WM9G2-15 Innovative Simulation Design and Development

23/24

Department
WMG
Level
Taught Postgraduate Level
Module leader
Devon Allcoat
Credit value
15
Module duration
2 weeks
Assessment
Multiple
Study locations
University of Warwick main campus, Coventry Primary
Distance or Online Delivery

Description

Introductory description

This module takes learners through the product creation lifecycle of a serious games simulation, from inception of an idea, through to design and development of the product. The subjects covered include systems thinking, design thinking, interactive design, product design, innovation, game theory, user psychology, sales and marketing. Learners apply these concepts and practices into the creation of a serious game or simulation, which will be tailored to meet the needs of the programme and their area of interest.

Module aims

This module aims to give learners a theoretical background to good design practice for a serious game or simulation , as well as practical experience in creating their own. It integrates knowledge from multiple disciplines to provide a holistic view of design.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be

covered. Actual sessions held may differ.

- Concepts and tools in simulation related to game play, game flow, interactive narrative and storytelling.
- Systems thinking, design thinking, interactive design, product design.
- How to design with accessibility in mind.
- Technology for simulations and serious games
- Selling & marketing your product.
- Creation of an innovative serious game simulation.

Learning outcomes

By the end of the module, students should be able to:

- Evaluate the main concepts and processes associated with design & development of a serious game from concept to development and release
- Critically assess relevant tools & techniques associated with serious game simulation design & development
- Conduct user requirements analysis and testing and translate into simulation requisites
- Ideate, design, develop, test and deliver a serious game to suit defined user needs

Indicative reading list

Arnab, S., Lim, T., Carvalho, M. B., Bellotti, F., De Freitas, S., Louchart, S., … De Gloria, A. (2015). Mapping learning and game mechanics for serious games analysis. British Journal of Educational Technology, 46(2), 391–411. Available at: https://0-onlinelibrary-wiley-com.pugwash.lib.warwick.ac.uk/doi/full/10.1111/bjet.12113.

James, A. & Nerantzi, C. (eds) (2019) The power of play in higher education: creativity in tertiary learning. Cham: Palgrave Macmillan. Available at: http://encore.lib.warwick.ac.uk/iii/encore/record/C__Rb3263586.

Lupton, E. (ed.) (2011) Graphic design thinking: beyond brainstorming. New York, New York: Princeton Architectural Press. Available at: http://encore.lib.warwick.ac.uk/iii/encore/record/C__Rb3009508.

Scheiner, C. W. (2015). The motivational fabric of gamified idea competitions: The evaluation of game mechanics from a longitudinal perspective. Creativity and Innovation Management, 24(2), 341–352. Available at: https://0-onlinelibrary-wiley-com.pugwash.lib.warwick.ac.uk/doi/abs/10.1111/caim.12115

Schell, J. (2019a) The art of game design: a book of lenses. 3rd edition. Boca Raton: CRC Available at: http://encore.lib.warwick.ac.uk/iii/encore/record/C__Rb3431594.

Research element

Students research theory as well as practical design and existing simulations and how they are used.

Interdisciplinary

Originally an interdisciplinary module, and as discussed in the subject skills it covers a variety of disciplines from engineering and maths (systems thinking, design thinking, game theory) to psychology (motivational design, pedagogy and consumer psychology), to business skills (product design, sales and marketing).

International

Games and simulations designed all over the world are looked at in the module, including interviews with specialists from the US, Japan, Germany and more.

Subject specific skills

Systems thinking, design thinking, motivational design, product design, game theory, pedagogy and consumer psychology, and sales and marketing.

Transferable skills

Effective design communication, creativity & innovation, team/group working, psychology, communication skills, decision making, critical thinking, problem solving.

Study

Study time

Type	Required
Lectures	20 sessions of 1 hour 30 minutes (20%)
Seminars	5 sessions of 1 hour 30 minutes (5%)
Online learning (scheduled sessions)	20 sessions of 1 hour 30 minutes (20%)
Online learning (independent)	15 sessions of 1 hour 30 minutes (15%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

No private study requirements defined for this module.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A2

	Weighting	Study time
Post-Module Assessment	70%	42 hours
PMA design assignment: Design brief, instruction booklet and accompanying essay. Total word count of 2700, with 1500 expected for the essay.		
In-Module Assessment Review	10%	6 hours
Review - In-module game/simulation review, considering how to utilise it in serious/educational applications, including relevant adaptations. Group work ending with a team-based presentation, marked collectively with equal contribution (10%)		
In-Module Assessment Case Study	20%	12 hours
Project - Students will be grouped and each group will given a briefing, based on which they will need to come up with a simulation design and a marketing strategy. Group work ending with a team-based presentation, marked collectively with equal contribution (20%)		

Assessment group R2

	Weighting	Study time
Simulation Submission	100%	
Design brief, instruction booklet and accompanying essay. Total word count of 4000, with 2500 expected for the essay.		

Feedback on assessment

Written feedback sheets provided as standard.

Availability

There is currently no information about the courses for which this module is core or optional.