



Australian Government

ICTGAM532 Create design concepts for digital games and 3-D media

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 work innovatively in game development, using thoughtful strategies and well-developed technical skills to accommodate specified 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. Identify and analyse digital games and 3-D media design concepts	1.1 Obtain project brief and other applicable organisational documents and procedures 1.2 Research and identify design concepts in digital games and interactive 3-D media 1.3 Analyse and interpret design concepts used in digital games and interactive 3-D media 1.4 Discuss design considerations for designing digital games and interactive 3-D media concepts
2. Evaluate and select software packages	2.1 Identify and review applicable industry-standard software available for developing design concepts 2.2 Assess software according to concept design

ELEMENT	PERFORMANCE CRITERIA
	process requirements 2.3 Discuss technical specifications for development process with required personnel 2.4 Select software package according to concept design requirements
3. Use chosen software package	3.1 Run selected software package and navigate user interface according to vendor requirements 3.2 Create new files and organise and develop file structure 3.3 Identify and use tools and components required to create and develop digital games and interactive 3-D media concepts
4. Create concept components for digital game or interactive media	4.1 Identify specific processes for heads-up display elements 4.2 Design heads-up display for a digital game or 3-D interactive media 4.3 Document design and programming processes and requirements applicable to implementing heads-up display according to organisational procedures 4.4 Create and develop visual design elements and components to be used for heads-up display using chosen software package
5. Implement a design concept into a game or 3-D interactive media and evaluate implementation	5.1 Load in required images and write code to implement heads-up display into an existing framework 5.2 Write code and demonstrate heads-up display capabilities with implemented concepts 5.3 Demonstrate implementation to required personnel 5.4 Seek feedback and assess and refine concept as required 5.5 Evaluate usability of concept's components 5.6 Identify and discuss possible changes to improve visual design and capabilities of components and share findings with required personnel

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
Learning	Acquires knowledge needed to use tools and other components for digital games and 3-D media production using a range of investigative and analysis techniques
Reading	Interprets and comprehends a large range of textual and diagrammatic information to inform instructional, technical, and conceptual requirements
Oral Communication	- Elicits information using listening and open questioning techniques - Speaks clearly and concisely, converting highly technical language and terminology into plain English when providing information
Numeracy	Uses whole numbers, decimals and percentages, when manipulating software to achieve required technical and design components
Teamwork	Cooperates and collaborates with others as part of routine activities and elicits support and feedback
Initiative and enterprise	Uses creativity and initiative in 3-D design
Self-management	- Plans, organises and completes work according to defined requirements and schedules, taking responsibility for decisions, and sequencing tasks to achieve required outcomes - Sources, analyses and evaluates applications with potential to meet 3-D design requirements - Evaluates work and implements improvements using a systematic process
Technology	- Defines purpose and uses key features of specific digital systems and tools and operates them to complete design tasks - Identifies importance of file structure and takes responsibility for data integrity and management

Unit Mapping Information

Supersedes and is equivalent to ICTGAM501 Create design concepts for digital games and 3-D media.

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 ICTGAM532 Create design concepts for digital games and 3-D media

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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:

- develop concept art and design specifications consistent with an identified game genre for at least one of each of the following:
 - heads-up display
 - splash screen
 - start screen
 - game field screen
- implement a working heads-up display with at least three basic functionalities.

In the course of the above, the candidate must:

- demonstrate original and innovative approaches to the creative development of a game
- implement game development and production strategies
- maintain integrity of design brief
- develop technical specifications for game mechanics, artificial intelligence, physics, sound, game play and overall usability
- confirm design concepts are functional on at least two different browsers and at least two different devices
- evaluate different controller designs required according to different devices digital games and 3-D media.

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
- industry-standard software applicable to developing design concepts
- capabilities and constraints of game engines

- concept development process and visualisation skills
- game development process, including specific terminology
- key features of game-play hardware and software products
- human resources required in the process of creating games and their respective skills and technology requirements
- work health and safety (WHS) requirements relating to:
 - ergonomics
 - electrical safety
- risk and critical path management techniques
- technical constraints that hardware imposes on:
 - software development
 - graphics requirements
 - code development
 - creative visual design
- organisational procedures applicable to documenting and creating design concepts.

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 design concepts for digital games and 3-D media
- games engine
- file storage
- browsers and digital devices
- the internet
- organisational procedures applicable to documenting and creating design concepts.

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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