

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

Functional Area - Operations Management

Title	Perform script programming
Code	107936L4
Description	This unit of competency applies to all Digital Media Technology (DMT) practitioners who are involved in script programming. Script is a sequence of instruction carried out by another program but not the computer processor directly and is widely used in games for non-player character (NPC) behavior, quest, items, etc. This UoC is concerned with the development of script program modules based on its game design documents, using specified programming engines, and following the organisation's coding standards.
Level	4
Credit	3
Competency	<p>Performance Requirements</p> <p>1. Knowledge for script programming</p> <ul style="list-style-type: none"> • Realize the philosophy and guidelines of the organisation towards game development • Master basic programming knowhow, concepts and techniques • Possess good understanding about the requirements of game specifications prepared by the development team • Master languages engines commonly used for script programming, such as: <ul style="list-style-type: none"> ○ LUA ○ Python ○ C++ ○ BASIC, etc. • Possess good understanding about the essential features of those script programming engines, such as: <ul style="list-style-type: none"> ○ Variable declaration ○ Flow control ○ Mathematical calculation ○ String manipulation ○ Subroutine / function calls, etc. <p>2. Perform script programming</p> <ul style="list-style-type: none"> • Fully explore the advantages offered by those aforementioned script languages, such as: <ul style="list-style-type: none"> ○ Ease of understanding ○ Ease of maintenance ○ Ease of modifications ○ Low resources consumption, etc. • Plan for the usage of script languages facilities for game applications, such as: <ul style="list-style-type: none"> ○ Use variable declaration for dynamic text generation, such as showing names in a dialog ○ Use the initialization functions to define game elements such as: <ul style="list-style-type: none"> ▪ Player status and properties ▪ Player position and facing direction ▪ NPC details and positions ▪ Active spots and item spots, etc. ○ Use string functions for string copy, concatenation, conversion, and so on ○ Use flow control capabilities for NPC dialog, event movement, battle event, etc. ○ Use function calls to access different script files, etc.

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	<ul style="list-style-type: none"> • Judge on the pros and cons in using existing instead of self-developed scripts, based on considerations such as: <ul style="list-style-type: none"> ○ Existing scripts are well tested ○ There may be library support ○ But they can be more complicated for game designers, etc. • Conduct script programming according to the above understandings and considerations, such as: <ul style="list-style-type: none"> ○ Develop script for various NPC behavior ○ Develop script for battle artificial intelligence (AI) ○ Develop script for graphical user interfaces (GUI) ○ Make use of script tools to handle script data such as: <ul style="list-style-type: none"> ▪ Position in 3 dimensional coordinates ▪ Color value ▪ Movement data, etc. • Carry out the following programming stages iteratively until completion of the specific script programming modules: <ul style="list-style-type: none"> ○ Coding ○ Testing ○ Debugging <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Always develop script program modules with full effort and in an efficient and effective manner • Always develop script program modules according to organisational and / or international standards, regardless of those personal preferences
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • Complete the script programming work within required time frame and budget constraints; and • Develop the script program modules based on designated program documents and specifications
Remark	