



Module Specification

Games Research and Development

Version: 2023-24, v2.0, 19 Jul 2023

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Part 1: Information

Module title: Games Research and Development

Module code: UFCFCK-60-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 60

ECTS credit rating: 30

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: Techniques from within Games Development and Design are rapidly evolving to meet new and ever-increasing demands. In availing cutting-edge Games Technology to consumers at a fraction of previous costs, the demand for these technologies is evolving similarly across cross-disciplinary fields of research, in

academia and real-world applications. As well as the use of gameplay and UX design to illicit familiarity and behaviour change.

This module provides a platform for students to immerse themselves in this rapidly moving stream of innovation, deploying new game-like artefacts across a range of contexts and emerging application areas; forming the basis of a valuable portfolio that provides an entry point not only to research and development within the Games industry itself, but also to cutting-edge academic research and real-world application, via the use of Serious Games.

Outline syllabus: A set of real-life client briefs will be presented forming the basis for a prospective live student project. Students will be expected to identify and propose suitably innovative uses of Serious Games to address these problems; liaising with project stakeholders over the course of the module to bring projects from conceptualisation through pitching, planning, design, development, iteration, testing and delivery stages, to resulting prototype products that suitably meet the key aspects of a given client brief. Dependant on the scope these will be either individually or in multi-disciplinary teams.

Alongside practical implementations that meet problem specifications, students will be expected to establish an in-depth awareness and understanding of academic and industry research pertaining to their chosen area, and to identify and formally document aspects of their project's development (both technical and design) in a suitable format for academic or industry dissemination and publication.

The culmination of the module will see each student or group presenting their serious game artefact and documentation output to project stakeholders and academic staff for formal sign off and discussion. The presentation should address technology, research, design and implementation choices and critically evaluate the overall success of the project across each of these areas.

Indicative content includes:

STAKEHOLDER ENGAGEMENT: problem statements, requirements, contexts, proposals, presentations, milestones, progress meetings, sign-off processes,

documentation

SOFTWARE IMPLEMENTATION: problem formulation, prototyping, system and user interaction design, key sub-systems and components, abstraction, Technical Design Documentation (TDD)

TARGETED DESIGN: UX, UI and gameplay features aligned with audience/user interaction and targets of the client brief, Design Documentation including Games Design Documentation (GDD)

DEVELOPMENT PRACTICE: project management, iterations, workflow, tools and frameworks, algorithms, patterns, pre-existing tools, engines and SDKs.

EVALUATION: evaluating project success, evaluating the development process, academic vs industry success, onward trajectories, playtesting, player/user impact

RESEARCH: locating and disseminating existing research, lateral application of contexts to new subject areas

INNOVATION: recognising and disseminating aspects of new contribution, identifying destination publications

Part 3: Teaching and learning methods

Teaching and learning methods: Students will have the opportunity to situate themselves in the PlayWest studio / Foundry environment beyond the contact hours stated whilst working on client facing projects.

Scheduled (Hybrid Work-based) Learning:

The module will be taught in a self-directed studio environment, overseen by academic staff supervising the development projects and the wider process. Supplementary taught material including topics such as application of Serious Games, project management, research and games development practices / documentation, and supplementary research and writing workshops will be scheduled within these blocks to support project activity.

Regular video logs will be used to document project research and development progress and provide not only focal points for formative feedback throughout the

module, but valuable pieces contributing towards students' graduate portfolios.

Independent Learning:

Independent learning will be self-directed, but scaffolded through agreed project milestone deadlines, project stakeholder meetings, and the opportunity for students to work alongside PlayWest and within the Foundry outside of taught hours, immersed in the studio environment, with immediate access to student 'colleagues' and academic supervisory staff.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Independently disseminate and synthesise research from a range of sources, of industry and academic origin, to propose innovative, viable research and development projects which incorporate technologies, design and other methodologies from games development that address academic or industry stakeholder needs

MO2 Utilise a range of technologies and techniques from games and related fields of study, to contribute innovative viable software artefact(s) that meet stakeholder needs and contribute towards the student's postgraduate portfolio.

MO3 Critically evaluate and reflect on the suitability of their own software artefact(s) in terms of research, design, methodology, and implementation, as well as stakeholder needs and audience/user reception, to produce reports suitable for industry or academic publication.

MO4 Engage with stakeholders and industry experts from the pitching of initial ideas to the presentation of final software artefacts, responding to changing requirements and addressing questions regarding the suitability, design and technical implementation of their projects.

MO5 Effectively explain, discuss and document key technical and design aspects of projects with fellow students, academics and project team members to scaffold the research and development process.

Hours to be allocated: 600

Contact hours:

Independent study/self-guided study = 456 hours

Face-to-face learning = 144 hours

Total = 600

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufcfck-60-m.html) via the following link <https://uwe.rl.talis.com/modules/ufcfck-60-m.html>

Part 4: Assessment

Assessment strategy: The assessment portfolio will document the iterative design and development process and should include:

Artefacts developed during the course of the module to meet the client specification and requirements. This component will be assessed in terms of design, quality, implementation and, ultimately, viability given the context.

Process and milestone documentation detailing the approach, design and methodology.

Minuted project meetings, including meetings with peer and stakeholders. These should provide details of client engagement and decisions made based on this interaction.

Video logs, to visualise and demonstrate project progress

Presentation (Viva).

Presentation to a panel of project stakeholders and interested others. This should summarise the processes and outcomes. A subsequent Q&A session will interrogate key project aspects to assess overall student learning and onward trajectory upon completion of the module.

Note that more than one student may come to work across a single project. In these cases, it will be a requirement that individual strands of research and development

are clearly attributable to a single student throughout, contribution will be individual and distinguishable.

Assessment tasks:**Portfolio (First Sit)**

Description: The assessment portfolio will document the iterative design and development process and should include:

- Artefacts developed during the course of the module to meet the client specification and requirements. This component will be assessed in terms of design, quality, implementation and, ultimately, viability given the context.
- Process and milestone documentation detailing the approach, design and methodology.
- Minuted project meetings, including meetings with peer and stakeholders. These should provide details of client engagement and decisions made based on this interaction.
- Video logs, to visualise and demonstrate project progress

Weighting: 75 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO1, MO2, MO4, MO5

Presentation (First Sit)

Description: Viva presentation (15 mins + 15 min Q and A)

Presentation to a panel of project stakeholders and interested others. This should summarise the processes and outcomes. A subsequent Q&A session will interrogate key project aspects to assess overall student learning and onward trajectory upon completion of the module.

Weighting: 25 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO3, MO4, MO5

Portfolio (Resit)

Description: The assessment portfolio will document the iterative design and development process and should include:

- Artefacts developed during the course of the module to meet the client specification and requirements. This component will be assessed in terms of design, quality, implementation and, ultimately, viability given the context.
- Process and milestone documentation detailing the approach, design and methodology.
- Minuted project meetings, including meetings with peer and stakeholders. These should provide details of client engagement and decisions made based on this interaction.
- Video logs, to visualise and demonstrate project progress

Weighting: 75 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO1, MO2, MO4, MO5

Presentation (Resit)

Description: Viva presentation (15 mins + 15 min Q and A)

Presentation to a panel of project stakeholders and interested others. This should summarise the processes and outcomes. A subsequent Q&A session will interrogate key project aspects to assess overall student learning and onward trajectory upon completion of the module.

Weighting: 25 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Commercial Games Development [Frenchay] MSc 2023-24

Commercial Games Development [Frenchay] MSc 2022-23