

DEVELOPMENT REPORT

Version 1.0
Computing
COMP140

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Introduction

In this assignment, you will write a proposal and create a poster.

This proposal will contain a plan for your creative computing project highlighting your areas of research and outlining the features and planned components. This should be written using a word processor and delivered as a **PDF** document..

The poster will summarise the report, and will capture some of the key design decisions in the hardware and software development. This should be written in the provided **Powerpoint** template. This assignment is formed of several parts:

Hacker definition: "A person who enjoys exploring the details of programmable systems and stretching their capabilities, as opposed to most users, who prefer to learn only the minimum necessary."

— Jargon File

Assignment Setup

Fork the GitHub repository at:

<https://gamesgit.falmouth.ac.uk/projects/COMP140>

Use the existing directory structure and, as required, extend this structure with sub-directories. Ensure that you maintain the readme.md file.

Part A

Part A is a **single formative submission** of a **1 page** proposal for a novel game/experience **and** controller.

- i. **describe** the game design that will form the basis for your interface;
- ii. **illustrate** basic research into electronic component and physical form factors for controllers;
- iii. **analyse** the design of the controller in detail;
- iv. **list** the key electronic components of your controller
- v. and **list** the key user stories.

To complete part A, write your proposal and then show this to a tutor at the **proposal review** sessions in **Week 3**

You will receive immediate **informal feedback** from your **tutor**.



Arduino is an open-source prototyping platform based on easy-to-use hardware and software.

Part B

Part B is a **single formative submission** of a **draft digital poster**.

The poster must contain the following

- i. Detail the hardware of the control system
- ii. Detail the design of the control system
- iii. Detail the elements of the game/experience
- iv. UML Diagram of the software architecture

To complete part B, write your draft poster and show this to a tutor at the online **Poster Demo** session in **Week 9**

You will receive immediate **informal feedback** from your **peers** and your **tutor**.

Part C

Part XCis a **single summative submission**. You should download your project from GitHub, and submit a **zip file** which contains the following

- (A) The project proposal
- (B) The final version of your poster

Part D

To complete Part D please provide a digital poster (PDF) and present it containing a link to your alternative controller and game/ experience demo video.

You should also share your poster with your peers in the **Report Peer Review** session in **Week 10**.

You will receive **immediate informal** feedback from your **tutor**.

Additional Guidance

It is important to keep up with the formative deadlines as receiving and then acting on the feedback will not only enable you to achieve a high grade, it will enable you to make a better project.

When it comes to the poster, you should endeavour to limit the amount of text, you always should favour images over text. If you use text, please ensure the font size is legible on the printed out poster.

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 GitHub.

- **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 raise an issue and comment accordingly.

Additional Resources

- Wilkinson, K. and Petrich, M. (2014) *The Art of Tinkering: Meet 150 Makers Working at the Intersection of Art, Science & Technology*. Weldon Owen: London.
- Alicia Gibb. *Building Open Source Hardware: DIY Manufacturing for Hackers and Makers*. Addison Wesley, 2014.
- Jeremy Blum. *Exploring Arduino: Tools and Techniques for Engineering Wizardry*. John Wiley, 2013.
- Kelly, K. (2014) *Cool Tools: A Catalogue of Possibilities*. Cool Tools.
- <https://www.sitepoint.com/heuristic-evaluation-guide/>
- <https://www.usability.gov/how-to-and-tools/methods/heuristic-evaluation.html>
- <https://github.com/arduino/Arduino/blob/master/.gitignore>
- <https://gitignore.io/>

Marking Rubric

All submissions and assessment criteria for this assignment are individual.

Criterion	Weight	Near Pass	Adequate	Competent	Very Good	Excellent	Outstanding
Basic Competency Threshold	30%	At least one part is missing or is inadequate.	Adequate ability to generate ideas, problem solving, concepts, technical competency and proposals in response to set briefs and/or self-initiated activity. The work demonstrates an adequate, ethically informed, real-world experience of industry/business environments and markets. Enough work is available to hold a meaningful discussion. Adequate participation in-class peer-review activities at least at the level of basic competency. Clear evidence of programming knowledge. A report and poster has been completed. No breaches of academic integrity.				
ARCHITECT: UML Diagrams	10%	No UML Diagrams.	UML Diagrams are incomplete. Non-standard UML notation has been used. Incorrect use of diagram type.	UML Diagrams are mostly complete. The UML notation are mostly correct.	UML Diagrams are appropriate. The choice of diagrams are appropriate. There are only minor issues with the notation.	UML Diagrams is directly linked to the software architecture. There are only minor errors in the diagrams.	UML Diagrams is of a professional standard. UML notation is correct. There are no errors in the diagrams.
ARCHITECT: Description of Software Architecture	15%	No description of the software architecture No attempt to describe the design of the software.	Little insight into the software architecture. There is a description of the key classes but no insight into the data structures or design patterns used.	Some insight into the software architecture. There is a description of the key classes. The data structures and design patterns have been described with no context	Much 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.	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. There is some justification for the selection of data structures and design patterns.	Significant insight into the software architecture. There is significant evidence of software design There is synergy between data structure and design pattern selection. The selection of data structures and design patterns are well justified.
ARCHITECT: Description of hardware design	15%	No description of the hardware design. No attempt to describe the design of the hardware, basically a list of components.	Little insight into the hardware design. There is little evidence of design, no regard to the selection of components and form factor.	Some insight into the hardware design. There is some evidence of deliberate practice from the student. The selection of components and form factor is justified.	Much insight into the hardware design. There is some evidence of deliberate practice from the student. The selection of components and hardware complement each other	Considerable insight into the hardware design. There is considerable evidence of deliberate practice from the student. The selection of components and hardware complement is justified. The control system design is linked to the digital project	Significant insight into the hardware design. There is significant evidence of deliberate practice from the student. The selection of hardware is complemented and justified in terms of the interactive experience.

Criterion	Weight	Near Pass	Adequate	Competent	Very Good	Excellent	Outstanding
ANALYSIS: Reflection	15%	No reflection.	Very limited reflection. Very few areas considered and/or no depth of consideration.	Generally broad analysis. limited reflection across areas of importance. Missing areas of true significance.	Reasonably clear and insightful analysis. Reflection tends to be broad rather than narrow. Missing some appropriate depth.	Clear and insightful analysis and reflections. Reflection is narrow and deep rather than trying to address all issues.	Reflection is extremely insightful.
ANALYSIS: Appropriateness of Spelling & Grammar	5%	Substantial spelling and/or grammar errors.	Many spelling and/or grammar errors.	Some spelling and/or grammar errors.	Few spelling and/or grammar errors.	Almost no spelling and/or grammar errors.	No spelling or grammar errors.
ANALYSIS: Appropriateness of Proposal Structure	5%	There is no structure, or the structure is unclear.	There is little structure.	There is some structure. A few sentences and paragraphs are well constructed. A plan is evidenced	There is clear structure Some sentences and paragraphs are well constructed. There is a clear plan and research evident.	There is considerable structure planning, highlight with research. Most sentences and paragraphs are well constructed. There is a clear and well-constructed plan defined by research and good set of objectives outlined.	There is much structure, highlighting the argument. All sentences and paragraphs are well constructed. There is a clear and well-constructed plan with detailed research and a clearly articulated set of objectives.
ANALYSIS: Appropriateness of Poster Structure	5%	There is no structure, or the structure is unclear.	There is little structure.	There is some structure. The balance is towards text rather than images. The text is difficult to read on the poster.	There is a considerable amount of structure, with clear evidence. There is a good balance of images and text in the poster.	There is much structure. The poster demonstrates effective communication of the idea with appropriate images and text.	There is much structure. The poster shows a considerable use of images, diagrams and text to communicate the achievements of the project. It could be published at a conference.