Specification of Competency Standards
for the Information & Communications Technology Industry
Unit of Competency

Functional Area - Operations Management

Title	Create map and texture
Code	107926L4
Description	This unit of competency applies to all Digital Media Technology (DMT) practitioners who are involved in games or animation applications graphics designing. Map and texture consist of red, green, and blue and these RGB values allow a 2D or 3D image to represent depth and can save a lot of time and resources. This UoC is concerned with the activities and steps in creating maps and textures as part of the applications development.
Level	4
Credit	3

Competency	Performance Requirements
	1. Knowledge for map and texture
	
	• Understand the details about object space and tangent space map and texture
	• Understand how to do shading with a computer program (shader) in the process of application development
	• Possess good knowledge in creating high resolution (hi-res) model, and related software such as "z-brush"
	• Possess the ability to perform UV (the 2 axes of the 2D texture) mapping and unwrap UV
	• Possess the ability to modify map and texture using image editing software
	
	2. Create map and texture
	
	• Gather requirements towards map and texture creation as part of the graphics designing tasks
	• Work according to the following considerations and criteria for map and texture creation:
	   o Identify the requirements for hi-res model which demand for high computation power for rendering
	   o Make use of low polygon model to increase the efficiency
	   o Increase the details of low polygon model by storing the normal of the surface in map and texture, which fake the lighting of bumps and dents
	   o Bake the normal map by the hi-res model
	• Use designated software and tools to generate the required map and texture, for examples:
	   o CrazyBump, generates normal maps from photos, height maps, or other normal maps
	   o xNormal, generates normal maps from high-poly and low-poly 3D models
	   o nDo2, generate normal maps using selections and other features
	   o Photoshop, manually paints a normal map using different color channels (RGB), etc.
	• Make appropriate adjustments to the actual map and texture image until the desired results are achieved, for examples:
	   o Fiddle with the settings until it is bumpy enough for the texture
	   o Decide upon the range of colors which finally determine the range of angles on the surface
	   o Change the image to grayscale and fiddle with brightness and contrast to make certain desired details stand out
	   o Perform the above step multiple times to enable different details to stand out, and put the images together in layers with the blend mode set to overlay, etc.

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	• Present the completed map and texture to the development team for comment and seek agreement for adoption 3. Exhibit professionalism • Always create the map and texture with full dedications and professional rather than any alternate judgements • Always carry out the map and texture creation tasks strictly according to requirements, without avoiding any difficulties or problems
Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: • Complete the map and texture creation on time and within budget constraints; and • Deploy fully designated resources and support to complete the map and texture creation tasks
Remark	