Australian Government

Department of Education, Employment and Workplace Relations

ICAGAM517A Produce a digital animation sequence

Release: 1

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

ICAGAM517A Produce a digital animation sequence

Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to produce a digital animation sequence for the 3-D and digital effects environment, involving the completion of a digital editing project.

Application of the Unit

This unit applies to concept artists, games 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
Elements describe the essential outcomes of a unit of competency.	*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.*

Innovation and Business Skills Australia

Elements and Performance Criteria

1. Develop or source story or concept	1.1 Research ideas for animation sequence
	1.2 Produce treatment of animation sequence
2. Develop plan and determine components required for animation sequence	2.1 Produce and work according to production plan
	2.2 Develop a *storyboard* detailing the 3-D animation
	2.3 Create concept drawings for 3-D models
	2.4 Show evidence of reference material used for storyboard and concept drawings
3. Produce animation sequence using 3-D software	3.1 Use the production plan to create animation
	3.2 Select *appropriate frames per second* to use for the animation
	3.3 Use references to create *assets*
	3.4 Create a 3-D animation project using *3-D modelling and animation software*
	3.5 Animate components of the 3-D environment to reflect planned animation sequence
	3.6 Using 3-D modelling and animation software, produce *high-end lighting techniques*
4. Render and finalise 3-D animation sequence	4.1 Select appropriate *resolution and aspect ratio*
	4.2 Employ 3-D modelling software to render the animated sequence
	4.3 Review the rendered frames against the initial storyboard concept

Required Skills and Knowledge

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

Required skills

- analytical skills to:
    - analyse documentation and images to inform implementation of editing techniques
    - interpret briefs, work instructions, and technical and conceptual information
- communication skills to:
    - check and confirm design requirements
    - collect, interpret and communicate in visual and written forms effectively for various audiences, including engineers and artists
    - communicate complex designs in a structured format drawn from industry standards, styles and techniques
    - communicate technical requirements related to software development, graphics requirements and code development to supervisors and other team members
    - provide practical advice, support and feedback to colleagues and management
    - translate design requirements into specifications
- initiative and enterprise skills to exercise a high level of creative ingenuity in games design and innovation
- literacy and numeracy skills to:
    - develop games design and technical design documents
    - write instructions for the normal and competent operation and testing of all games features and permutations
- management skills to manage teams in order to effectively extract useful feedback
- planning and organisational skills to:
    - appropriately refer decisions to a higher project authority for review and endorsement
    - delegate tasks and responsibility appropriately
    - establish clear roles and goals to achieve required games development outcomes
    - meet project deadlines
    - organise equipment and resources to achieve required outcomes
    - organise own time to meet milestones
- problem-solving skills to recognise and address potential quality issues and problems at design development stage
- research skills to undertake practical, technical and desktop research into editing for the 3-D environment
- self-management skills to:
    - deliver required tasks without specific guidance
    - prioritise and manage own work against project plan or schedule
- teamwork skills to contribute to and work in a collaborative team
- learning skills to accept peer and client feedback and make improvements
- technical skills to:
    - use correct file formats and archiving procedures
    - resolve basic hardware, software and other technical issues associated with video editing and production

- visualise and develop concepts.

Required knowledge

- digital editing and rendering processes and techniques
- capabilities and constraints of digital editing and rendering software
- human resources required in the process of creating games, and their respective skills and technology requirements
- OHS requirements for:
    - ergonomics, such as lifting
    - electrical safety
    - materials handling
    - physical hazards
- risk and critical path management
- technical constraints that hardware imposes on software development, graphics requirements, code development and creative visual design.

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: • apply a variety of strategies in creating an animation sequence using a 3-D environment • develop a finalised frame of the animation in an appropriate resolution.
Context of and specific resources for assessment	Assessment must ensure access to: • computer hardware, software, games engines and file storage • 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 a completed animation in frames • evaluation of work samples or simulated workplace activities • observation of games document development activities • evaluation of storyboard of sequence frames and design concepts • evaluation of a verbal or written report on industry standard animation techniques using 3-D software.
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. |

Innovation and Business Skills Australia

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.

Storyboard may include:	- animatics (technical pre-visualisation) - computer-generated illustrations - existing comic strips, comic books and graphic novels - hand-drawn illustrations - illustrations or images displayed in sequence for the purpose of pre-visualising a motion picture, animation, motion graphic or interactive media sequence, including website interactivity - photomatic (photographic storyboard) - thumbnails.
Appropriate frames per second may include:	23.976 (NTSC or dslr - Digital Video or Digital TV) 24p 25p (PAL) 29.97 (NTSC) 30p 50i 50p or 60p (HDTV) 60i 72p.
Assets may include:	3-D models - characters - environments - lighting - shading - textures - UV maps.
3-D modelling and animation software may include:	3ds Max - Blender - Cinema 4D - Houdini - Lightwave - Maya - Modo - XSI

	• Z Brush.
High-end lighting techniques may include:	• ambient illumination • global illumination • indirect illumination • refraction • specular illumination • sub-surface scattering.

Resolution and aspect ratios may include:	• 16:9:
	   • 854x480
	   • 1280x720 (HD 720)
	   • 1366x768
	   • 1920x1080 (HD 1080)
	• 16:10:
	   • 320x200
	   • 1280x800
	   • 1440x900
	   • 1680x1050
	   • 1920x1200
	• 4:3:
	   • 320x240 (QVGA)
	   • 640x480 (VGA)
	   • 768x576 (PAL)
	   • 800x600 (SVGA)
	   • 1024x768
	   • 1280x960
	   • 1400x1050
	   • 1600x1200.

Unit Sector(s)

Game development

Innovation and Business Skills Australia