INDIVIDUAL SPECIALIST COMPUTING PROJECT - PROPOSAL (TECHNICAL REPORT)

Version 1.3
Computing
COMP2x0

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Introduction

For this assignment, you will prepare a 750-word proposal. This will describe an original computing artefact and a form of practice-based research.

Whether you intend to apply to join the industry or pursue roles further afield, employers will want to know what you can do and what value will you bring to them. People care about concrete illustrations of your skills and experience, so it is important to develop comfort by enriching and demonstrating your projects. Hence, the proposal and computing artefact assignments frame how you communicate a potential portfolio piece.

"A good portfolio is essential for getting your first game industry role, and not just for artists! You will be expected to show examples of your work when applying for roles at a games studio, whether you're a game artist, programmer, designer, or any other dev role!' "

— Aardvark Swift

There is **ONE** key learning outcomes:

LO5. **Develop** an argument on a topic using appropriate research methods, primary and secondary sources, and academic conventions.

As such, you will conduct research. You will need to consider prior art and how this informs the design of your artefact. You will also develop an *argument*. By argument, we mean "an evidence-based defence of a non-obvious position on a complex issue". This is **not** a traditional academic essay. Do not take a formal approach and do not restrict yourself to academic sources. You are laying the foundation for practice-based research. That is "an original investigation in order to gain new knowledge by means of practice and the outcomes of that practice". Typically, tinkering with your artefact, experimenting with ways of doing things, and comparing outcomes.

The assignment is formed of these parts:

(A) **Prepare** a brief proposal which will:
- (i) **outline** the computing artefact you intend to create;
- (ii) **align** the computing artefact with the specialism you have chosen and its sequence of activities;
- (iii) **identify** the broader context and potential application of your computing artefact;
- (iv) **critique** prior art and research related to the artefact;
- (v) **illustrate** your work plan, concerning milestones;
- (vi) **justify** that the computing artefact is feasible in scope;
- (vii) and **defend how** your work constitutes practice-based research.

Poster demonstrations are a common way of presenting computing projects and will help you to develop communication skills which are useful in interview contexts, especially when showcasing your portfolio work to potential employers.

You should discuss what constitutes appropriate practice-based research with your supervisor. An example of practice-based research is experimenting with and comparing different solutions and techniques to a given problem. This will vary by area of specialisation. For examples, see:

https://snowhydra.wordpress.com/2015/06/01/unity-performance-testing-getcomponent-fields-tags/

https://www.gamasutra.com/blogs/JakobRasmussen/20160427/271188/Are-Behavior-Trees-a-Thing-of-the-Past.php

Assignment Setup

This assignment is a **reporting** task. There is no template repository for this assignment; but, you may create one if you wish. You can use any editor of your choice, but you are expected to produce a **README.md** containing your proposal. You will need to submit a link to the repository containing your proposal to LearningSpace by the deadline shown on MyFalmouth.

Important: You will need to submit a single-page .pdf version of your poster to the LearningSpace and also present the poster in the timetabled session in order to pass the assignment. Failing to upload work to the LearningSpace or missing the timetabled poster demonstration will result in a non-submission being recorded, and penalties being applied.

Part A

Part A consists of a **single formative submission**. This work is **individual** and will be assessed on a **criterion-referenced** basis. Please see the rubric at the end of the assignment brief for details. Answer the following questions to pass:

- What is the high concept of your computing artefact?
- How does your artefact fit into your chosen specialism?
- Why is this artefact needed?
- What related work or prior art already exists?
- How will you manage the research and development process?
- What functionality will your component include and is the scope appropriate for the development time available?
- How will you address the practice-based research requirement?

To complete Part A, prepare your proposal using any word processing tool. Please include supplementary materials including images, diagrams, code excerpts, and animations, as appropriate. Please use version control for your work, creating a README.md file in the root of the repository.

Submit a link to the repository to the LearningSpace by the deadline specified on MyFalmouth.

Then show the proposal to your **tutor** in the timetabled assessment and discuss the proposal. You will receive immediate **informal feedback** from your tutor.

You will receive **formal feedback** from your **tutor** up to three weeks following the session.

FAQ

- **What is the deadline for this assignment?**
  Falmouth University policy states that deadlines must only be specified on the MyFalmouth system.
- **What should I do to seek help?**
  You can email your tutor for informal clarifications. For informal feedback, make a pull request on BitBucket.
- **Is this a mistake?**
  If you have discovered an issue with the brief itself, the source files are available at:

  https://github.com/Falmouth-Games-Academy/bsc-assignment-briefs
  .
  Please make a pull request and comment accordingly.

Marking Rubric

This rubric applies to the assessment of the proposal itself. This work is invididual. In order to pass (i.e., receive a mark of 40 or more), you must attain the learning outcome; and in doing so, demonstrate adequate research and information skills.

Criterion	Weight	Insufficient	Adequate	Competent	Very Good	Excellent	Outstanding
Competency Threshold	30%	At least one part is missing or is unsatisfactory.	Submission is timely and satisfactory. Enough work is available to hold a meaningful discussion. No breaches of academic integrity. The student demonstrates adequate research and information skills.				
RESEARCH: Description of Computing Artefact	10%	No description of the software architecture No attempt to describe the design of the software.	Little insight into the software architecture.	Some insight into the software architecture. There is a description of the key classes.	Much insight into the software architecture. There is a description of the key classes with reference to their functionality.	Considerable insight into the software architecture. There is a description of the key classes with reference to their functionality. The data structures and design patterns have been described with context to their application.	Significant insight into the software architecture. There is significant evidence of software design
RESEARCH: Work Plan	10%	No work plan.	Little insight into software development life-cycles.	Some insight into software development life-cycles. The proposed development method is somewhat feasible.	Much insight into software development life-cycles. The proposed development method is feasible.	Considerable insight into software development life-cycles. The proposed development method is robust. Working methods are justified.	Significant insight into software development life-cycles. The proposed development method is very robust. Working methods are justified effectively.
RESEARCH: Appropriateness of Design	10%	The design is weak and/or inappropriate.	Knowledge of system architectures relevant to the specialism is evident, but there are considerable flaws.	Knowledge of system architectures relevant to the specialism is evident and have been incorporated into the design, but there might be many flaws.	Analysis of system architectures relevant to the specialism is evident and have been incorporated into the design, but there might be several issues to highlight.	Analysis of system architectures relevant to the specialism is supported by scholarship and have been incorporated into the design, but there might be a few issues to highlight.	Review and synthesis of system architectures relevant to the specialism is supported by scholarship and has been incorporated into the design, and there is little to critique.

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Criterion	Weight	Insufficient	Adequate	Competent	Very Good	Excellent	Outstanding
RESEARCH: Review of Prior Art	10%	No proposed context for doing practice-based research.	The proposed context for doing practice-based research is broadly appropriate.	The proposed context for doing practice-based research is appropriate. The proposed research context strives to go beyond analysis of the artefact.	The proposed context for doing practice-based research is appropriate, and leverages the computing artefact well. The proposed research context strives to go beyond analysis of the computing artefact.	The proposed context for doing practice-based research is sound, and is well suited to the computing artefact being developed. The proposed research context is somewhat ambitious.	The proposed context for doing practice-based research is sound, and the computing artefact being developed served as an ideal platform for its timely completion. The proposed research context is ambitious.
RESEARCH: Defense of Argument	10%	There is no argument, or it is not defended.	A claim is made on an issue.	There is a defence of a non-obvious position on an issue, deriving from the practice.	There is a defence of a non-obvious position on a complex issue, deriving from practice.	There is a strong defence of a non-obvious position on a complex issue, deriving from practice-based research.	There is a very strong defence of a non-obvious position on a complex issue, deriving from practice-based research.
RESEARCH: Appropriateness of Practice-Based Research Methods	10%	There is no practice-based research.	The work implies the application of practice-based research methods, but they are not articulated with sufficient clarity.	The work somewhat describes the application of practice-based research methods. The choice of methods is broadly appropriate.	The work describes the application of several practice-based research methods with clarity. The choice of methods is appropriate. There is a combination of primary and secondary methods.	The work reflects upon the application of several practice-based research methods. The choice of methods is appropriate and has some justification. There is a combination of primary and secondary methods.	The work critically reflects upon the application of several practice-based research methods The choice of methods is appropriate and has much justification. There is a combination of primary and secondary methods.
RESEARCH: Application of Academic Conventions	10%	No evidence for partial mastery of academic conventions. The reference section is missing. There is no structure.	Some evidence for partial mastery of academic conventions. There is a little structure. A few sentences and paragraphs are well constructed. The reference section is incomplete and/or malformed.	Much evidence for partial mastery of academic conventions. There is some structure. Some sentences and paragraphs are well constructed. Most in-text citations and quotations are correct. The reference section is complete and mostly well-formed in Harvard, ACM or IEEE format.	Some evidence for mastery of academic conventions. There is much structure, highlighting the argument. Most sentences and paragraphs are well constructed, clearly articulating points in the argument. All in-text citations and quotations are correct. The reference section is complete and entirely well-formed in Harvard, ACM or IEEE format.	Much evidence for mastery of academic conventions. There is considerable structure, bolstering the argument. Most sentences and paragraphs are well constructed, clearly articulating and signposting points in the argument. All in-text citations and quotations are correct. The reference section is complete and entirely well-formed in Harvard, ACM or IEEE format.	Considerable evidence for mastery of academic conventions. There is significant structure, supporting the logical flow of the argument. Nearly all sentences and paragraphs are well constructed, emphasising points in the argument. All in-text citations and quotations are correct. The reference section is complete and entirely well-formed in Harvard, ACM or IEEE format.