



Australian Government

ICTGAM542 Animate 3-D characters for digital games

Release: 1

ICTGAM542 Animate 3-D characters for digital games

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 apply animation principles to develop an animated character and export character model into a game.

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. Determine 3-D character model for animation requirements	1.1 Obtain and analyse animation, storyboard and digital game requirements for 3-D character according to organisational procedures 1.2 Determine target environments for 3-D digital character animation according to digital game requirements 1.3 Establish required level of detail for 3-D character model animation 1.4 Determine work-flow sequences, task requirements and confirm production schedule deadlines are met 1.5 Research and select required games engine and platform according to digital game requirements 1.6 Select software tools according to production pipeline

ELEMENT	PERFORMANCE CRITERIA
	and selected games engine and platform
2. Create 3-D animations	2.1 Research and determine animation methodology applicable to task requirements 2.2 Animate first pass, applying animation principles and experimenting with techniques to produce required movements 2.3 Submit first pass to required personnel for feedback and approval 2.4 Adjust as required and refine animation in passes until storyboard requirements are achieved 2.5 Animate facial features with lip-syncing to match audio and design requirements of approved storyboard 2.6 Create primary animations as required according to task requirements
3. Finalise and export animations	3.1 Submit character animations to required personnel for final check 3.2 Finalise projects according to organisational and production procedures 3.3 Export animation and 3-D character model to required game engine 3.4 Test character animations in game engine and on different devices according to organisational procedures 3.5 Evaluate results and apply changes as required 3.6 Obtain final sign-off for character animations from 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
Reading	• Interprets, analyses and comprehends workplace documentation and images to aid implementation of job requirements
Writing	• Creates required documents outlining complex design information according to industry standards and required formats
Oral Communication	• Uses listening and questioning techniques and effective mode of communication to articulate complex concepts and information using industry language for intended audience

SKILL	DESCRIPTION
Numeracy	Applies numerical skills to develop applications using whole numbers, decimals and percentages when manipulating measurement, scale, ratio, coordinates, colour, shading and other 3-D elements
Teamwork	Implements strategies for a diverse range of colleagues and clients to build rapport and foster strong relationships
Initiative and enterprise	Investigates new and innovative ideas to continuously improve work practices and processes
Planning and organising	- Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with others, including required capabilities, efficiencies and effectiveness - Monitors progress of plans and schedules, reviews and changes these according to new demands and priorities
Problem solving	- Makes critical decisions quickly and intuitively in complex situations, taking into consideration a range of variables, including outcomes of previous decisions - Applies systematic and analytical decision-making processes for complex and non-routine situations
Self-management	- Selects, implements and seeks to improve protocols governing communications to clients and co-workers in a range of work contexts - Elicits feedback and provides feedback to others to improve self and workgroup behaviours
Technology	Uses and investigates new digital technologies and applications to manage and manipulate data and communicate with others in a secure and stable digital environment

Unit Mapping Information

Supersedes and is equivalent to ICTGAM516 Animate a 3-D character for digital games.

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 ICTGAM542 Animate 3-D characters for digital games

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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 at least two animated character models according to digital game requirements.

In the course of the above, the candidate must:

- select tools compatible with target game engine and platform
- render art on at least one small device and one large device and confirm pixels are optimised
- export animated character model to target game engine according to organisational procedures
- test character animations in the game engine and on at least two different devices.

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:

- 3-D animation principles including relevance of anatomy and physical movement
- different target environments for animated 3-D digital characters
- development processes for animating 3-D characters
- capabilities and constraints of game engines
- attributes of industry standard game-play hardware and software products
- different industry standard animation methodologies
- function of a graph curve editor
- risk and critical path management techniques applicable to 3-D character animation process
- shading, texturing, weight and anticipation techniques relating to animating 3-D characters
- transfer methodology, including rotoscope, hand key and motion capture

- techniques for applying concept development and visualisation skills
- techniques for using storyboard and script production
- technology requirements and human resources required in the process of creating games
- the importance and advantages of client communication on project work
- budgeting and scheduling considerations for game design
- time management techniques in project development
- exporting and testing procedures for 3-D character animations
- organisational procedures applicable to 3-D character animation process.

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, software and tools applicable to animating 3-D characters for digital games
- games engine and platform
- digital devices
- file storage
- the internet
- design brief
- organisational procedures applicable to 3-D character animation process.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

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