MODULE DESCRIPTOR

Module Title

3D Reconstructive Techniques

Reference	CM2121	Version	1
Created	October 2023	SCQF Level	SCQF 8
Approved	August 2017	SCQF Points	15
Amended	July 2022	ECTS Points	7.5

Aims of Module

To provide the student with the ability to design, develop and evaluate interactive experiences that explore the integration of photogrammetry techniques within a game environment.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Distinguish the fundamental principles, tools and techniques concerning 3D reconstruction methods and visualisation.
2	Show proficiency in using software tools and workflow pipelines to process scan data, including cleaning, editing, and preparing ready to use assets.
3	Practice techniques in the creation of accurate, usable models derived from scan data, and suitable application in creative domains with consideration for any interaction.
4	Report on and conclude the effectiveness of different visualisation techniques employed.

Indicative Module Content

Establishing scanning techniques in various industries and fields, and its application to create innovative solutions. Practice with scanning tools and techniques to create high-quality 3D models. Workflow automation from scanning to visualisation. Development of effective tech-art pipelines for quick prototyping. Auto-rigging, animation and interactions using suitable Games Engines. Particles, VFX, and post-processing for interactive experiences.

Module Delivery

Key concepts are introduced and illustrated through lectures. In the laboratories the students will progress through a sequence of exercises to develop sufficient knowledge of scanning techniques and interaction concepts to enable them to complete the practical design and development required.

Module Ref:	CM2121 v1

Indicative Student Workload	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	This coursework consists of a practical experience that integrates 3D artefacts and explores game concepts with a view to integrate learned techniques in the module.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighing of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve a B in C1.
C	The student needs to achieve a C in C1.
D	The student needs to achieve a D in C1.
E	The student needs to achieve an E in C1.
F	The student needs to achieve an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1. Perea, P. and Giner. P. (2017) UX Design for Mobile: Design apps that deliver impressive mobile experiences. Packt.
2. Lidwell, W.; Holden, K.; Butler, J. Universal principles of design : 125 ways to enhance usability, increase appeal, make better design decisions, and teach through design. ; ProQuest (Firm) 2010
3. Wood, B. (2020). Adobe XD Classroom in a Book.
4. Adobe, Tidwell, J., Brewer, C. and Valencia, A. (2020) Designing Interfaces. O'Reilly Media.
5. Frain, B. (2020). Responsive Web Design with HTML5 and CSS. Packt.