



Australian Government

Department of Education, Employment and Workplace Relations

ICAGAM512A Create and implement designs for a 3-D games environment

Release: 1

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Modification History

Release	Comments
Release 1	This Unit first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to create and implement designs within the context of a 3-D games environment.

Application of the Unit

This unit applies to concept artists, game designers, games programmers, animators and other personnel working in the game development industry.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>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.</i>

Elements and Performance Criteria

1. Identify technologies to be used with 3-D games development	1.1 Discuss and decide on 3-D modelling software for production of designs and ramifications of choice 1.2 Discuss and decide on 2-D image-editing software for textures 1.3 Establish 3-D production considerations for available computer hardware
2. Develop design documentation for 3-D effects	2.1 Establish theme for design and determine required modelling assets 2.2 Create file archiving system for the storage of 3-D components , models and versions 2.3 Establish project development pipeline and production deadlines to meet assessment dates
3. Develop and create storyboards	3.1 Create storyline for animation 3.2 Develop storyboard that implements storyline document 3.3 Review and finalise storyboard document for implementation
4. Develop and create projects	4.1 Create new document and conduct creation of models as outlined in the production pipeline, theme and storyboard documents 4.2 Archive project as specified by the assignment criteria for submission

Required Skills and Knowledge

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

Required skills

- analytical skills to:
 - assess suitability of software and hardware technologies within project context
 - establish clear advantages, disadvantages and limitations of technologies and their implementation
- communication skills to discuss suitability of storyboard design within project context
- planning and organisational skills to:
 - establish clear goals to achieve required software development outcomes
 - meet project deadlines
- technology skills to:
 - resolve basic hardware, software and other technical issues associated with software production
 - use correct file formats and archiving procedures.

Required knowledge

- concepts of animation techniques
- concepts of digital effects generation
- 2-D and 3-D graphics editing software and their common concepts
- appropriate graphics formats.

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: • create and develop design documents for 3-D animations • follow a project pipeline to produce a 3-D animation product.
Context of and specific resources for assessment	Assessment must ensure access to: • computer hardware, software, games engines and file storage • copyright and intellectual property legislation • OHS legislation and enterprise policy • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • evaluation of work samples or simulated workplace activities • observation of fault-finding exercises • verbal questioning or interview • evaluation of written or interactive computer-based test or quiz • evaluation of reports and logbooks.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate. Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed. Indigenous people and other people from a non-English speaking background may need additional support. In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

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.

<i>Modelling software</i> may include:	• 3D Studio Max • Blender • Cinema 4D • Maya.
<i>Image-editing software</i> may include:	• After Effects • Avid • Combustion • D2 Nuke • Digital Fusion • Final Cut Pro • Flame • Flint • Fusion • Inferno • Inferno • Lustre • Photoshop • Premier • Renderman • Shake.
<i>Theme</i> may include:	• cyber or steam punk • fantasy • horror • medieval • science fiction.
<i>3-D components</i> may include:	• 3-D landscapes • buildings, walls, houses and other structures • character models • graphical user interface (GUI) widgets • items and collectables • light sources and effects • trees, shrubs and bushes • vehicles.

Unit Sector(s)

Game development