

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

Functional Area - Operations Management

Title	Manage synchronisation of augmentation data and real life data in AR application
Code	107983L5
Description	This unit of competency applies to all Digital Media Technology (DMT) practitioners who are involved in the development of VR applications. AR augmentation data is in semantic context with environmental elements, with proper synchronisation of augmentation and real life data, users' surrounding real world will become more interactive and meaningful. This UoC concerns with the abilities in managing the synchronisation of both types of data in the capacity of an experienced developer.
Level	5
Credit	3
Competency	<p>Performance Requirements</p> <p>1. Knowledge for synchronisation of augmentation data and real life data in AR application</p> <ul style="list-style-type: none"> • Realize the policies and guidelines of the organisation towards AR application development • Possess proficient programming skills in areas such as: <ul style="list-style-type: none"> ○ Authoring ○ Engineering ○ Quality testing, etc. • Familiar with languages for AR application development, such as: <ul style="list-style-type: none"> ○ Objective-C ○ Swift ○ Java, SQL, PHP, ASP.net, JSP, etc. • Experienced with but not limited to the following software: <ul style="list-style-type: none"> ○ Computer Vision ○ AR ○ Mobile HCI, etc. • Proficient in handling common requisite hardware devices for running AR applications, such as: <ul style="list-style-type: none"> ○ Camera ○ Display ○ GPS module ○ Gyroscope ○ Various VR headset and wearable devices, etc. • Keep abreast of the new developments and technological advancements in the ICT industry <p>2. Manage synchronisation of augmentation data and real life data in AR application:</p> <ul style="list-style-type: none"> • Lead and work with the application development team to design a solution that meets the requirements of the targeted AR application • Design and determine the followings for the AR application in concern: <ul style="list-style-type: none"> ○ The hardware devices and software to be adopted ○ An environment on how virtual and real objects will coexist ○ Ensure augmentation data delivered from AR devices will aid but not distract from data in real environment and situation, etc. • Determine the following AR design issues: <ul style="list-style-type: none"> ○ How to make the augmentation data to become part of the user's context ○ How to detect whether users are interested in the AR content

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

Functional Area - Operations Management

	<ul style="list-style-type: none"> ○ How the system can progressively provide more information in an interactive manner, etc. ● Coordinate and carry out the steps for augmentation and real life data synchronisation, which may include: <ul style="list-style-type: none"> ○ Capture relevant information within the image perceived by the video camera / VR devices (real life data) ○ Identify and locate the desired image appearance ○ Ensure the overlay can be properly matched for the desired image appearance ○ Select an image (augmentation data) to be electronically overlaid on the desired image ○ Direct the system to transform the images to accomplish the appropriate overlay appearance ○ Display the augmented-reality image to the users, etc. ● Strive to achieve the following benefits in the process: <ul style="list-style-type: none"> ○ Allow users to interactively manipulate the images by issuing instructions ○ Create an illusion for enabling users to dynamically alter the images, etc. ● Conduct the above tasks in an iterative design, testing and development sprints to refine the overall product solution ● Report the progress and results to the development team at appropriate time intervals <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> ● Always devote fully to all activities related to the synchronisation of augmentation data and real life data, and follow all prescribed policies and guidelines ● Always perform all tasks related to data synchronisation in an accurate and professional manner, without sacrificing the results due to resources limitations or other considerations
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> ● Complete all data synchronisation management tasks accurately and effectively within time and budget constraints ● Produce appropriate outputs to the satisfaction of the development team and meeting users' expectations
Remark	