

DEVELOPMENT REPORT

Version 1.2
Computing
COMP140

Brian McDonald & Matt Watkins

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 for 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 your oral report, and will capture some of the key design decisions in the hardware and software development. This should be written in the provided template.

This assignment is formed of several parts:

- (A) **Write** a **short proposal** for your creative computing project
- (B) **Prepare** a **draft poster** which provides an overview of your creative computing project
- (C) **Revise** the **poster** based on feedback from your tutor and submit to LearningSpace by the deadline on MyFalmouth
- (D) **Present**, as an **individual**, your **final poster** at the scheduled demo session

Assignment Setup

Continue to use the GitHub repository for your other assignment on this module, which you can fork 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 **ONE page** proposal for a creative computing project. This work is individual and will be assessed on formative basis. In order to pass, the poster should:

- i. **describe** the context that will form the basis for your project;
- ii. **illustrate** basic research into electronic components and physical form factors for your project;
- iii. **analyse** the design of your proposed deliverable 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 in your tutorial session 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**. This work is individual and will be assessed on formative basis. In order to pass, the poster should detail:

- i. the hardware of the control system
- ii. the design of the control system
- iii. important elements of the user experience
- iv. an appropriate UML Diagram of the software architecture

To complete part B, prepare a draft of your poster and show this to a tutor in your tutorial session in **Week 8**.

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

Part C

Part C is a **single summative submission**. This work is **individual** and will be assessed on a **criterion-referenced** basis. Please refer to the marking rubric at the end of this document for further detail.

To complete Part C, update the poster based on the feedback that you received in Part B. Then, upload the poster to LearningSpace by the time/date specified in the list of deadlines available on MyFalmouth.

You only need to submit the poster itself as a single .pdf file.

You will receive **formal feedback** from your **module leader** three weeks after the deadline.

Part D

Part D is a **single summative submission**. This work is individual and will be assessed on a criterion-referenced basis. Please refer to the marking rubric at the end of this document for further detail.

To complete Part D attend the timetabled poster demo session that is expected to take place in **Week 9**. Present an oral report of your proposal, design, and your work-in-progress, ideally demonstrating a digital or physical prototype of your work. Use the poster to guide the report, making appropriate reference to technical diagrams.

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

Note: You should keep a digital copy of your poster handy to share with your peers in a future peer review session that forms part of your other assignment on this module.

Table 1: Revised Assignment Timeline

Week 3	Show Proposal to Supervisor (Part A).
Week 8	Show Draft Poster to Supervisor (Part B).
Week 8	Upload Poster to LearningSpace (Part C).
Week 9	Present the Poster (Part D).

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 Markers 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.				
ANALYSIS: 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.
ANALYSIS: 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.
ANALYSIS: 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
INDUSTRY: 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.
INDUSTRY: 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.