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

Functional Area - Operations Management

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|---|---|
| Title | Develop BGM and audio effects |
| Code | 107932L4 |
| Description | This unit of competency applies to all Digital Media Technology (DMT) practitioners who are involved in game audio engineering. Both video and mobile phone games require soundtracks and musical pieces to play along while the game progresses. Background music (BGM) and sound effects thus are essential elements in the creation of game applications. This UoC is concerned with the activities and steps in the creation of BGM and audio effects in the capacity of an audio engineer. |
| Level | 4 |
| Credit | 3 |
| Competency | Performance Requirements<br>1. Knowledge for BGM and audio effects<br><br><ul><li>Understand the game specifications and detailed requirements as prepared by the game development team</li><li>Get hold of the resources and support for game BGM and audio effects</li><li>Understand the current industry trend and player preferences towards BGM and audio effects</li><li>Possess good knowledge in various sound effects used in game applications</li><li>Possess the techniques in creating music for different atmospheres</li><li>Possess the techniques in creating melodies for different game events</li></ul><br>2. Develop BGM and audio effects<br><br><ul><li>Gather requirements towards BGM and audio effects as part of the audio engineering tasks</li><li>Explore different sources for creating in-game use music and sound effects, such as:<ul><li>Self-producing</li><li>Purchasing</li><li>Free downloading</li><li>Combination of the above, etc.</li></ul></li><li>Develop music appropriate to the atmosphere of the game application in concern, for examples:<ul><li>Chinese and Western styles</li><li>Science fiction (Sci-fi)</li><li>Mystery, etc.</li></ul></li><li>Develop sound effects to suit situations within the game, such as:<ul><li>Wind breezing</li><li>Door opening</li><li>Gun shooting</li><li>Wood or metal hitting</li><li>Glass breaking, etc.</li></ul></li><li>Develop short melodies for in-game events, for examples:<ul><li>Level up</li><li>Encounter the boss</li><li>Face dangerous situations, etc.</li></ul></li><li>Fine tuning the BMG and audio effects for optimal results, for examples:<ul><li>Use random, modulation (pitch and volume) and attenuation nodes in sound cue to achieve special sound effects for the game characters</li></ul></li></ul> |

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<li>Use reverb volumes to achieve interior and exterior sound effects, and for first person shooter (FPS) or third person shooter (TPS) shooters in games</li>
<li>Select stereo or mono versions for different sound designs, etc.</li>
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• Perform activities related to sound and music for games appropriate to the hardware and platform being used, such as:
<ul>
<li>Digitally synthesize and compress the music such that they can be easily embedded in the game's files and facilitate programming</li>
<li>Arrange music to be accessed and processed by the device's sound chip</li>
<li>In case of desktop computer, create and play game music loops through MIDI sequencing</li>
<li>Compose and store the game music in smaller file format on mobile phone scale, etc.</li>
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• Make appropriate adjustments to the BGM and audio effects created until the desired results are achieved

• Present the completed BGM and audio effects to the game development team for comment and seek agreement for adoption

3. Exhibit professionalism

• Always devote fully to all activities related to the development of BGM and audio effects for the game in concern, and remain open and objective in the process

• Always perform the BGM and audio effects development according to requirements of the game specifications and optimal expected results, and place the interests of game players as the highest priority consideration
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<td>Assessment Criteria</td>
<td>The integrated outcome requirements of this UoC are the abilities to:

• Complete the BGM and audio effects development tasks within time and budget constraints; and

• Complete the BGM and audio effects development work for the game in concern, and fulfilling all requirements specified in the game specifications
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