**Leeds City College Higher Education**

**BSc(Hons) Game Development & Production**

**& BSc(Hons) Game Programming**

**Module Handbook - Major Project - Level 6**

**2023-2024**



**Introduction**

The major project will provide a period of sustained engagement with a chosen field of expertise and provide the opportunity for students to showcase their specialist practical skills. The project will allow students to develop their practical and theoretical skills by selecting, evaluating and analysing a pertinent issue within the contemporary computer games industry. Through the development of a major project students will prepare and submit a formal written report that engages with the theoretical, contextual and practical considerations of the project and the wider subject of computer games.

**Delivery**

Students are expected to attend all teaching sessions and to submit work on time. It is expected that students should allocate approximately 200 study hours per module (for a 20 credit module). This will include lectures and tutorials, moodle engagement, research and assessment preparation submission.

If for some reason you cannot attend then you must inform your module tutor.

Students are expected to meet submission deadlines. In cases of non/late submission Teesside University regulations and procedures will apply.

**Tutors**

**Jack Wood**

**Research:** Expertise in Visual Effects, Lighting and visual scripting inside Unreal Engine. Also specialise in the eSports industry, understanding the ins and outs of competitive gaming.

**Telephone:** 0113 2167932

**E-mail:**  jack.wood@leedscitycollege.ac.uk **Staff room:** 2.17

*Anna Gardener – lecturer in Professional Development, Employability and Research Skills.*

After completing a BA (Hons) Business Studies, I worked in the automotive industry before moving overseas and teaching English in Japan, Singapore and Hong Kong. Currently studying MSc in Psychology for Mental Health.

I am specialised in academic skills, literacy, ESOL and employability alongside pastoral support.

**Email**: anna.gardener@ucleeds.ac.uk

**Phone**: 0113 235 4455

**Module Specification**

| **1. 1. Factual information** | | | |
| --- | --- | --- | --- |
| **Module title** | Major Project | **Level** | 6 |
| **Module tutor** | Jack Wood | **Credit value** | 40 |
| **Module type** | Taught | **Notional learning hours** | 400 |
|  |  |  |  |
| **2. Rationale for the module and its links with other modules** | | | |
| This module allows students to carry out an in-depth investigation into a game related topic of their choice and develop autonomous and self-directed study skills. Students will research, analyse, plan, design, implement, test and evaluate a solution to a chosen problem within the topic area.  Academic and professional skills in a number of different and individual areas will be challenged and developed during the project. Students will apply skills in data collection, data analysis, drawing meaningful conclusions, planning and organising, researching literature, critical thinking, and research ethics.  Students will apply and improve more specific skills depending on the choice of project and the methodologies required. Typically, this may be focussed upon a game programming project., looking at issues within games and their systems, research upon optimisation and physics or rigours testing of theories and concepts. Choosing a topic of personal interest or based on a contemporary issue can allow students to demonstrate to potential employers that they have current and up-to-date subject knowledge plus transferable skills and attributes that they are looking for. | | | |
|  | | | |
| **3. Aims of the module** | | | |
| This module will:   * Provide an opportunity to demonstrate the skills required for managing and implementing a complex project, * Conduct a review of the available literature to support the conducting of a complex project * Further develop skills to establish the aims and objectives of a self-devised complex project, * Further develop skills in designing and implementing a solution to a complex problem * Develop effective techniques in finding solutions to problems associated with the computing and digital sector, * Foster independent learning over a sustained project, * Foster effective project planning and time management skills, * Further develop a wide range of skills in area of specialism, * Further develop a wide range of research skills. * Review the development of a solution to a complex project | | | |
|  | | | |
| **4. Pre-requisite modules or specified entry requirements.** | | | |
| None | | | |
|  | | | |
| **5. Is this module compensatable?** | | | |
| No | | | |
|  | | | |
| **6. Are there any PSRB requirements regarding the module?** | | | |
| No | | | |

| **7. Intended Learning Outcomes** | | | |
| --- | --- | --- | --- |
| **A. Knowledge and understanding** | | **Programme Learning Outcomes(s) this maps against** | **Learning and Teaching strategy** |
| 1. Critically evaluate the theories and concepts. 2. Analyse and apply ethical and legal considerations. 3. Critically evaluate the processes and lifecycle of a development project. | | A1  A3  A4 | Learning and teaching will take the form of lectures, discussions, practical workshops, and independent research/study.    Lectures covering further development of skills in project management, such as to establish the aims and objectives of a self-devised complex project.    Lectures covering further development of skills research gathering, critical analysing, summarising and synthesising, using a range of research material appropriate to the project.    Project dependent small group workshops will discuss ethical and legal considerations relevant to a range of projects.    Workshops will also concentrate on supporting students to develop specific knowledge and understanding required within their individual projects. Supervisor meetings will support students with managing their projects.    Support to allow students to work autonomously, with structured guidance from tutor and agreed milestones. |

| **B. Cognitive Skills** | | **Programme Learning Outcomes(s) this maps against** | **Learning and Teaching strategy** |
| --- | --- | --- | --- |
| 1. Appraise and evaluate findings to arrive at independent judgements. | | B4 | Learning and teaching will take the form of practical workshops, discussions, presentations, and independent research/study.    Workshops will also concentrate on supporting students to develop specific skills required to analyse the problem, looking at scope and purpose of the investigation, intended outcomes, methods of approach, resource requirements, agreed project specification, limitations, and ethical considerations.    Project dependent small group workshops will concentrate on further development of skills in designing and implementing a solution to a complex problem and developing effective techniques in finding solutions to problems associated with the computing and digital sector.    Support to allow students to work autonomously, with structured guidance from tutor and agreed milestones. |

| **C. Practical and professional skills** | | **Programme Learning Outcomes(s) this maps against** | **Learning and Teaching strategy** |
| --- | --- | --- | --- |
| 1. Select and use a range of advanced and specialist skills. 2. Confidently develop software skills to solve complex problems. 3. Adopt & use a range of appropriate pipelines. | | C1  C2  C4 | Learning and teaching will take the form of practical workshops, discussions, presentations, and independent research/study.    Workshops will also concentrate on supporting students to develop specific skills required to analyse the problem, looking at scope and purpose of the investigation, intended outcomes, methods of approach, resource requirements, agreed project specification, limitations, and ethical considerations.    Project dependant small group workshops will concentrate on further development of skills in designing and implementing a solution to a complex problem and developing effective techniques in finding solutions to problems associated with the computing and digital sector.    Support to allow students to work autonomously, with structured guidance from tutor and agreed milestones. |

| **D. Key transferable skills** | | **Programme Learning Outcomes(s) this maps against** | **Learning and Teaching strategy** |
| --- | --- | --- | --- |
| 1. Act autonomously with limited supervision or guidance within agreed guidelines. 2. Engage with emerging technologies. 3. Demonstrate problem solving skills, innovation and independent thinking. | | D2  D3  D4 | Lectures will further develop numerical and statistical skills relating to gathering, analysing and presenting data in the context of a research project.    Support to allow students to work autonomously, with structured guidance from tutor and agreed milestones, in developing their own learning relating to a range of knowledge and skills including numerical and statistical methods, and creativity. Students will have the opportunity to demonstrate these skills through their projects. |

| **8. Indicative content** | | | | |
| --- | --- | --- | --- | --- |
| **Where appropriate, build on and enhance existing knowledge. Support students to contextualise new knowledge to individual projects.**  **Project management topics**   * Key concepts, tools, techniques and approaches to project management; time management, resource management, stakeholders, frameworks, and methodologies * Project management essentials: planning; scheduling; estimating; risk management; resource allocation; monitoring and control; closing projects; use of a PC-based project management tool. * Professional approach to project development. * Planned Timeline of Project Milestones.   **Research management topics**   * Research: Methods of research, instruments of research, analysing the data. * Process: Implementing the framework, periodic review, adapting to change. * Evaluate: Evaluating the solution, evaluating the project. critical discussion of results, conclusions and recommendations. * Ethics: Ethics in research, authorisation/approval process, informed consent, securing data, specific ethical issues in computing disciplines   **Software/Systems development topics**   * Analysis of the problem: scope and purpose of the investigation, intended outcomes, methods of approach, resource requirements, agreed project specification, limitations, ethical considerations. * Quality issues: what is quality; quality assurance; quality control; quality plans; configuration management and version control. | | | | |
| **9. Assessment Strategy, assessment methods, their relative weightings and mapping to module learning outcomes** | | | | |
| **Assessment Strategy:**  A range of formative and summative assessment methods will be used. Ongoing formative assessments will take place during the teaching of the module, where this relates to practical work. The submission of draft work equating to no more than 25% of the prescribed assessment will be expected no later than two weeks before the submission date. There will be two summative assessment components and an overall average of 40% is required in order to successfully pass the module.  In addition to the support of an academic supervisor, students will be assigned a speciality specific tutor to support the technical aspects of the design and development of the project. Projects are expected to follow a specialism of the chosen discipline, either Game Development, Game Art or Game Programming.  The expectation of this module is that the work is your own, including assets used and that the finished piece adheres to contemporary EDI and is a fair representation of any characters, people or narratives.  This module also will engage with the Universities Ethical Board to ensure research is done within the ethical parameters set out in UC Leeds policies | | | | |
| **Assessment Task** | **Weighting** | **Week Submitted** | **Grading (Pass/Fail/%)** | **Module Learning Outcome(s) the assessment task maps to** |
| **Task 1 - Design and Practical Portfolio**  (7000 words eq).  Artefact created throughout Module including portfolio of planning and any supporting documentation. | 70% | Week 26 | 40 | 2,5,6,7,8,10 |
| **Task 2 - Written Reflection**  (3000 words eq).  Including methodology, discussion, and conclusions/recommendations. | 30% | Week 30 | 40 | 1,3,4,9 |
| **10. Teaching staff associated with the module** | | | | |
| **Name and contact details:** | | | | |
| Jack Wood | | [jack.wood@ucleeds.ac.uk](mailto:jack.wood@ucleeds.ac.uk) | | |
| Anna Gardener | | anna.gardener@ucleeds.ac.uk | | |

| **11. Key reading list** | | | | |
| --- | --- | --- | --- | --- |
| **Author** | **Year** | **Title** | **Publisher** | **Location** |
| Judith Bell and Stephen Waters | 2018 | Doing Your Research Project: A guide for first-time researchers | McGraw-Hill Education (UK). |  |
| Bryan Greetham | 2019 | How to write your undergraduate dissertation | Macmillan International |  |
| Rowena Murra | 2017 | How to write a thesis | McGraw-Hill Education (UK). |  |
| **12 Other indicative test (e.g. websites)** | | | | |
| Macnish, K. and van der Ham, J., 2020. Ethics in cybersecurity research and practice. Technology in Society, 63, p.101382.  Sharp, H. and Hall, T., 2016. Agile Processes in Software Engineering and Extreme Programming: 17th International Conference, XP 2016, Edinburgh, UK, May 24-27, 2016, Proceedings (p. 334). Springer Nature.  Stol, K.J. and Fitzgerald, B., 2018. The ABC of software engineering research. ACM Transactions on Software Engineering and Methodology (TOSEM), 27(3), pp.1-51  Zawacki-Richter, O., Marín, V.I., Bond, M. and Gouverneur, F., 2019. Systematic review of research on artificial intelligence applications in higher education–where are the educators?. International Journal of Educational Technology in Higher Education, 16(1), pp.1-27. | | | | |

**Scheme of Work**

| **Week** | **W/C Date** | **Topic** | **Advanced Reading** | **Assessment Deadline** |
| --- | --- | --- | --- | --- |
| **SEMESTER 2 STARTS** | | | | |
| 16 | 22-Jan-24 | **Legal and ethical issues to consider within Games**   * Representation * Copyright * Intellectual Property Rights * Trademarks * Image rights * licensing agreements * Publishing agreements   **Major Project Management**   * Resource and task management strategies in an individual project development context. * Managing Time * Developing practical work alongside a dissertation   **Supervisor application**   * Choosing the right supervisor for your project * Who will help you best? * What is a Supervisor Meeting? |  |  |
| 17 | 29-Jan-24 | **Overview of techniques in the production of advanced game assets.**   * 3D Modelling * Animation * Texturing * level design * games engines * Sound/Music   **Supervisor Reveals**   * Students will be split into their supervisors |  |  |
| 18 | 5-Feb-24 | **Practical Project Consultation**   * Planning a major project   **Presentation of best practice when developing practical game projects**   * Ethics * Workflow * Level design * Interest curve * Flow * Mechanics * Characterisation   **Advanced techniques in the production of advanced game assets.**   * 3D Modelling – PBR, baking, workflows * Animation – matinee, particle effects, walk cycle, idle animation |  |  |
| **READING WEEK** | | | | |
| 19 | 19-Feb-24 | **Planning the Practical Project**   * Scope * Scale * Making a Trello to visually show everything that needs to be made, down to the last 3D model   **Writing the Main Body of the Dissertation**   * What is the Main Body? * Where does it fit in the structure? * Bridge/ introduction * Methodology * Examples |  |  |
| 20 | 26-Feb-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 21 | 4-Mar-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 22 | 11-Mar-24 | **PLAYTEST WEEK**   * Students participate in a class wide playtest on each other's project to help gather research.   **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 23 | 18-Mar-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 24 | 25-Mar-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| **EASTER HOLIDAY** | | | | |
| 25 | 15-Apr-24 | **PLAYTEST WEEK**   * Students participate in a class wide playtest on each other's project to help gather research.   **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 26 | 22-Apr-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 27 | 29-Apr-24 | **PLAYTEST WEEK**   * Students participate in a class wide playtest on each other's project to help gather research.   **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 28 | 6-May-24 | **Dissertation Consultation**   * Working with student to check progress and provide guidance |  |  |
| 29 | 13-May-24 | **Summative Submission Task 1 Design and Practical Portfolio** |  | Summative Submission Task 1: Design and Practical Portfolio  19/05/24 |
| 30 | 20-May-24 | **Summative Submission Task 2**  **Written Reflection** |  | Summative Submission Task 2:  Written Reflection  26/05/24 |





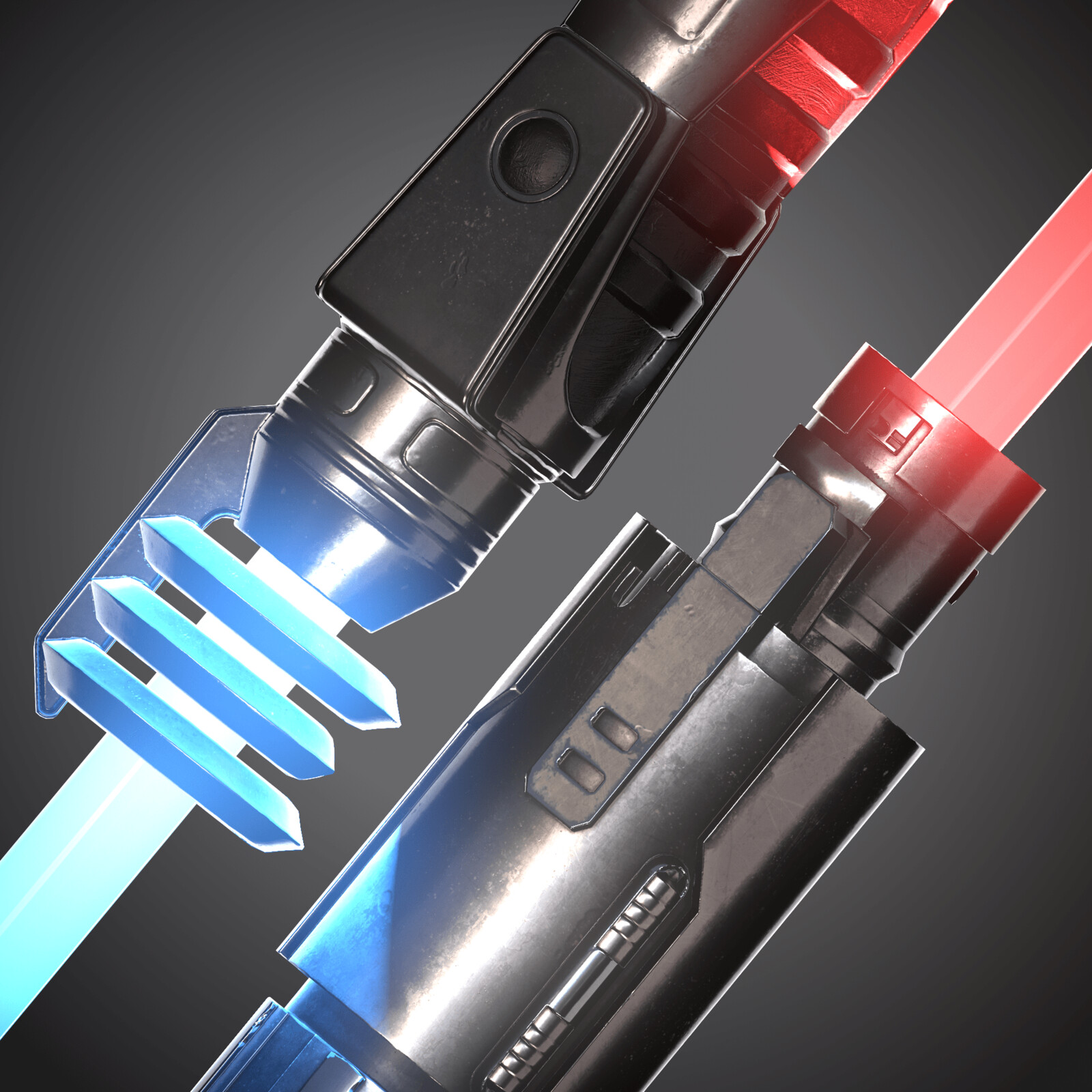
| **COURSE TITLE** | BSc(Hons) Game Development & Production BSc(Hons) Game Programming | | |
| --- | --- | --- | --- |
| **MODULE TITLE** | Major Project | | |
| **TITLE OF ASSIGNMENT** | Design and Practical Portfolio | | |
| **DEADLINE DATE FOR SUBMISSION BY STUDENTS** | | | 19/05/24 |
| **SUBMISSION LOCATION** | | Blackboard | |
| **ASSESSOR(S)** | | Jack Wood | |
| **NOTES FOR STUDENTS**  See brief below | | | |
| **LEARNING OUTCOMES ASSESSED**  **A1:** Critically evaluate theories and concepts. **A3:** Analyse and apply ethical and legal considerations. **C1:** Select and use a range of advanced and specialist skills. **C2:** Confidently develop software skills to solve complex problems. **C4:** Adopt & use a range of appropriate pipelines. **D2:** Act autonomously with limited supervision or guidance within agreed guidelines. **D3:** Engage with emerging technologies.  **D4:** Demonstrate problem solving skills, innovation and independent thinking. | | | |

**Major Project (40 Credits)**

**Task 1 - Design and Practical Portfolio**

**Practical Project Summative Submission Date:** 19/05/24

As part of the academic process, you are required to undertake a final major project; this will include two elements, a practical project and a piece of academic writing. This written work must be made in conjunction with your practical work, as the practical work will feed directly into your academic writing.

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**Design and Practical Portfolio - Task 1 (70%)**

Produce a piece of practical work in response to a contemporary issue or development technique in the computer games industry. This could be a 3D Model, a game audio project, a character design and model. Your tutor will discuss the focus of your practical response with you during the early stages of the module. A Video should also be produced showcasing the project if appropriate.

**The Practical Project should include the following:**

* Appropriate file format/s for the project itself.
* Video showcasing the project if appropriate.

**Submission Location: Blackboard**

**YOURLASTNAME\_YOURFIRSTNAME\_PROJECT**

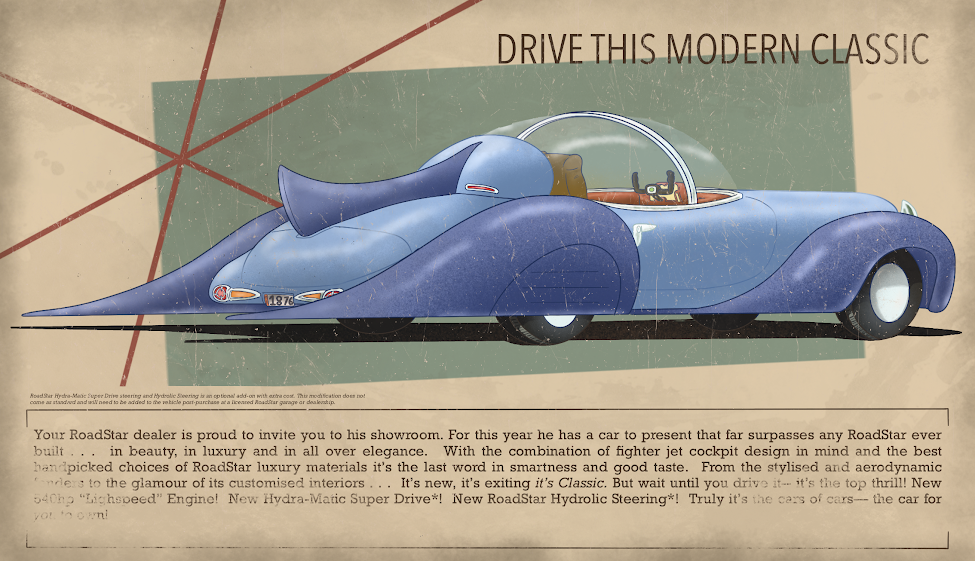
| **COURSE TITLE** | BSc(Hons) Game Development & Production BSc(Hons) Game Programming | | |
| --- | --- | --- | --- |
| **MODULE TITLE** | Major Project | | |
| **TITLE OF ASSIGNMENT** | Written Reflection | | |
| **DEADLINE DATE FOR SUBMISSION BY STUDENTS** | | | 26/05/23 |
| **SUBMISSION LOCATION** | | Blackboard | |
| **ASSESSOR(S)** | | Anna Gardener | |
| **NOTES FOR STUDENTS**  See brief below | | | |
| **LEARNING OUTCOMES ASSESSED**  **A1:** Critically evaluate the theories and concepts. **A4:** Critically evaluate the processes and lifecycle of a development project. B4**:** Appraise and evaluate findings to arrive at independent judgements. D3**:** Engage with emerging technologies. | | | |

**Major Project (40 Credits)**

**Task 2 - Written Reflection**

**Written Reflection Summative Submission Date:** 26/05/23

As part of the academic process, you are required to undertake a final major project; this will include two elements, a practical project and a piece of academic writing. This written work must be made in conjunction with your practical work, as the practical work will feed directly into your academic writing.

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**Written Reflection - Task 2 (30%)**

Produce a 3000-word written reflection that reflects on your investigation relating to your practical work. This should include test results, methodology, discussion and conclusion/recommendations. This must be double sided, one and a half line spaced, include relevant citations (Harvard System, Cite Them Right 11th Edition) and illustrations/images when needed.

**Equivalent Word Count 3000**

**The Written Reflection should:**.

* Make full use of screenshots to illustrate the points you make in your written work.

**Submission Location: Blackboard**

**YOURLASTNAME\_YOURFIRSTNAME\_REFLECTION**

**Assessment Criteria**

| **Level 6 (Generic)** | **Contextualised** |
| --- | --- |
| **90%-100%**  Exceptional work. Presentation is logical, error-free and, where appropriate, creative. There is an in-depth understanding of issues/problems and excellent critical/deep engagement with the material and concepts involved. Very skilful interpretation of data. Arguments, ideas and, where appropriate, solutions are presented coherently and fully underpinned by thorough research and reading. | **90%-100%**  Exceptional work. Presentation of work is logical, error-free and, where appropriate, creative. There is an in-depth understanding of issues/problems and excellent critical/deep engagement with the material and concepts involved. Very skilful interpretation of data. Arguments, ideas and, where appropriate, solutions are presented coherently and fully underpinned by thorough research and reading. |
| **80%-89%**  Outstanding work with presentation of a very high standard. There is comprehensive understanding of key concepts and knowledge and clear evidence of critical analysis and insight. Accurate interpretation of data with arguments, ideas and solutions presented effectively and based on strong research and reading. | **80%-89%**  Outstanding work with presentation of a very high standard. There is comprehensive understanding of key concepts and knowledge and clear evidence of critical analysis and insight. Accurate interpretation of data with arguments, ideas and solutions presented effectively and based on strong research and reading. |
| **70%-79%**  Extremely good work with presentation of a high standard. Demonstrates an excellent knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some effective critical and analytical application of relevant research and reading. | **70%-79%**  Extremely good work with presentation of a high standard. Demonstrates an excellent knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some effective critical and analytical application of relevant research and reading. |
| **60%-69%**  The work is very good, logically structured and presented to a high standard. Demonstrates a strong knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some critical and analytical application of relevant research. | **60%-69%**  The work is very good, logically structured and presented to a high standard. Demonstrates a strong knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some critical and analytical application of relevant research. |
| **50%-59%**  The work is clearly presented and logically structured. It shows evidence of a sound understanding of the topic and addresses major issues. The work contains some discussion and interpretation of relevant perspectives although further development of the arguments presented would be beneficial. There are examples of critical reflection and evidence of application of theory to practice. | **50%-59%**  The work is clearly presented and logically structured. It shows evidence of a sound understanding of the topic and addresses major issues. The work contains some discussion and interpretation of relevant perspectives although further development of the arguments presented would be beneficial. There are examples of critical reflection and evidence of application of theory to practice. |
| **40%-49%**  Adequate presentation. The work is descriptive and/or lacks critical analysis where required but is relevant with limited though sufficient evidence of knowledge and understanding. There is some evidence of reading although arguments/ proposals/solutions often lack coherence and may be unsubstantiated by relevant source material or partially flawed. Links to practice are made where appropriate. | **40%-49%**  Adequate presentation. The work is descriptive and/or lacks critical analysis where required but is relevant with limited though sufficient evidence of knowledge and understanding. There is some evidence of reading although arguments/ proposals/solutions often lack coherence and may be unsubstantiated by relevant source material or partially flawed. Links to practice are made where appropriate. |
| **30%-39% – Fail**  Poorly structured, incoherent and wholly descriptive work. Evidence of a weak knowledge base with some key aspects not addressed and use of irrelevant material. Flawed use of techniques. Limited evidence of appropriate reading and no evidence of critical thought. Little reference to practice where appropriate. | **30%-39% – Fail**  Poorly structured, incoherent and wholly descriptive work. Evidence of a weak knowledge base with some key aspects not addressed and use of irrelevant material. Flawed use of techniques. Limited evidence of appropriate reading and no evidence of critical thought. Little reference to practice where appropriate. |
| **20-29% – Fail**  Very poorly structured, incoherent and wholly descriptive work. Evidence of a very weak knowledge base with many key omissions and much material irrelevant. Use of inappropriate or incorrect techniques. Very little evidence of appropriate reading and no evidence of critical thought. No links to practice where appropriate. To obtain a mark of 20% the work must show evidence of a genuine attempt to engage with the assessment requirements and with the subject matter. | **20-29% – Fail**  Very poorly structured, incoherent and wholly descriptive work. Evidence of a very weak knowledge base with many key omissions and much material irrelevant. Use of inappropriate or incorrect techniques. Very little evidence of appropriate reading and no evidence of critical thought. No links to practice where appropriate. To obtain a mark of 20% the work must show evidence of a genuine attempt to engage with the assessment requirements and with the subject matter. |
| **0-19 % - Fail**  The work is extremely poorly structured and presented. It demonstrates no real knowledge or understanding of key concepts and principles. Much material is irrelevant, incorrect or omitted. No evidence of critical thought. No effective use of supporting material. No links to practice where appropriate. Not a genuine attempt to engage with the assessment requirements and/or subject matter. | **0-19 % - Fail**  The work is extremely poorly structured and presented. It demonstrates no real knowledge or understanding of key concepts and principles. Much material is irrelevant, incorrect or omitted. No evidence of critical thought. No effective use of supporting material. No links to practice where appropriate. Not a genuine attempt to engage with the assessment requirements and/or subject matter. |