



Australian Government

ICTGAM544 Animate physical attributes of models and elements

Release: 1

ICTGAM544 Animate physical attributes of models and elements

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 animate the required physical attributes of models and elements using 3-D modelling and animation software tools.

It applies to those with high-level mathematical, technical and communication skills working as concept artists, game designers, games programmers, animators, and other personnel working in the game development industry.

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. Establish project requirements and collect and use reference material	1.1 Establish project and animation requirements of models and elements, according to organisational procedures 1.2 Create storyboard sequence of required animation according to organisational procedures 1.3 Determine animation attribute sequence of objects according to created storyboard 1.4 Identify type of production and target platform for which 3-D digital animations are being created and select applicable 3-D modelling and animation software tools 1.5 Research and gather reference material applicable to animation requirements
2. Prepare 3-D digital models	2.1 Research and select applicable animation methodology for

ELEMENT	PERFORMANCE CRITERIA
using a variety of manipulating techniques	required models 2.2 Confirm models' topology allows required deformation of objects and their parts, according to storyboard animation brief 2.3 Apply a variety of manipulation techniques according to model and element requirements 2.4 Refine animation attributes and confirm integrity of models and elements until storyboard requirements are met 2.5 Submit pre-model animation to required personnel for feedback and confirm storyboard objectives have been met 2.6 Make final adjustments as required according to feedback
3. Create required animations using a variety of animation tools	3.1 Animate object, applying animation principles and techniques to produce required motions 3.2 Submit animation to required personnel for approval 3.3 Make adjustments as required and refine animation in passes until storyboard requirements are achieved
4. Test and render 3-D digital model	4.1 Research and select applicable render engine according to project requirements 4.2 Render component for testing purposes using nominal lighting 4.3 Test against production plan and evaluate results 4.4 Continue manipulation process according to meet required effects 4.5 Evaluate final render, and confirm further client requirements are met 4.6 Prepare required render passes according to animation requirements 4.7 Render required component
5. Evaluate and finalise animation	5.1 Present edited material to required personnel, in applicable format for evaluation 5.2 Obtain final sign-off from required personnel 5.3 Make backup copies of files and complete workplace documentation, according to organisational procedures

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
Reading	Interprets and analyses reference sources and applies knowledge to project work
Writing	Communicates complex relationships between ideas and information, matching style of writing to purpose and audience when creating storyboard and workplace documentation
Numeracy	Applies manipulation techniques, animates objects and makes adjustments using mathematical and problem-solving strategies
Oral communication	Uses listening and questioning techniques to determine client requirements and articulate ideas using specific language applicable to audience
Planning and organising	Plans a range of routine and non-routine tasks, including collecting resources, determining storyboard sequences and selecting software tools
Problem solving	Makes a range of critical and non-critical decisions in relatively complex situations, taking a range of factors into account
Self-management	Implements actions as per plans, making slight adjustments if necessary and addressing some unexpected issues
Technology	- Uses a broad range of features of software applications for specific purposes - Manages and maintains files in a variety of storage media and formats

Unit Mapping Information

Supersedes and is equivalent to ICTGAM518 Animate physical attributes of models and elements.

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 ICTGAM544 Animate physical attributes of models and elements

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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:

- create at least two animated models using animation and rendering software, according to animation principles and storyboard requirements.

In the course of the above, the candidate must:

- prepare pre-model animation for approval using created storyboard sequence
- evaluate texture, quality and performance of models using lighting
- render 3-D digital models on at least one small device and one large device and confirm pixels are optimised
- present final 3-D digital models, together with supporting documentation including project brief, documents and concept art for approval
- comply with organisational procedures.

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:

- principles and techniques of 3-D animation, lighting and modelling
- features and functions of industry standard 3-D modelling and animation software tools and render engines
- types of production and target platforms for which 3-D digital animations are created for
- industry standard animation methodology and processes
- how anatomy and physical movement is applicable to animation
- the importance and advantages of client communication when working on projects
- required budgeting and scheduling considerations during animation projects
- storyboard creation techniques
- script production techniques

- manipulation techniques relating to animating models and elements
- application of industry standard game-play hardware and software products
- purpose of dope sheets
- principles of the graph curve editor for smooth animation
- physical attributes that create effects, including weight and anticipation
- purpose of rendering
- shading and texturing techniques applicable to animating physical attributes of models and elements
- transfer methodology, including rotoscoping hand key and motion capture
- 3-D digital model testing procedures
- organisational procedures applicable to animating models and elements.

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:

- project brief
- hardware and software relating to animating physical attributes of models and elements
- games engine
- digital devices
- file storage
- the internet
- organisational procedures applicable to animating models and elements.

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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