



Australian Government

Department of Education, Employment and Workplace Relations

ICAGAM510A Prepare games for different platforms and delivery modes

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 build, maintain and test games across multiple system platforms.

Application of the Unit

This unit applies to games programmers 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. Produce a game package for multiple platforms	1.1 Research and identify cross- platform installers 1.2 Use an installer to package a game for multiple platforms
2. Develop a cross-platform project	2.1 Identify cross-platform integrated development environment (IDE) 2.2 Identify cross-platform renderer libraries, physics libraries, audio libraries and network libraries 2.3 Source or compile cross-platform libraries 2.4 Compile project for multiple platforms 2.5 Test and maintain cross-platform software project 2.6 Use platform specific input devices
3. Compile a report on cross-platform software development	3.1 Identify and document issues in cross-platform development 3.2 Develop an awareness of cross-platform hardware

Required Skills and Knowledge

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

Required skills

- communication skills to document and present research results
- learning skills to incorporate results of trialling and testing
- planning skills to:
 - produce distributable packages for multiple platforms
 - undertake risk assessment and critical path planning
- problem-solving skills to:
 - apply a variety of strategies for game trialling and testing
 - recognise and address potential problems while testing cross-platform software
- research skills to identify and source appropriate cross-platform installers
- technical skills to develop and test cross-platform applications.

Required knowledge

- current cross-platform IDEs
- evaluation techniques for cross-platform development libraries
- research methods for cross-platform development and distribution
- testing procedures.

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: • produce cross-platform game project • identify and use cross-platform IDE libraries and installers • resolve issues of developing cross-platform games.
Context of and specific resources for assessment	Assessment must ensure access to: • computer hardware, software, games engines and file storage • computers running various operating systems • platform-specific hardware • IDEs and libraries • installers for product distribution • internet access for research purposes • 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 written or verbal reports • evaluation of work samples or simulated workplace activities • observation of game document development activities • verbal questioning or interview concerning aspects of game document development, including: • industry standards for concept art • design and technical specification development • game testing and trialling procedures • resources required for game development • verbal questioning or interview concerning aspects of game development, including: • capability of game engines and software tools to meet the requirements of the brief

	• game testing and trialling procedures.
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.

Platforms may include:	• arcade • console platforms: • Microsoft Xbox 360 • Nintendo DS (hand-held) • Nintendo Wii • Sony PlayStation • hand-held digital device platforms: • Apple Ii/c/c+ • Apple IIGS • Blackberry • BREW • Flashlite • Google Android • J2ME • Java • Palm OS • Sidekick • Symbian • WAP • Windows Mobile • personal computer (PC) • Snow Leopard (Mac OS) • Unix • Web.
Installers may include:	• Install Anywhere • Install builder • Install system • Nulsoft scriptable • Windows installer.
Integrated development environment may include:	• Code::Blocks • Eclipse • NetBeans • Visual Studio

	• Xcode.
Renderer libraries may include:	• DirectX • Irrlicht • Jmonkey • Newton Game Dynamics • Ogre • OpenGL.
Physics libraries may include:	• Ageia • Box2D • Bullet • Farseer • Havok • Open Dynamics Engine (ODE) • PhysX.
Audio libraries may include:	• Audacity • FMOD • IrrKlang • Open_AL • SDL_mixer.
Network libraries may include:	• HawkNL • Raknet • SDL_Net.
Input devices may include:	• accelerometer • gamepads • gyroscope • keyboard • mice • touch screen • trackpad.
Issues in cross-platform development may include:	• display systems that may vary, such as Nintendo DS • graphical user interfaces (GUIs) that are rendered differently by various platforms • threads implemented differently on various platforms.

Unit Sector(s)

Game development