

INTERFACES & INTERACTION

Version 1.0
BSc Computing for Games

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Introduction

In this assignment, you are required to choose an existing screen based game interface to evaluate with a focus on usability and user-experience. Although the choice of game interface is down to you, careful consideration must be given to select an interface that is complex and interesting enough to warrant interrogation. How you evaluate the interface is down to you, although your approach must be appropriate and you will need to provide justification in your documentation. To ensure a thorough evaluation it is advised that you implement at least two qualitative and two quantitative methods. Some suggested methods are: cognitive walkthrough, task analysis, user-story mapping, analytic tools or any other methods that you feel are relevant.

Human-centred design (HCD) puts the end-user at the heart of the design process with a focus on usability and user-experience (UX). It relies on a fast-paced, iterative approach to the design and development process where evaluation and testing are built into every iteration. The majority of methods involve either the intended users themselves or experts in the field. This allows the designer to learn from each iteration and form goals and objectives for the next. It is vital that you familiarise yourself with the various qualitative and quantitative evaluation methods so that you can apply them to all of your future projects.

This assignment is formed of **one** part. The summative submission has **one** part: a single digital portfolio.

Begin by forking the GitHub project at the following URL:

<https://github.com/Falmouth-Games-Academy/comp210-interface-evaluation>

(a) **Implement** a thorough evaluation of a screen based game interface of your choice. write an evaluation document, which must:

- i. **justify** your choice of screen based game interface;
- ii. **list** and **justify** your choice of evaluation methods;
- iii. **describe** in great detail, the findings from the evaluation task.

(b) **Present**, a ten minute summary of your findings that will:

- i. **clarify** your approach to the task;
- ii. **describe** the strengths and weaknesses of your chosen interface;
- iii. and **discuss how** strategies derived from your findings that might improve the usability and user-experience of the interface in question.

(c) **Write** a conclusion that will:

- i. **synthesise** your findings into a clear and concise list of strengths and weaknesses for your chosen interface.



The Arduino is an open-source prototyping platform that makes designing and developing interfaces fun & easy.

- ii. **reflect** on the process and consider the strengths and weaknesses of your approach;

This assignment is an **academic writing task**. Fork the GitHub repository at the following URL:

<https://github.com/Falmouth-Games-Academy/comp210-evaluation>

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

Modify the `.gitignore` to the defaults for **TeX**. Please, also ensure that you add editor-specific files and folders to `.gitignore`.

Part A

Part A is formed of **multiple formative submissions**. This is **individual** work will be assessed on a **threshold** basis. The following criteria are used to determine a pass or fail:

- (a) Submission is timely;
- (b) Enough progress is made to conduct a meaningful review each week;

To complete Part A, carry out a thorough evaluation of your chosen interface. Demonstrate your progress to your tutor each week in class. You are expected to implement at least four different methods of evaluation (two qualitative and two quantitative). Ensure that any digital artefacts (including but not limited to sketches, photographs, diagrams, raw data, and any other documentation) are pushed to GitHub prior to each weekly session.

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

Part B

Part B is a **single summative submission**. This is **individual** work will be assessed on a **threshold** basis. The following criteria are used to determine a pass or fail:

- (a) Enough work is available to hold a meaningful discussion;
- (b) Clear evidence of usability testing knowledge and communication skills;
- (c) No breaches of academic integrity.

To complete Part B, prepare a ten minute presentation that explains your approach to the task and summarises your findings. Ensure that all related assets are pushed to GitHub and a pull request is made prior to the scheduled viva session. Then, attend the scheduled viva session.

You will receive **immediate informal** feedback from 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, write a conclusion that provides a synthesis of your findings and reflects on the strengths and weakness of your approach to the task. Then, upload all the documentation to the LearningSpace. Please note, the LearningSpace will only accept a single `.zip` file.

You will receive **formal feedback** from your **tutor** three weeks after the final submission deadline.

Additional Guidance

Choosing an appropriate game interface is critical to this task. Your choice of game interface should not only be complex and interesting enough to warrant interrogation but also be relevant to your interests and your aspirations as a game developer. The selection process might involve choosing multiple games and using rapid and heavily discounted evaluation methods to identify the game interface that will produce the most insightful results. Before you begin the task you are encouraged to research existing case studies/evaluations to inform your approach.

Your evaluation must find a balance between expert reviews vs. usability testing. As mentioned previously, human-centred design puts the user at the centre of the design process and thus, relying solely on expert review will not produce results conducive to a HCD process. The purpose of usability testing is to evaluate the users behaviour when interacting with an interface and identify the aspects of the interface that are most regularly a source of frustration and confusion. Tests should be designed around tasks and scenarios that represent typical end-user goals. Participants in your studies must span a range of skills and experiences for your results to be meaningful. It is important that you go beyond your course cohort to find participants.

"The first 90 percent of the code accounts for the first 90 percent of the development time."

"The remaining 10 percent of the code accounts for the other 90 percent of the development time."

— Tom Cargill

"Hofstadter's Law:

"It always takes longer than you expect, even when you take into account Hofstadter's Law."

— Douglas Hofstadter

Areas where students tend to lose marks are: depth of insight; analytical skill; and evaluative skill. Depth of insight implies rigorous testing of each task in great. Adequate analysis implies going beyond mere description, perhaps through: researching UI/UX, comparing interface, or even deploying reasoning to generate new insights. Adequate evaluation implies making appropriate reference to evidence and ensuring that evidence is of appropriate quality. Further to this, sound and valid arguments are constructed based on common usability principles.

Additional Resources

- Guild, John D., and Clayton Lewis. Designing for Usability: Key Principles and What Designers Think. Communications of the ACM, 1985.
- Krug, Steve. Don't Make Me Think. Berkeley, 2000.
- Reiss, Eric, Usable Usability : Simple Steps for Making Stuff Better. Wiley, 2012.

Marking Rubric

Criterion	Weight	Refer for Resubmission	Basic Competency	Basic Proficiency	Novice Competency	Novice Proficiency	Professional Competency
Basic Competency Threshold	40%	At least one part is missing or is unsatisfactory. There is little or no evidence of an iterative development process and no improvement over time in regards to the quality of the design and build of the prototype.	Submission is timely. Enough work is available to hold a meaningful discussion. Clear evidence of a 'reasonable' iterative development process Clear evidence of programming knowledge and communication skills. Clear evidence of reflection on own performance and contribution. Only constructive criticism of pair-programming partner is raised. No breaches of academic integrity.				
Appropriateness of Referenced Articles	10%	No relevant article is referenced.	At least three relevant sources are referenced.	At least six relevant sources have been referenced. Where appropriate, some sources report scholarly research.	At least eight relevant sources have been referenced. Where appropriate, most articles report scholarly research.	At least ten relevant sources have been referenced. Where appropriate, all sources report scholarly research. Some appropriate seminal and highly reputed sources have been referenced.	At least ten relevant sources have been referenced. Where appropriate, all articles report scholarly research. Many appropriate seminal and highly reputed sources have been referenced.
Adequacy of Analysis of Research Articles	20%	No analysis has been presented.	Little analysis has been presented.	Some analysis has been presented.	Much analysis has been presented.	Considerable analysis has been presented.	Significant analysis has been presented.
Synthesis	15%	No connections are made between different sources.	Superficial connections are made between different sources.	Basic connections are made between different sources. Connections go beyond mere description.	Reasonable connections are made between different sources. Connections are analytical in nature.	Strong connections are made between different sources. Connections are analytical and evaluative in nature.	Strong connections are made between different sources. Connections are analytical and evaluative in nature.
Adequacy of Discussion on Transfer to the Games Industry	15%	No transfer to the games industry.	Little transfer to the games industry.	Some transfer to the games industry. Appropriate references to the games industry and/or game development practice.	Much transfer to the games industry. Appropriate argument suggesting effective game development practice.	Considerable transfer to the games industry. Relevant criticism of game development practices, demonstrating insight into pitfalls and arguing for possible solutions.	Significant transfer to the games industry. Relevant criticism of game development practices, demonstrating insight into key pitfalls and effectively defending appropriate solutions with evidence.
Specificity, Verifiability, & Accuracy of Claims	5%	No citations to evidence to claims. Substantial errors and/or misinterpretations.	Few claims have a clear source of evidence. Significant errors and/or misinterpretations.	Some claims have a clear source of evidence. Many errors and/or misinterpretations.	Many claims have a clear source of evidence. Some errors and/or misinterpretations.	Most claims have a clear source of evidence. Few errors and/or misinterpretations.	All claims have a clear source of evidence. Almost no errors and/or misinterpretations.
Depth of insight	15%	No insight is demonstrated. Papers are merely paraphrased.	Little insight is demonstrated. Papers are summarised in the student's own words.	Some insight is demonstrated. Attempts are made at discussion beyond summary.	Much insight is demonstrated. Discussion is inferential in nature.	Considerable insight is demonstrated. Discussion is analytical in nature.	Significant insight is demonstrated. Discussion is analytical and evaluative in nature.