

Motion Capture and Digital Scanning

Module Code:	GAV5017-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Media Design and Technology
Subject Area:	Games, Animation and Visual Effects
FHEQ Level:	FHEQ Level 5
Module Leader:	Dr Philip Caton-Rose

Additional Tutors:

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	6
Tutorials	10
Laboratory	12
Directed Study	172

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To attain a broad understanding of the processes of the motion capture sequence, from setting up cameras and capturing data through to editing and transferring capture data to industry standard animation packages

To capture real world three dimensional data through photogrammetry techniques and Laser imaging, detection and ranging equipment

Outline Syllabus

The history of motion capture. What is motion capture? Fitting mocap into the animation pipeline. Marker sets. Setting up, system calibration, capturing and editing data. Applying data to a skeleton in motion builder. Editing in motion builder. Moving into industry standard animation packages. The future of mocap. Facial capture, LiDAR scanning, Photogrammetry.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Critically review theoretical and practical aspects of motion capture technology to further results in the 3D computer animation production process; display understanding of technical terms related to 3D computer animation and motion capture technology.
- 2 Identify viable concepts and realise them using motion capture technology.
- 3 Work in groups to solve problems. Manage both time and resources to an intermediate level in a project based scenario

Learning, Teaching and Assessment Strategy

A series of lectures will deliver core material including concepts, theories and principles on how motion capture can be used in the 3D computer animation production process.

Students` practical learning is supported by laboratory sessions and directed study which enables the development of knowledge on how motion capture equipment should be operated. Students are expected to build specialist skills by working both as an individual working with captured data and as part of a larger group, as an actor, operator and system calibrator.

Assessment is by group coursework.

Students will undergo formative assessment mid-term and received feedback from which to take summative feedback at the end of the module. Students must engage with the formative assessment in order to submit summative assessment at the end of the module.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Formative	Coursework	500 word report: 1st Formative feedback	500 words	%	No
Summative	Coursework	1000 word report: 2nd summative feedback	1000 words	30%	No
Summative	Coursework	Short animation practical project		70%	Yes

		produced in groups. Weekly formative feedback.		
Referral	Coursework	Short animation based on provided motion capture data	100%	Yes

Legacy Code (if applicable)

Reading List

To view Reading List, please go to [rebus:list](#).