Module Definition Form (MDF)

Module code: MOD004972	**Version:** 1 **Date Amended:** 13/Jan/2015

1. Module Title
Emergent Gaming Technologies

2a. Module Leader
Dominic Chapman

2b. School
Cambridge School of the Creative Industries

2c. Faculty
Faculty of Arts, Humanities and Social Sciences

3a. Level
6

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions

Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	BSc (Hons) Computer Gaming Technology		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

The games industry exploits a wide range of interactive hardware within games. These range from the XBOX Kinect, Occulus Rift virtual reality headset, haptic joysticks and accelerometer based devices such as the Wii remote. This module aims to develop knowledge and understanding of the recent developments of Gaming-related hardware, game input and visualisation technology. It is designed to enhance the skillset of students with adding value by extending their ability to use a variety of hardware that relates to gaming and apply techniques and processes to develop games that go beyond the conventional input (e.g. keyboard, mouse) and output (e.g. flat screens) methods or interaction with the player. The topics of this module are by its own nature cutting-edge of Emergent technologies and, as such, the content will vary, but will include two key areas: - Game Input Techniques e.g. Motion Capture using Inertia Measurement Unit Sensors (IMUs), Infrared Cameras (IR), Pressure / Touch sensors. - Visualisation Techniques e.g. Field-of-View displays, Augmented and Virtual Reality. The purpose of this module is to bring the students to the fore-front of developing for, and with, game input and visualisation hardware and thus, is adapted to the advances and the state-of-the-art of the field. The students will have the opportunity to develop Human Computer Interfaces and tangible, haptic User Interfaces for games and the result will enhance their portfolios in yet another aspect of Game Development.

6b. Outline Content

-History of Game Input Devices and Displays
- Motion Capture for Gaming (optical sensors, IMUs, pressure sensors, touch sensors)
- Visualisation using FOV head-mounted displays, Augmented and Virtual Reality
- Student group projects on each of the available hardware

6c. Key Texts/Literature

The reading list to support this module is available at: http://readinglists.anglia.ac.uk/modules/mod004972

6d. Specialist Learning Resources

Students will have access to a specialist game development lab, with the latest industry standard game development tools such as the Unreal Engine, Cry Engine, Unity 3D, 3D Studio Max, Maya, C#, C++ programming tools. A substantial amount of time will be spent researching topics for discussion, therefore access to the internet and Anglia Ruskin University VLE are provided. Access to the Library search services will also be an important resource.
The students will have access to a variety of specialised equipment for Human Computer Interaction such as, but not restricted to, Inertia Measurement Units, Infrared Cameras, FOV Head-mounted Displays and Touchscreens.

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Demonstrate knowledge of the history of gaming related hardware and appreciation of likely future hardware and software developments and their likely impact on gaming technology and design
2	Knowledge and Understanding	Use appropriate research skills to construct and critically review an evidence-based body of literature to follow the developments in Emergent Gaming Technologies
3	Intellectual, practical, affective and transferrable skills	Design and develop gaming systems that exploit relevant emergent technologies
4	Intellectual, practical, affective and transferrable skills	Critically appraise and evaluate the use of Emergent Technologies in a Computer Gaming context.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2019/0	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	12	1-4	Lecture 1 hr x 12 weeks
Other teacher managed learning	24	1-4	Practical 2 hr x 12 weeks
Student managed learning	114	1-4	Private study
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Practical	1-4	100 (%)	Fine Grade	30 (%)
Practical Assignment (development of a game encompassing emergent technologies) Individual / Group work (groups up to 4) with individual report of 2500 words					

In order to pass this module, students are required to achieve an overall mark of 40%.
In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment of as specified above
(b) pass any pass/fail elements