



Australian Government

Department of Education, Employment and Workplace Relations

CUFANM501A Create 3D digital character animation

Revision Number: 1

CUFANM501A Create 3D digital character animation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to create 3D digital character animation. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	Character animators working in 3D animation studios and games companies create character animations for film, television, interactive media products, stand-alone animated sequences and games. Typically, they follow a brief from a director, animation director or lead animator, and refer to established designs, layouts and models when creating the movements that will appear on screen. They may also have been responsible for creating the 3D models that are being animated. A feel for movement and timing is necessary to produce convincing animation, and character animators need creative and artistic qualities, along with the appropriate technical skills. Observational skills and a feel for acting are also important. Even though animators at this level work with a fair degree of autonomy, they are members of a production team and must be able to take direction and communicate clearly with colleagues. Animations are created using a range of industry-current software that is constantly evolving, so it is essential that people working in this area keep up to date with the latest software.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	CUFANM302A Create 3D digital animations

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify work requirements	1. With reference to production documentation, determine requirements and purpose for 3D digital character animation 2. In consultation with relevant personnel, determine work flow sequences to ensure that production schedule deadlines are met 3. Select software that best suits the type of production and delivery platform for which 3D digital character animations are being created
Prepare to create 3D digital character animation	4. Gather and analyse reference materials to assist in the animation of the characters 5. Examine the models to be animated to determine the most appropriate animation techniques 6. Identify and develop skills with the controls of character rigs to be used 7. Analyse audio supplied for animations as required 8. Create thumbnail sketches of key poses required 9. Act out shot and make notes on timing of actions or record to video for later reference 10. Select the most suitable combination of animation techniques
Create 3D digital character animation	11. Animate first pass, applying relevant animation principles and experimenting with techniques to produce the required creative effects 12. Submit first pass to relevant personnel for comment on whether requirements have been met 13. Make adjustments as required and refine animation in passes until production requirements are met 14. Animate facial features and lip-syncing to match audio and design requirements, ensuring that animation principles are taken into account 15. Create secondary animations as required
Finalise projects	16. Submit final character animations in agreed output format to relevant personnel by agreed deadline 17. Finalise projects according to enterprise procedures, e.g. making back-up copies of files and completing workplace documentation 18. Participate in project evaluations and contribute ideas and suggestions about ways to improve future projects

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communication, teamwork and literacy skills sufficient to:
 - interpret creative concepts and briefs
 - use correct grammar, spelling and punctuation when writing
 - interpret information in software user manuals and help features
 - work as a member of a production team, both independently on assignment and under direction
 - respond positively to constructive feedback from other team members
- initiative and enterprise in the context of:
 - developing original, innovative and creative approaches to 3D character animation
 - experimenting with animation to develop a creative sustained vision
 - extending creative boundaries for self and audience
 - finding creative solutions to problems identified during the process of 3D character animation
 - locating and using resources to broaden own creative experience
- technical skills sufficient to:
 - use appropriate software to develop 3D character animation
 - apply the principles and elements of animation, communication, screen and visual design to produce 3D character animation
 - create 3D character animation in appropriate formats for required delivery platforms
 - manage files and directories using standard naming conventions and version control protocols
- self-management and planning skills sufficient to:
 - prioritise work tasks
 - plan animation in a logical and cohesive way
 - meet deadlines
 - seek expert assistance as required
- learning in the context of improving performance/product through self-reflection and reworking after feedback

Required knowledge

- animation techniques and principles
- screen principles
- principles of visual design and communication

REQUIRED SKILLS AND KNOWLEDGE

- acting principles in the context of animating facial expressions and body movements to produce convincing animation
- industry knowledge, including:
 - roles and responsibilities of project team members in the relevant industry sector
 - sound understanding of the relationship between the technical and creative aspects and requirements of productions in which character animation is being used
 - issues and challenges that arise in the context of creating 3D digital character animation
- OHS standards as they relate to working for periods of time on computers

Evidence Guide

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 following is essential:

- creation of 3D digital character animation that:
 - demonstrates appropriate application of animation principles, such as correct use of timing and weight, squash and stretch, movement in arcs, anticipation and follow-through, overlapping action and exaggeration
 - meets design requirements
 - demonstrates attention to detail
- collaborative approach to work
- ability to meet deadlines.

Context of and specific resources for assessment

Assessment must ensure:

- access to a selection of industry-current software as listed in the range statement
- access to simulated or real production situations that require 3D digital character animations
- access to appropriate learning and assessment support when required
- use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

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:

- direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance
- evaluation of a range of 3D digital animated characters created by the candidate to determine ability to animate characters in different ways
- written or verbal questioning to test knowledge as listed in the required skills and knowledge section of this unit.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- BSBCRT402A Collaborate in a creative process
- CUFANM503A Design animation and digital visual effects.

Range Statement

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>Production documentation</i> may include:	• animatics • storyboard • technical specifications.
<i>Requirements</i> may include:	• assets for integration • collaboration with other team members • creative expectations • design specifications • output format • technical specifications • timelines.
<i>Purpose</i> of 3D digital character animation may be for:	• interactive digital media products, e.g.: • games • e-learning resources • digital simulations • virtual worlds • television and film production.
<i>Relevant personnel</i> may include:	• animation director • director • head of department • producer • project manager • storyboard artist • supervisor • technical director • other technical/specialist personnel.
<i>Software</i> may include:	• 3D, e.g.: • 3D Studio Max • Maya • Softimage • Lightwave • Motionbuilder

RANGE STATEMENT	
	• Face Robot • graphics, e.g.: • Photoshop • Illustrator.
<i>Productions</i> may include:	• animated productions • commercials • documentaries • feature films • filmed events or performances • interactive digital media products: • e-learning resources • games • promotional/informational products • music videos • short films • television productions • training or promotional videos/DVDs.
<i>Delivery platforms</i> may include:	• broadcast television • CD • DVD • feature film • games • internet • kiosk • mobile phone • PDA (personal digital assistant) • other digital devices.
<i>Reference materials</i> may include:	• books • direct observation of actions • DVDs ('making ofs') • still images • videos.
<i>Animation techniques</i> may include:	• dynamic simulation • hybrid method • layered animation • motion capture • pose-to-pose animation • scripted animation • straight ahead animation.

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<i>Animation principles</i> may include:	• anticipation • asymmetry in body and facial poses • balanced poses • exaggeration • movement in arcs • overlapping actions and follow-through • pacing/timing • secondary actions • singularity of message • squash and stretch • staging • strong silhouette in poses • weight.
<i>Secondary animations</i> may include:	• cloth simulations • hair simulations • other finer details that require dynamic simulations or keyframe animation.
<i>Output formats</i> may include:	• AVI • IFF • JPEG • MPEG • PNG • Quicktime • Targa • TIFF.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Visual communication - animation and digital effects
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Co-requisite units

Co-requisite units		