INTERFACE TASK

Version 1.0
BSc Computing for Games
COMP210

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Introduction

In this assignment, you will evaluate an interface from one of your existing projects, with a focus on usability and user-experience. You will carry out multiple tests to generate both qualitative and quantitive data. Once the data is collected, you will need to analyse, compare and visualise your results then present your findings in a formal report.

"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

The user-experience (UX) of your games heavily depends on the design of the user-interface (UI). According to Nielsen, the aim of user research is to generate, "actionable insights and drive the company's development activities at both the tactical level (better design) and the strategic level (discovering customer needs and building products to meet and exceed these needs)." This assignment encourages you interrogate the games you develop on a deeper level, testing assumptions and challenging preconceived ideas through involving the user at all stages of the design and development process.

"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

This assignment is formed of several parts:

(a) **Set up** a GitHub Pages website **and modify** the HTML/CSS code that defines the website, such that you:
   i. **manipulate** the default layout to personalise the site;
   ii. and **structure** the site appropriately for an academic report.

(b) **Evaluate** a screen-based game interface, ensuring that you:
   i. **critically reflect** on your choice of evaluation methods;
   ii. **note** your findings, in detail, on your GitHub Pages site.

(c) **Report** your findings in the form of a well-structured GitHub Pages site that documents your:
   i. **methodology** for each piece of user-research carried out;
   ii. **results** using diagrams and visualisations where appropriate;
   iii. **interpretation** of the results in the form of a disucussion;
   iv. **synthesis** of the results into a formal conclusion;
   v. and **recommendations** for improving the user interface in question.

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 **HTML**. 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. Create separate pages for each section of the report. 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 assess;

(b) Clear evidence of usability testing knowledge and communication skills;

(c) No breaches of academic integrity.

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. Complete a report of your research and present it using a GitHub Pages site. 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 evidence a usability evaluation of an interface was conducted. The qualitative and/or quantitative analyses have been omitted.	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. No breaches of academic integrity.				
Adequacy of Justification of Methods and Practice	10%	There is no justification, or little of the justification is sound.	Some of the methodological justification is sound. A few methodological limitations are acknowledged.	Most of the methodological justification is sound. Appropriate literature has been referenced to support justifications. A few key methodological limitations are acknowledged.	A considerable amount of the methodological justification is sound. Appropriate literature has been referenced to support justifications. Some key methodological limitations are acknowledged.	Nearly all of the methodological justification is sound. Key literature is appropriately referenced to support justifications. Nearly all methodological limitations are acknowledged and a few are explicitly addressed.	Nearly all of the methodological justification is sound. Seminal literature is appropriately referenced while key literature offers rigorous support for justifications. Nearly all methodological limitations are acknowledged and some are explicitly addressed.
Specificity, Verifiability, and Validity of Interpretations of Quantitative Data	5%	Quantitative data analyses have been omitted, or are poorly described, or few have a clear source of evidence.	Some claims based on quantitative data have a clear source of evidence. There are considerable challenges to the validity of inferences drawn from the data.	Many claims based on quantitative data have a clear source of evidence. There are several challenges to the validity of inferences drawn from the data. An attempt to use statistical notation and follow appropriate conventions is evident.	A considerable number of claims based on quantitative data have a clear source of evidence. There are some challenges to the validity of inferences drawn from the data. Appropriate statistical notation is used and conventions followed.	Nearly all claims based on quantitative data have a clear source of evidence. There are few, if any, challenges to the validity of inferences drawn from the data. APA format for reporting statistics has somewhat been adhered to.	Nearly all claims based on quantitative data have a clear source of evidence. There are few, if any, challenges to the validity of inferences drawn from the data. APA format for reporting statistics has been mostly adhered to.
Specificity, Verifiability, and Validity of Interpretations of Qualitative Data	5%	Qualitative data analyses have been omitted, or are poorly described, or few have a clear source of evidence.	Some claims based on qualitative data have a clear source of evidence. There are considerable challenges to the validity of inferences drawn from the data.	Many claims based on qualitative data have a clear source of evidence. There are several challenges to the validity of inferences drawn from the data. An attempt to use quotations and transparently analyse excerpts is evident.	A considerable number of claims based on qualitative data have a clear source of evidence. There are some challenges to the validity of inferences drawn from the data. An attempt to apply appropriate qualitative data reporting conventions is evident.	Nearly all claims based on qualitative data have a clear source of evidence. There are few, if any, challenges to the validity of inferences drawn from the data. The SRQR is somewhat adhered to.	Nearly all claims based on qualitative data have a clear source of evidence. There are few, if any, challenges to the validity of inferences drawn from the data. The SRQR is mostly adhered to.
Ability to Discern Key Usability and User Experience Issues	5%	Many key usability and user experience issues have been missed.	Several key usability and user experience issues have been missed.	Only some key usability and user experience issues have been missed.	Few, if any, key usability and user experience issues have been missed.	Few, if any, usability and user experience issues have been missed. Key issues highlighted are pertinent to the play experience.	Few, if any, usability and user experience issues have been missed. Key issues highlighted identified are priorities for improving the play experience.

Criterion	Weight	Refer for Resubmission	Basic Proficiency	Novice Competency	Novice Proficiency	Professional Competency	Professional Proficiency
Depth of Discussion about Key Usability and User Experience Issues	15%	Few meaningful connections are made between the findings.	Some meaningful connections are made between the findings. Connections are largely descriptive in nature.	Many meaningful connections are made between the findings. Connections are largely analytic in nature. An attempt to tie together findings from the different evaluation methods is evident.	Considerable connections are made between the findings. Connections are largely analytic in nature. An attempt to synthesise findings from the different evaluation methods is evident.	Significant connections are made between the findings. Connections are largely both analytical and evaluative in nature. Triangulation, using different evaluation methods, has been used to support findings.	Extensive connections are made between the findings. Connections are largely both analytical and evaluative in nature. Triangulation, using different evaluation methods, has been used to effectively support and reinforce findings.
Adequacy of Justification of Design Recommendations	10%	No design recommendation, or one that while may be generally appropriate, lacks specificity or is unachievable.	At least one specific and achievable design change is proposed.	At least one specific, relevant, and achievable design change is proposed. The design change is justified somewhat appropriately.	At least one specific, relevant, and achievable design change is proposed. The design change is justified appropriately.	At least one specific, important, and achievable design change is proposed. The design change is justified rigorously.	At least one specific, important, and achievable design change is proposed. The design change is justified very rigorously.
Effectiveness of Use of Media and Web Technologies	5%	Website is inoperable, GitHub Pages has not been used, or the content is unreadable.	A generally appropriate GitHub Pages website is live and accessible.	The GitHub Pages website is live, accessible, and has a distinctive layout. The content has some clarity. Many images and diagrams have been included.	The GitHub Pages website is live, accessible, and has a distinctive layout. The content has much clarity. Many images and diagrams have been included.	The GitHub Pages website is live, accessible, and has a distinctive and well-designed layout. The content has considerable clarity. Many effective images and diagrams have been included. Dynamic media has been used to articulate the process and findings.	The GitHub Pages website is live, accessible, and has a distinctive and well-designed layout. The content has significant clarity. Many effective images and diagrams have been included. Dynamic media has been used to effectively articulate the process and findings.
Appropriateness of Structure, Layout, and Style	2.5%	There is little to no structure.	There is some structure. A few sentences and paragraphs are well constructed.	There is much structure. Some sentences and paragraphs are well constructed. Website layout and page navigation provides some support for the structure of the analysis.	There is considerable structure. Most sentences and paragraphs are well constructed. Website layout and page navigation provides much support for the structure of the analysis.	There is significant structure. Nearly all sentences and paragraphs are well constructed. Website layout and page navigation provides considerable support for the structure of the analysis.	There is extensive structure. Website layout and page navigation provides significant support for the structure of the analysis.
Appropriateness of Spelling and Grammar	2.5%	Many spelling and/or grammar errors.	Some spelling and/or grammar errors.	Few insight is demonstrated.	Almost no spelling and/or grammar errors.	No spelling and/or grammar errors. Active voice is prevalent.	No spelling and/or grammar errors. Active voice is prevalent. Grammar is leveraged deliberately to draw attention to salient content.