University of Glasgow | School of Computing Science

Assessed Coursework

Course Name	**Human-Computer Interaction Design and Evaluation (M)**			
Coursework Number	**1 (of 3) – AE1 – Heuristic Evaluation**			
Deadline	**Time:**	**16.30**	**Date:**	**06 February 2025**
% Contribution to final course mark	**5**		**This should take at most this many hours:**	**5**
Solo or Group	**Solo**		**Group**	✓
Submission Instructions	**Via Moodle – see last page**			

Who Will Mark This?	**Lecturer** ✓	**Tutor**	**Other**
Feedback Type?	**Written** ✓	**Oral**	**Both**
Individual or Generic?	**Generic**	**Individual** ✓	**Both**
Other Feedback Notes			

Code of Assessment Rules for Coursework Submission

Deadlines for the submission of coursework which is to be formally assessed will be published in course documentation, and work which is submitted later than the deadline will be subject to penalty as set out below. The primary grade and secondary band awarded for coursework which is submitted after the published deadline will be calculated as follows:

(i) in respect of work submitted not more than five working days after the deadline
   a. the work will be assessed in the usual way;
   b. the primary grade and secondary band so determined will then be reduced by two secondary bands for each working day (or part of a working day) the work was submitted late.

(ii) work submitted more than five working days after the deadline will be awarded Grade H.

Penalties for late submission of coursework will not be imposed if good cause is established for the late submission. You should submit documents supporting good cause via MyCampus.

Penalty for non-adherence to Submission Instructions is 2 bands

Marking Criteria
See Last Page

Human-Computer Interaction: Design & Evaluation
Lab 2 – Week 3 – AE1: Heuristic Evaluation (5%)

The Assessed Exercises for HCIDE involve working around typical Human-Computer Interaction Design & Evaluation activities. In this week's lab, for AE1, you will concentrate on conducting a heuristic usability evaluation of an existing product. Do this in your groups.

HEURISTIC USABILITY EVALUATION

Product Selection

First, select a single product for the whole team to study. It could be a web site, or native desktop or mobile app. Maybe there is a system that one or more group members already use and find frustrating. You could even use any of the University of Glasgow web applications for this purpose!

Although you are choosing a system together as a group, try not to discuss specific problems too much at this stage, as that will pollute the data gathered in the evaluation below.

Tips:

- Although it is likely possible to find usability problems with any system, be wary of selecting something too simple (such as a single-screen mobile app) as it might not afford enough functionality to notice many problems, or too complex (such as MyCampus) as it takes work beyond the scale of the coursework. Something with about 2 levels of structure involving 3-5 pages will be appropriate.
- Do not select a game as your system to evaluate, as games are often created with different design goals, and can have a more complicated relationship with the concepts of 'usability' or making it 'challenging' to complete actions.

Heuristic Evaluation

There are many ways to evaluate a product, as we will explore during the course. For this first task, we will conduct a *heuristic evaluation*, as covered in Lecture 2, based on the very influential and widely used Usability Heuristics criteria developed by Jakob Nielsen. These consist in 10 general principles that can be used for assessing interactive systems. See https://www.nngroup.com/articles/ten-usability-heuristics/ for a full list with detailed descriptions.

The heuristic evaluation consists in several steps, first working individually, then as a group.

First, working individually, explore Nielsen's list of usability heuristics and analyse your chosen products for issues related to these criteria. Use the system to perform typical tasks, considering at each step in your interaction how the interface or interaction flow meets or fails to meet recommended heuristic criteria. You may find many or only a few problems. You don't have to try to find a problem to match every heuristic. You can also note issues that may not be described well by Nielsen's heuristics.

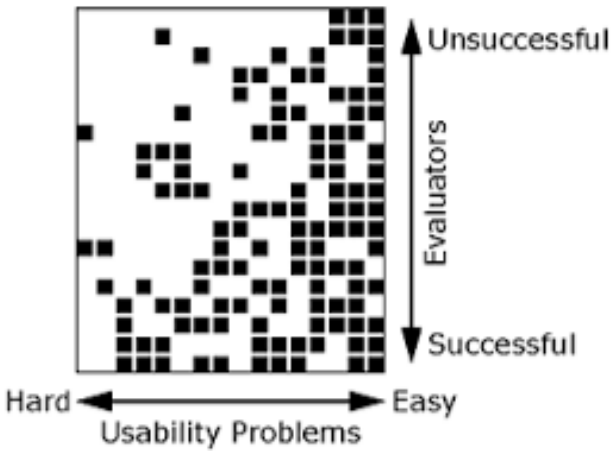
Everybody in your group should produce a separate list of problems without discussing between yourselves.

Second, working as a group, bring together everybody's list of issues, and create a master list of all issues that the team observed. Some issues will likely have been identified by more than one person. Where two people have made similar but different observations, make a judgment as to whether they are similar enough to merge them or if it is worth keeping them separate.

A single person is unlikely to uncover every potential usability problem with a product. However, in combining lists from several testers, a more complete set of the issues can be identified (with

diminishing returns as you keep adding people - Nielsen famously suggests five people might be an optimal number).

Produce a diagram like the example below. It depicts the number of problems found, and how widely they were identified among your team. Each evaluator is a row and each problem a column. A black cell indicates the identification of a particular problem by a particular user. Visual aspects such as colour or size of boxes don't matter too much for this purpose; instead, pay attention to the ordering of axes: the y-axis is used to rank evaluators by the amount of problems they were able to identify (i.e. "successful" evaluator, who found many usability issues, are at the bottom; group members who found less issues, are at the top). The x-axis is used to rank problems in terms of how commonly they were found. Problems found by only one or very few evaluators are on the left. Problems very commonly identified are on the right. Your diagram will be less tall than the example, but it might be wider if you have identified lots of problems.



You can use any software you like for this; using spreadsheet software (e.g. Excel) is an easy way to create them. For more details on this process and the diagram above, see hHps://www.nngroup.com/articles/how-to-conduct-a-heuristic-evaluation/

Report

Finally, working as a group, produce a report as a PDF document with the following sections:

- Group information: report your group number, lab slot, and all group members' names and GUIDs.
- Product description: Describe the webpage, application or software that you are evaluating (one paragraph, half-page max).
- Master list of usability issues: Report your master list of identified usability issues as a table. For each issue, note which of Nielsen's principles it violates (provide the full name of the corresponding Nielsen's principle), which group members identified it, and provide a short description (1-2 sentences max).
- Diagram: Include your diagram that illustrates the pattern of different team members uncovering each issue.
- Commentary: Provide a commentary on your findings. Comment on the issues that you found (e.g. are they critical?). Also comment on your evaluation process: using your diagram, comment whether individual group members found similar issues, or whether there wa a lot of variability (one paragraph, half-page max).

The PDF document should not exceed 3 pages of main content. As appendices, you may provide individual usability reports (i.e. lists of identified issues by each team member), and/or screenshots with descriptions of the identified issues as appendices. However this is optional.

How to submit

One member of the team should submit a pdf document **via the "Heuristic Evaluation" submission icon on the course Moodle page**. Decide or nominate one person to upload the pdf to Moodle, but **make sure that somebody submits**! If you have used any external sources, be sure to acknowledge them in your submission. For reference, the School's plagiarism policy is contained in Appendix A of the Undergraduate Class Guide (available at https://moodle.gla.ac.uk/course/view.php?id=21505).

This work is worth 5% of the overall assessment of the course. You can work on it prior to and during your lab session in week 3 and submit it any time after that. The absolute deadline for submission is **February 6th 2025, at 4:30pm**.

Marking Criteria

This exercise is worth 5% of your overall HCIDE grade in total, and is graded based on the following:

Grade	Report format (10%)	Usability Issues (40%)	Diagram (10%)	Commentary (40%)
A (Excellent)	Outstanding report demonstrating a deep understanding of heuristic evaluation principles. Well-structured report, with all required sections included and clear presentation. Comprehensive list of identified usability issues, clearly linked to Nielsen's heuristics, with short but clear description for each issue explained. The diagram is present, clear, and corresponds to the evaluation findings. Insightful commentary, reflecting on issues' severity, and on the evaluation process itself, showcasing good understanding of heuristic usability evaluation strengths and limitations.			
B (Very Good)	Strong report demonstrating a good understanding of heuristic evaluation principles with minor room for improvement. Well-structured report, with all required sections included and clear presentation. Clear list of identified usability issues, linked to Nielsen's heuristics, with a short descriptions for each issue explained. The diagram is present and corresponds to the evaluation findings. Commentary is present, reflecting on issues' severity and on the evaluation process itself.			
C (Good)	Satisfactory report demonstrating a basic understanding of heuristic evaluation. The report includes all required sections but may lack professional polish or clear organization. Usability issues are identified and generally linked to Nielsen's heuristics, but the description may be incomplete or inconsistently detailed. The diagram is functional but might present some issues or poor execution. The commentary provides general observations but lacks depth or critical analysis.			
D (Satisfactory)	Submission meeting minimum requirements but lacking depth and clarity. The report includes the required sections, but its organization and presentation may be poor. Some usability issues are identified but may be incomplete, poorly linked to Nielsen's heuristics, or described vaguely. The diagram may be included but is unpolished, unclear, or erroneous. The commentary provides limited insight into the findings and evaluation process, showing little critical engagement.			
E (Weak)	The submission is incomplete or poorly executed. The report may lack required sections or be poorly organized and presented. Usability issues are inadequately identified, with little to inconsistent, irrelevant connections to Nielsen's heuristics. The diagram may be missing or erroneous. The commentary is superficial or absent, offering minimal reflection on the findings or evaluation process.			
F/G (Poor)	The submission is severely deficient, showing little to no understanding of heuristic evaluation principles. The report may be disorganized, missing most required sections, or poorly written. Usability issues are largely absent, irrelevant, or completely disconnected from Nielsen's heuristics. The diagram is missing or unusable. The commentary is absent or entirely unhelpful.			