Week 1: Intro to HCI (and the course)

19th September 2023

John Vines and Aurora Constantin
Overview of today’s session

About the Course:
• Who are we?
• Learning outcomes
• Weekly schedule
• Assessment
• Tools
• Who are you?

HCI ”in the world”:
• Weekly example

Questions about the Week 1 Materials
About the course
The HCI team

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Learning Outcomes

1. Demonstrate, in writing, knowledge of the issues and problems in HCI, and an understanding of human perception and behaviour in analysing their interactions with technology in their everyday lives.

2. Use established design principles and methodologies to solve HCI problems.

3. Acquire confidence in handling different disciplinary perspectives on HCI and the ability to apply them to design problems.

4. The ability to devise, plan and execute task analysis and system evaluation studies from an HCI perspective, and present findings in a clear and effective manner.

5. Demonstrate awareness of current areas of research by locating and summarising examples of recent progress.
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Flipped Classroom

This course does not have traditional “lectures”.

The idea is you watch the videos for a set week before the session, and come ready to discuss at the session.

I.e., the logic of a traditional classroom is “flipped”

https://vimeo.com/70893101

Centre for Teaching and Learning, University of Texas at Austin. 2013.
A Week in HCI

You should be doing this each week:

- Each week, work through the video lectures on Media Hopper, linked on the Open Courses page: https://opencourse.inf.ed.ac.uk/hci
- Check the supporting literature, linked on the Schedule – there is useful additional reading here which is recommended to engage with.
- Work on the Coursework (suggested steps on the Schedule)
- Ask questions at the Q&A on Tuesdays, and listen to examples of HCI in practice
- A live Q&A on Fridays on Piazza, with Nicole
# Schedule

[https://opencourse.inf.ed.ac.uk/hci/schedule](https://opencourse.inf.ed.ac.uk/hci/schedule)

<table>
<thead>
<tr>
<th>Week</th>
<th>Commencing</th>
<th>Lectures and Slides</th>
<th>Readings</th>
<th>Coursework Steps</th>
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| 1    | 18-Sep-2023| Introduction and the process of design | • How to Understand Problems by Amy J. Ko  
  • How to Define Problems by Amy J. Ko  
  • What is HCI? | Coursework 1 out (see Folder Assessment) |

**Coursework 1 steps:**

1. Find a group and register your group
2. Do Background Research
   - [Interviewing Tutorial](#)  
   - [Task Design Tutorial 2020](#) (Answer Sheet)
Added value … Design Informatics research talks

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker(s)</th>
<th>Topic</th>
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<tbody>
<tr>
<td>21st September</td>
<td>Sharon Ding</td>
<td>Glasgow / HCI + Health Tech</td>
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<tr>
<td>28th September</td>
<td>Chagall (live stream)</td>
<td>Artist / Data, Music + Performance</td>
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<tr>
<td>5th October</td>
<td>Frauke Zeller</td>
<td>Napier / Human-Robot Interaction</td>
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<tr>
<td>12th October</td>
<td>Caterina Mourizzi</td>
<td>Edinburgh / Creativity + AI</td>
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<tr>
<td>19th October</td>
<td>Chris Elsdon + Chris Speed</td>
<td>Edinburgh / Data, Value + Design</td>
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<tr>
<td>26th October</td>
<td>Sebastian Prost</td>
<td>Northumbria / Sustainable Design</td>
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<tr>
<td>2nd November</td>
<td>Marion Lean</td>
<td>DEFRA / Co-creation + RuralTech</td>
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<td>9th November</td>
<td>David Chatting</td>
<td>Newcastle / Design, IoT, Homes</td>
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<td>16th November</td>
<td>Ximulacra exhibition</td>
<td><a href="https://inspace.ed.ac.uk/">https://inspace.ed.ac.uk/</a></td>
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<tr>
<td>23rd November</td>
<td>Information Plus conference</td>
<td><a href="https://informationplusconference.com/2023/">https://informationplusconference.com/2023/</a></td>
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<tr>
<td>30th November</td>
<td>Rachel O’Dwyer</td>
<td>Dublin / Money + Cryptocurrencies</td>
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Every Thursday at 4pm – Inspace and Zoom – talks on HCI, data and digital design
Assessment

**CW1: Design** - Students work in teams of 3-4 to refine design requirements, identify problems, and design a user interface mock-up using an online tool like Figma.

**CW2: Evaluate** - Students work in teams of 3-4 to evaluate two design created by different teams. They use a Cognitive Walkthrough approach, analysed the results and make recommendations about how the design might be improved and the different types of problems users might have when interacting with it. These reports will be returned to the initial CW1 design team.

**CW3: Refine** - Students work in teams of 3-4 to improve a CW1 design and plan an evaluation that could determine if the improvements are working as expected. The improved design will also be done using an online mock-up tool. The new evaluation will also be only an evaluation plan and will not be run with participants.

**Individual Engagement** - Accompanying each coursework is an individual quiz which also contains some harder open-text questions to assess engagement with the coursework.
## Assessment

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<tr>
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<th>Group CW (70%)</th>
<th>Individual Quiz (30%)</th>
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<tbody>
<tr>
<td><strong>CW1</strong></td>
<td>By end of W4 (Not marked)</td>
<td>Develop suggested re-design of course</td>
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<tr>
<td><strong>CW2</strong></td>
<td>By end of W7 (Marked)</td>
<td>Evaluate other groups’ suggested re-designs. 35%</td>
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<tr>
<td><strong>CW3</strong></td>
<td>By end of W11 (Marked)</td>
<td>Fix and change your design. 35%</td>
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- **Quiz 1**: Lecture Content
- **Quiz 2**: Lecture content. 15%
- **Quiz 3**: Lecture content, reflection. 15%

Do your best to be on time - delays impact your fellow classmates

Schedules of adjustments will be honoured

Assessment details on LEARN – Assessment > Coursework 1: Design
How we will engage with you

We interact live during the Q&A sessions! Whether you show up for Q&A is up to you, but remember - this is your opportunity to interact with Aurora and me in person.

We also interact asynchronously during the remaining time via Piazza:
• Questions will be answered on Piazza, even if asked via email.
• Turn around: we aim for one working day (Working day: Mon-Fri, 9-5pm)
• Don’t expect answers by email or on Piazza over the weekend
• Stay tuned for further announcements via LEARN
Testing Piazza…. who are you?

Introduce yourself! What is your background?

Hello everyone,

Please reply to this thread introducing yourself! I'll start...

I am John, a Professor in the School of Informatics, with a specialization in an area called "design informatics". I was trained as a product designer and also studies some gerontology and cognitive science, but have worked in the field of HCI for the last 15 years or so. I came to HCI when I started on some projects involving designing "inclusive technologies" for older people, but now work across a wider area.

I've worked at Edinburgh for two and a half years now, and live in Newcastle upon Tyne (about 90 minutes south of Edinburgh). I'm originally from the south west of England.

John.
Useful resources


Available in the UoE Library, link in “Resource List” on LEARN. You need to be signed in via MyEd.

Links to specific chapters on “Schedule” page on Open Courses*

*we know some links are broken – note the chapter number and title, and find the chapter in the UMD book in the library.
Useful resources

The Biggest and Most Authoritative Library of Open-Source UX Design Resources

Open-Source, Open-Access Literature

The democratization of design knowledge is at the very heart of our mission. That’s why—over 21 years after we started—we will never stop bringing leading designers, bestselling authors, and Ivy League professors together to create open-source, free-to-access textbooks on UX design. This is the world’s most comprehensive compendium of design knowledge, made available to everyone around the world.

https://www.interaction-design.org/literature

Table of Contents

1 Interaction Design - brief intro
by Jonas Löwgren

2 Human Computer Interaction - brief intro
by John M. Carroll

3 User Experience and Experience Design
by Marc Hassenzahl

4 Social Computing
by Thomas Erickson

5 Visual Representation
by Alan Blackwell

6 Industrial Design
by Kees Overbeeke and Caroline Hummels

7 Bifocal Display
by Robert Spence and Mark Apperley

8 Contextual Design
by Karen Holtzblatt and Hugh R. Beyer
After teaching design for many years, I longed for a simple, concise, and practical introduction to design for technically-minded people. In response, I’ve distilled my lectures from the past decade into these brief chapters. They don’t represent everything we know about design, and they certainly only represent my own stance on design, but my students have found them be accessible introduction to big ideas in design. I hope you enjoy! If you see something missing or wrong, submit an issue.

HCI “in the world”


smartSTRIPS at a glance
- Designed by former Air Traffic Controllers for Air Traffic Controllers
Airlines warn of UK flight delays over air traffic control fault

29 August

UK air traffic control meltdown leaves thousands stranded as 1,200 flights cancelled

Outage prompts worst day’s disruption to UK flying since Icelandic volcano in 2010 - as 200,000 hit by delays and cancellations

What caused it to fail?
Nats says that the failure was triggered by a single piece of data in a flight plan that was wrongly input to its system by an unnamed airline.
Airlines warn of 'catastrophic' risk to air traffic control

NATS Major Incident Preliminary Report

Flight Plan Reception Suite Automated (FPRSA-R)
Sub-system Incident 28th August 2023

NATS

Issued by: GATX Aviation 2023
NATS Public

A single piece of data in a flight plan sent by an unnamed airline.
Workers whose wrongful convictions for theft and false accounting have been overturned to receive payment from government

Post Office: Horizon scandal victims offered £600,000 compensation

The Post Office's Horizon scandal resulted in more than 700 post office operators being prosecuted between 1999 and 2015 for theft, fraud and false accounting. Photograph: Isabel Infantes/PA

Every post office operator whose wrongful conviction over the Horizon IT scandal has been overturned will receive £600,000 in compensation from the government, ministers have announced.

The Horizon scandal, described as “the most widespread miscarriage of justice in UK history”, resulted in more than 700 post office operators being prosecuted between 1999 and 2015 for theft, fraud and false accounting over faulty accounting software installed in the late 1990s.
Some reflections…

• HCI has a focus on understanding existing practices – what people do, why they do it, how they do it – and appreciating these. Technology supports and augments rather than replaces.

• HCI avoids blaming users for errors and failures – it’s about understanding why errors occur, how systems can be better designed to avoid these.

• HCI is about trusting users – if they are saying something is not working for them, investigate it, fix it.
Week 1 Q&A

- Questions on Week 1 videos?
- Questions on the course?
For next week (Week 2)

- If you haven’t already, review the Week 1 videos!
- Also, make sure to review the Week 2 videos: Design Requirements Gathering
- If you’d like to pose a question to us to discuss in the weekly Q&A, post this in Piazza in “Week 2 Q&A Questions”.
- Find a group for your coursework!
Any questions..

• Post to the Piazza!
• John Vines: john.vines@ed.ac.uk
• Aurora Constantin: aurora.constantin@ed.ac.uk
Introduction to HCI: The Design Process