3-D 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 ICTGAM415 Develop simple environments for 3-D games

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### Performance Evidence

Evidence of the ability to:

- research and analyse requirements from the client's brief
- develop environment designs that comply with the games design brief and client requirements
- verify and validate the environment prototype
- test responses to the environment designs with the intended audience
- finalise the environment design.

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:

- determine the budgeting and scheduling considerations for environment creation in games, with consideration given to human resources
- discuss the techniques applied to environment design and realisation, including how the genre of the game influences environment requirements
- discuss how to interpret environment design briefs
- describe the role and position of interactive environments in commercial game development, game duration, and quality
- outline the processes and procedures needed to facilitate quality, and innovation in the design of 3-D environments
- identify the prototyping tools and techniques for commercial environment development in games
- outline the research methods used to stay abreast of the latest developments in game environment design.

## 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 and software
- input and output devices
- game design documents or specifications
- style shots.

Assessors must satisfy NVR/AQTF assessor requirements.

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