University of London
Computing and Information Systems/Creative Computing
CO3348 Interaction design
Coursework assignments 1 & 2 2018–19

Introduction

Your coursework assignments are designed to enable you to become more deeply engaged in specific aspects of ID and HCI, and to investigate a selected area in depth. The focus of your submitted work should be on user issues, design principles for interactive user experiences and on effective interaction design.

- In coursework assignment 1, you are asked to investigate a particular interactive technology, that of smart domestic appliances and any associated mobile phone or tablet interfaces to those appliances.
- You should produce a report with an assessment of the current and future uses of app controlled smart appliances. You should attempt to identify the user experience features which you believe are critical for effective and usable interactions with such devices and applications. Your focus should be on the use of the applications that are made available by such technologies rather than on the implementation of the underlying technology itself.
- In coursework assignment 2, you will design and produce an initial prototype for an interface to an application of your own choice based on those you have investigated in coursework assignment 1.

Before you start, please take careful note of the following requirements:

- Answers to coursework assignment 1 should be in an essay format of about 3,000 words with illustrations (6 pages roughly). Although very fixed limits will not be rigidly imposed, exceptionally long work or work which significantly exceeds the word limit set will be penalised. Very short submissions are also unacceptable and blank, incomplete, or corrupted submissions will not be marked.
- Answers to coursework assignment 2 should be in the form of a design portfolio with additional text material which describes the various design features, assumptions, decisions taken and your critique.
- The structure, clarity and organisation of your work will be assessed. Your submissions must be well-presented in a coherent and logical fashion. They should be fully spell- and grammar-checked, and logically structured with both a clear Introduction and a Conclusion in coursework assignment 1. For coursework assignment 2, you should include all relevant diagrams, drawings, illustrations or images in an organised sequence and with explanatory legends and labels. Please ensure that images are of a suitable size and resolution and can be viewed clearly.
- You do not need to restate the question asked, or provide a table of contents, an index, or additional Appendices. Please think about presentation aspects since your work is likely to be read on screen: assume a screen resolution of 1024 * 768, use a legible font

designed for reading from a screen and do not overuse colours, capitals, italics, underlines, *etc*.

- You should provide a References section, showing the books, articles, videos and websites you have consulted. Websites should be referenced by the date of access and a complete and correct URL, in addition to the author(s) and title. Generic site names are not acceptable. References should be in a standard format (Author surnames, Year of publication, Title, Publisher, actual page numbers referenced). Use the guidelines for referencing as given in the CO3320 Project subject guide.
- It is important that your submitted coursework assignments are your own individual work and, for the most part, written in your own words. You must provide appropriate in-text citation for both paraphrase and quotation, with a detailed reference section at the end of your coursework assignments (this should not be included in the word count). Copying, plagiarism and unaccredited and wholesale reproduction of material from books, online sources, *etc*. is unacceptable, and will be penalised (see: How to avoid plagiarism).
- Be very careful about the validity of information on Internet sites and web sources. Be aware that many information sites are really commercial advertising, or simply repeat material copied from elsewhere. Check the date of all material and do not use out of date sites, sites which list student work or projects, references from commercial publishers to abstracts only of journal papers, or those that are simply personal opinions, blogs, comments or pages from social networking sites. Do not simply copy text from Wikipedia or similar, or from company promotional pages. These are not appropriate sources for academic work. Be careful, critical and very selective in your choice of material. Note that your references will be checked.

Resources

You will find some guidance in the course materials provided – the readings and activities suggested in Section 2 of the **CO3348 Interaction design** subject guide and the following books will be of most use for the design activity.

- Buxton, B. *Sketching user experiences: getting the design right and the right design*. (San Francisco, CA: Morgan Kaufman, 2007).
- Greenberg, S., S. Carpendale, N. Marquardt and B. Buxton *Sketching user experiences: the workbook*. (San Francisco, CA: Morgan Kaufman, 2012).
- Cooper, Al., R. Riemann, D. Cronin, and C. Noessel. *About face: the essentials of interaction design*. (New York: John Wiley & Sons, 2014) 4th edition.
- Rogers, Y., H. Sharp and J. Preece *Interaction design: beyond human computer interaction*. (New York: John Wiley & Sons, 2011) 3rd edition.
- Rogers, Y., H. Sharp and J. Preece *Interaction design: beyond human computer interaction*. (New York: John Wiley & Sons, 2015) 4th edition.

For the research topic, you will have to undertake reading beyond the course notes and textbooks. You will have to explore some of the available online information for this topic and search for further information yourself. It is not possible to provide an exhaustive completely up-to-date list of sources, but do look at the links suggested in the preface to the **CO3348 Interaction design** subject guide. You may also find some useful pdf downloads by searching in Google Scholar and presentations in Slideshare.

Assessment

The overall presentation, structure, coherence and clarity of your submission will also be assessed.

For coursework assignment 1, marks will be awarded for demonstrating a good understanding of the topic identified, for providing an appropriate and informed analysis, and for writing a clear report, focused on interaction design elements and issues.

For coursework assignment 2, marks will be awarded for a suitable and competent design and prototype mock-up, and for a well-explained design justification and self-critique.

Marks are distributed as below:

Coursework assignment 1:

- 95% Report Content
- 5% Report Presentation

Coursework assignment 2:

- 30% Personas and Scenarios
- 50% Design mock-up
- 15% Design justification
- 5% Critique

Submission

Follow the current instructions for electronic submission and make sure that what is submitted is clearly identified as your work. You should upload a pdf or FDF file for these coursework assignments rather than a Word or other text format file, or a zip file.

Please use the naming convention as given in the coursework instructions:

FamilyName_SRN_COxxxxcw#.pdf (*e.g*. Zuckerberg_920000000_CO3348cw1.pdf)

- **FamilyName** is your family name (also known as last name or surname) as it appears in your student record (check your student portal)
- **SRN** is your Student Reference Number, for example 920000000
- **COXXXX** is the course number, for example CO3348, and
- **cw#** is either cw1 (coursework 1) or cw2 (coursework 2).

Coursework assignment 1

Smart domestic appliances are becoming an increasing feature in the lives of the rich and powerful. Some examples include:

- Washing Machines that weigh the clothes and adjust the wash cycle accordingly.
- Dishwashers that check how dirty the contents are and adjust the water usage accordingly.
- Microwave ovens that cook according to weight or time and have a variety of set menus and timing options built in.
- Fan assisted ovens with timers for controlling when the oven will be active.
- Vacuum cleaners and lawn mowers that construct a map of the space that they operate in.
- Entertainment systems that learn about the users and propose material accordingly.
- Mobile phone control applications for domestic appliances.

Traditional button and dial user interfaces have been supplemented with status displays and combination or multifunction controls. This type of interface to more complex functions presents users with challenges, particularly when the users are provided with functions that they have never seen or even imagined before.

- Explore the challenges that these extended functionalities present to users and the challenges faced by engineers in producing a user interface that untrained users can comprehend and will be able to use.
- Propose three usability principles or design validation techniques that could be used to explore this scenario in general, using examples from a variety of appliances.
- Write a report giving an overview of the state of the art technology in this area of interaction and User Experience. Concentrate on the functionality, interactions and interfaces that you have found on existing applications and provide an assessment of their usability. In addition, explore the strategies that people use to learn and work with technologies that may be relevant in this scenario.

[END OF COURSEWORK ASSIGNMENT 1]

Coursework assignment 2

After completing coursework assignment 1, you should have gained sufficient knowledge to begin to design and mock-up a prototype interface for two very different appliances (*e.g.,* not oven and microwave oven but perhaps a smart vacuum and microwave oven). Remember that this is intended as an early prototype and that the focus of the work to be undertaken is on the interaction mechanisms and the interface to the technology rather than a fully functional application. The coursework assignment is intended to give you some experience in early design practice.

a. Clearly identify the core and the additional smart functionality that your devices provide.
b. Develop a profile of three different types of expected users and create a realistic persona for each.
c. Develop a realistic scenario for each persona using the application to carry out some activity.
d. Design the look-and-feel of your chosen interface and an interaction sequence, based upon good practice guidelines and reflecting the needs of the users identified by the personas chosen. Provide an initial rough sketch of the proposed interface.
e. Mock-up your design showing sets of screen flows, user actions and interface elements.
f. Make clear your design assumptions and explain in detail the decisions you have made, together with your justifications for doing so.
g. Provide a critique of your design and explain how you could improve on it.

You should create a design that is **your own work** and **not** a copy of an existing application; try not to duplicate existing interfaces but find an original solution of your own.

[END OF COURSEWORK ASSIGNMENT 2]