



Australian Government

CUADIG517 Design digital simulations

Release: 1

CUADIG517 Design digital simulations

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package version 5.0.

Application

This unit describes the skills and knowledge required to research, plan and design drafts for digital simulations of real-world environments and processes.

The unit applies to those who work closely with subject experts to develop virtual environments for fields including architecture, science and engineering, medicine, conservation and manufacturing. They may also collaborate with programmers and software authors so the simulation is technically achievable.

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

Unit Sector

Visual communication – Digital content and imaging

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. Identify project requirements	1.1 Confirm objectives and desired outcomes of project brief in consultation with required personnel 1.2 Identify target audience and determine format and delivery platform of simulations in discussion with required personnel
2. Research and plan approach	2.1 Investigate real world environment to be simulated and determine technical parameters that may be required 2.2 Evaluate designs and other information that may assist modelling real world environment 2.3 Determine performance objectives, task complexity and user skill levels 2.4 Determine required depth of physical and functional fidelity that

ELEMENT	PERFORMANCE CRITERIA
	meets production requirements 2.5 Research and identify applicable simulation authoring tools 2.6 Discuss ideas and solutions in collaboration with required personnel
3. Draft simulation design documents	3.1 Identify processes that determine functional behaviour of simulation and specify how this behaviour is represented by control objects 3.2 Define underlying functionality in model that specifies essential settings, states, conditions and parameters 3.3 Specify user interface controls that enable user interaction with simulation 3.4 Identify critical impacts, alerts or costs for incorrect user operation 3.5 Specify sequencing of difficulty levels, if required 3.6 Confirm proposed simulation is technically feasible in consultation with required personnel 3.7 Present clear and detailed draft simulation design specifications for discussion and feedback with required personnel 3.8 Outline positive and negative feedback from user responses when interacting with simulations, and adjust as required
4. Finalise simulation design documents	4.1 Review designs against desired project outcomes and objectives 4.2 Review designs against creative, technical and intellectual property requirements 4.3 Adjust design specifications as necessary after discussions with required personnel 4.4 Archive user interface controls

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
Oral communication	- Participates effectively in spoken interactions using language and features applicable to audience - Confirms project requirements and elicits feedback using questioning and listening strategies - Communicates with audience using industry standard practices and protocols

SKILL	DESCRIPTION
Reading	• Interprets and comprehends familiar and unfamiliar technical, descriptive, and legal textual information
Writing	• Documents information using correct formatting procedures, and uses specialised vocabulary when drafting design documents • Accurately incorporates modifications and user feedback in specification documentation
Initiative and enterprise	• Integrates prior knowledge with new technical research and feedback from required personnel • Ensures design integrity remains and continually generates and evaluates design ideas • Makes decisions that impact on entire project
Planning and organising	• Takes responsibility, coordinates and plans tasks and ensures project requirements met • Ensures project is continually assessed and evaluated
Self-management	• Adheres to legislative requirements related to intellectual property
Teamwork	• Works collaboratively with production personnel throughout all stages of project
Technology	• Assists with design tasks using digital tools

Unit Mapping Information

Supersedes and is equivalent to CUADIG507 Design digital simulations.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5>

Assessment Requirements for CUADIG517 Design digital simulations

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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:

- design at least two examples of digital simulations according to different project briefs.

In the course of the above, the candidate must:

- research and generate ideas for technically feasible simulations that meet target audience requirements
- develop draft design specifications for digital simulations that are clear, detailed and technically feasible
- review and seek feedback from required personnel and produce final design specifications.

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:

- typical formats and documentation for presenting simulation designs
- strategies to evaluate designs and respond to feedback to improve designs
- technical parameters of digital simulations, including:
 - algorithms
 - rules
 - laws
 - physical & mathematical formulae
- authoring tools used for digital simulations
- user interfaces used for digital simulations
- ways that technical parameters represent real world processes
- common delivery platforms of simulations
- how intellectual property rights are managed in design of digital simulations.

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:

- briefs for digital simulations on which designs can be based
- access to real-world environments to be simulated
- facilities and resources to develop design simulations
- interaction with others required to demonstrate the performance evidence.

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

Links

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