INTERFACES & INTERACTION

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"I think there is a tendency in science to measure what is measurable and to decide that what you cannot measure must be uninteresting."

— *Donald Norman*

"To design an easy-to-use interface, pay attention to what users do, not what they say. Self-reported claims are unreliable, as are user speculations about future behavior."

— *Jakob Nielsen*

Introduction

In this assignment, you will evaluate an existing screen based game interface of your choice, with a focus on usability and user-experience. You will carry out at least two distinct qualitative and quantitative methods of evaluation.

Human-centred design (HCD) methods not only put the player at the heart of the design process, but also focuses on their experience of the game. It relies on fast-paced iteration, where evaluation and testing are performed at each stage. This allows the designer to learn from each iteration and feed-forward into the next. Familiarising yourself with such methods and practice will help you to make games with better interactivity.

This assignment is formed of several parts:

(a) **Set up** a GitHub Pages site that:

    i. **modifies** one of the default CSS templates;

    ii. and **demonstrates** a basic knowledge of HTML.

(b) **Evaluate** a screen-based game interface, ensuring that you:

    i. **justify** your choice of screen-based game interface;

    ii. **list** and **justify** your choice of evaluation methods;

    iii. and **describe**, in detail, your findings.

(c) **Present** a 10-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. **recommend how** usability **and** user experience can be improved;

    iv. and **explain** the limitations of your chosen evaluation methods.

(d) **Incorporate** your conclusions **and** recommendations into your GitHub Pages site, ensuring that it will:

    i. **revise** any issues raised by your tutor and/or your peers.
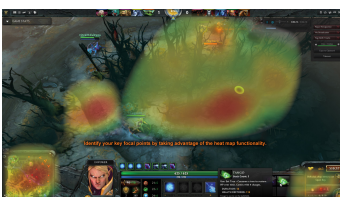
One approach to the analysis of player interfaces is gaze tracking, which is used extensively in design of e-sports interfaces.

Assignment Setup

This assignment is an **usability evaluation task**. Fork the GitHub repository at:

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

(a) Submission is timely;

(b) The website is live and can be accessed through a web browser.

To complete Part A, follow the GitHub Pages tutorial and setup a site on your GitHub account. Modify the content and default template to incorporate your own HTML and CSS code. Demonstrate this to your tutor.

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

Part B

Part B is formed of **multiple formative submissions**. This work is **individual** and 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;

(c) At least one qualitative and one quantitative method is applied.

To complete Part B, carry out a thorough evaluation of your chosen interface. Then, document your process and findings using GitHub pages. Ensure that any digital artefacts (including but not limited to sketches, photographs, diagrams, raw data, and any other documentation) are included in your GitHub page. Although some written discussion will be necessary, do not overly rely on this mode of communication. Instead, experiment with embedding dynamic content such as visualisations, images and videos. Demonstrate your progress to your tutor in each 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 **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 C, prepare a ten minute presentation based on around your GitHub documentation page that explains your approach to the task, summarises your findings and recommendations, as well as the limitations of your evaluation method. Ensure that all related assets are pushed to the GitHub Pages site prior to the scheduled peer-review session. Then, attend the scheduled peer-review session.

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

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, revise the GitHub Pages site based on the feedback you have received. Then, upload the GitHub Pages site 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

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 and evaluations to inform your approach.

Your evaluation must find a balance between expert reviews and usability testing. Human-centred design (HCD) puts the user at the centre of the design process, and thus relying solely on expert reviews will not produce results conducive to a HCD process. The purpose of usability testing is to evaluate the user's 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.

You should use a range of qualitative and quantitative methods of evaluation. Some suggested methods are: cognitive walkthrough; task analysis; user-story mapping; analytic tools. Many other methods can be found in the academic literature.

GitHub Pages are an invaluable tool for showcasing your work to future employers and collaborators. You will use them a lot more in the third year so it is important that you familiarise yourself with them now. GitHub Pages are created just like any other website, using HTML to layout content, CSS to control the style and JavaScript to create dynamic behaviour such as animations and interactive components. Although you have not been taught these specific languages, your existing knowledge of document markup languages such as LaTeX and programming languages such as Python and C++, combined with the wealth of tutorials available online, should make it relatively easy to pick these languages up.

Poor planning and poor time management can have a significant impact on this assignment. A comprehensive evaluation cannot be 'crammed' into a last minute deluge. Sustain a steady pace across the four weeks. Aim to implement one method of evaluation per week.

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 detail. Adequate analysis implies going beyond mere description, perhaps through: researching UI/UX, comparing interfaces, and 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 should be constructed based on common usability principles.

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 make a pull request and comment accordingly.

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 Proficiency	Novice Competency	Novice Proficiency	Professional Competency	Professional Proficiency
Basic Competency Threshold	40%	At least one part is missing or is unsatisfactory. There is little or no documentation to evidence a usability evaluation of an interface.	Submission is timely. Enough work is available to hold a meaningful discussion. Clear evidence of a 'reasonable' evaluation process. Clear evidence of usability testing knowledge and communication skills. Clear evidence of a synthesis of findings. No breaches of academic integrity.				
Appropriateness of chosen evaluation methods	10%	No evaluation methods have been implemented.	At least one method has been implemented.	At least one method has been implemented. The approach is appropriate.	Two methods have been implemented The approach is reasonably appropriate.	Two methods have been implemented. The approach is appropriate. There is some consideration for	Two methods have been implemented. The approach is appropriate. The approach is considered and clearly justified.
Adequacy of Analysis of Findings	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 the findings.	Superficial connections are made between the findings.	Basic connections are made between the findings from the different evaluation methods.	Reasonable connections are made the findings from the different evaluation methods. Connections go beyond mere description.	Strong connections are made between the findings from the different evaluation methods. Connections are analytical in nature.	Strong connections are made between the findings from the different evaluation methods. Connections are analytical and evaluative in nature.
Quality of Documentation & Presentation	10%	There is no documentation.	There is some basic documentation.	There is little documentation.	There is much documentation. Some images and diagrams have been included.	There is considerable documentation The use of images and diagrams is effective. Some dynamic content has been included.	There is significant documentation. The use of images and diagrams is effective. dynamic content is effective and helps to articulate the process and findings.
Specificity, Verifiability, & Accuracy of Claims	5%	No documentation to evidence to claims. Substantial errors and/or misinterpretations.	Few claims have supporting documentation. Significant errors and/or misinterpretations.	Some claims have supporting documentation. Many errors and/or misinterpretations.	Many claims have supporting documentation. Some errors and/or misinterpretations.	Most claims have supporting documentation. Few errors and/or misinterpretations.	All claims have a supporting documentation Almost no errors and/or misinterpretations.
Depth of insight	15%	No insight is demonstrated. Findings are merely presented.	Little insight is demonstrated. Findings are summarised.	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.