



Human-Computer Interaction

INFR11017

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



Aurora Constantin
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Lecturer



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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 every day 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

Learning Outcomes

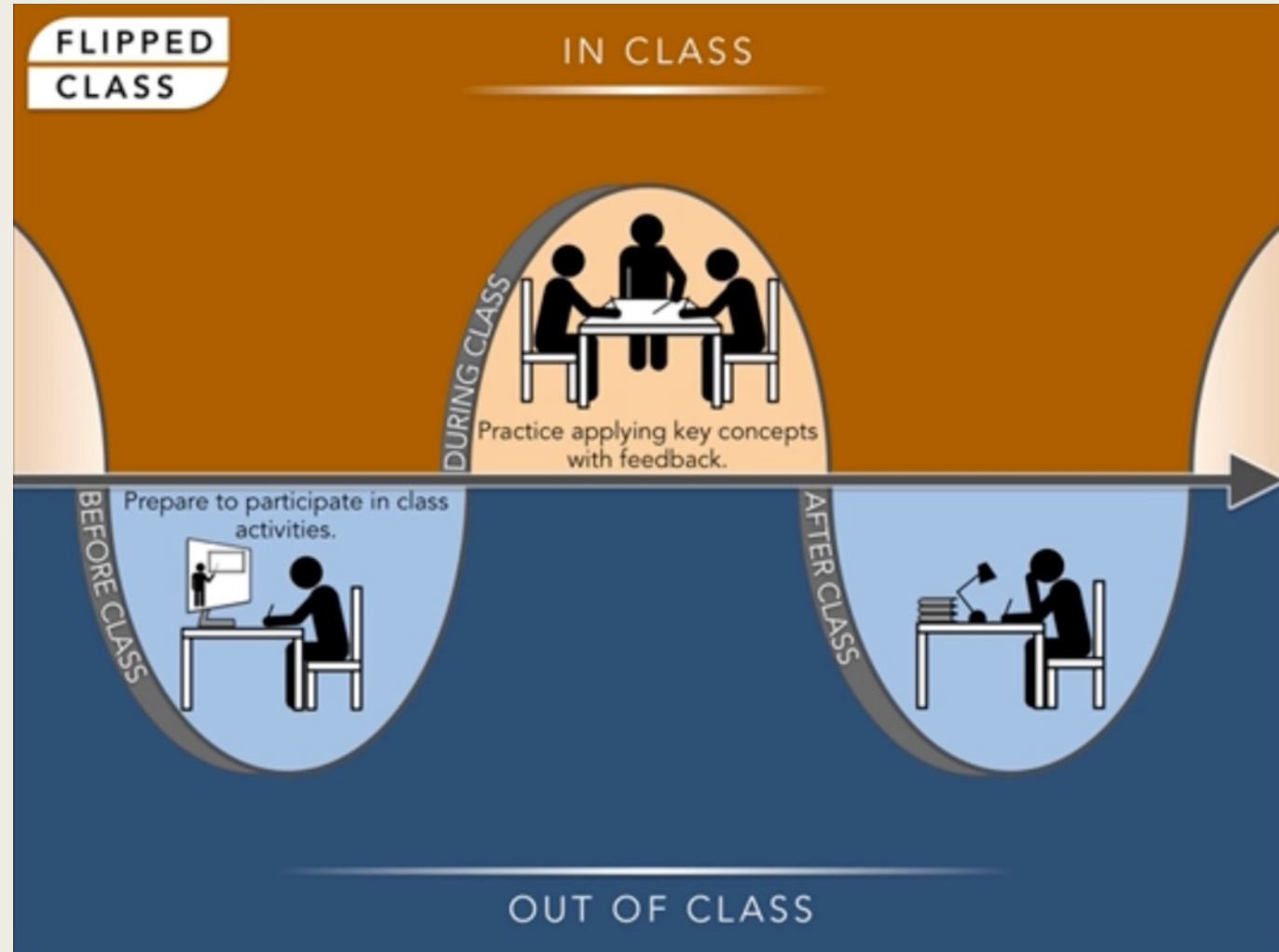
1. Demonstrate, in writing, knowledge of the issues and problems in HCI, and an understanding of human perception and behaviour in ***analysing peoples interactions*** with technology in their every day lives
2. Use ***established design principles and methodologies*** to solve HCI problems
3. Acquire 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

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>

Week	Commencing	Lectures and Slides	Readings	Coursework Steps
1	18-Sep-2023	<p>Introduction and the process of design</p> <p>Slides:</p> <ul style="list-style-type: none">• What makes HCI design challenging?• The Design Process• Design Requirements• Memos	<ul style="list-style-type: none">• How to Understand Problems by Amy J. Ko• How to Define Problems by Amy J. Ko• What is HCI?	<p>Coursework 1 out (see Folder Assessment)</p> <p>Coursework 1 steps:</p> <ul style="list-style-type: none">• 1: Find a group and register your group• 2: Do Background Research<ul style="list-style-type: none">• Interviewing Tutorial• Task Design Tutorial 2020 (Answer Sheet)

Q&A slides for week 1

Added value ... Design Informatics research talks

21st September	Sharon Ding	Glasgow / HCI + Health Tech
28th September	Chagall (live stream)	Artist / Data, Music + Performance
5th October	Frauke Zeller	Napier / Human-Robot Interaction
12th October	Caterina Mourizzi	Edinburgh / Creativity + AI
19th October	Chris Elsdon + Chris Speed	Edinburgh / Data, Value + Design
26th October	Sebastian Prost	Northumbria / Sustainable Design
2nd November	Marion Lean	DEFRA / Co-creation + Rural Tech
9th November	David Chatting	Newcastle / Design, IoT, Homes
16th November	Ximulacra exhibition	https://inspace.ed.ac.uk/
23rd November	Information Plus conference	https://informationplusconference.com/2023/
30th November	Rachel O'Dwyer	Dublin / Money + Cryptocurrencies

10 design
informatics
10 years of designing from, with, and by data



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

CW1

CW2

CW3

	Group CW (70%)	Individual Quiz (30%)
By end of W4 (Not marked)	Develop suggested re-design of course	Lecture Content
By end of W7 (Marked)	Evaluate other groups' suggested re-designs. 35%	Lecture content. 15%
By end of W11 (Marked)	Fix and change your design. 35%	Lecture content, reflection. 15%

Quiz 1

Quiz 2

Quiz 3

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?

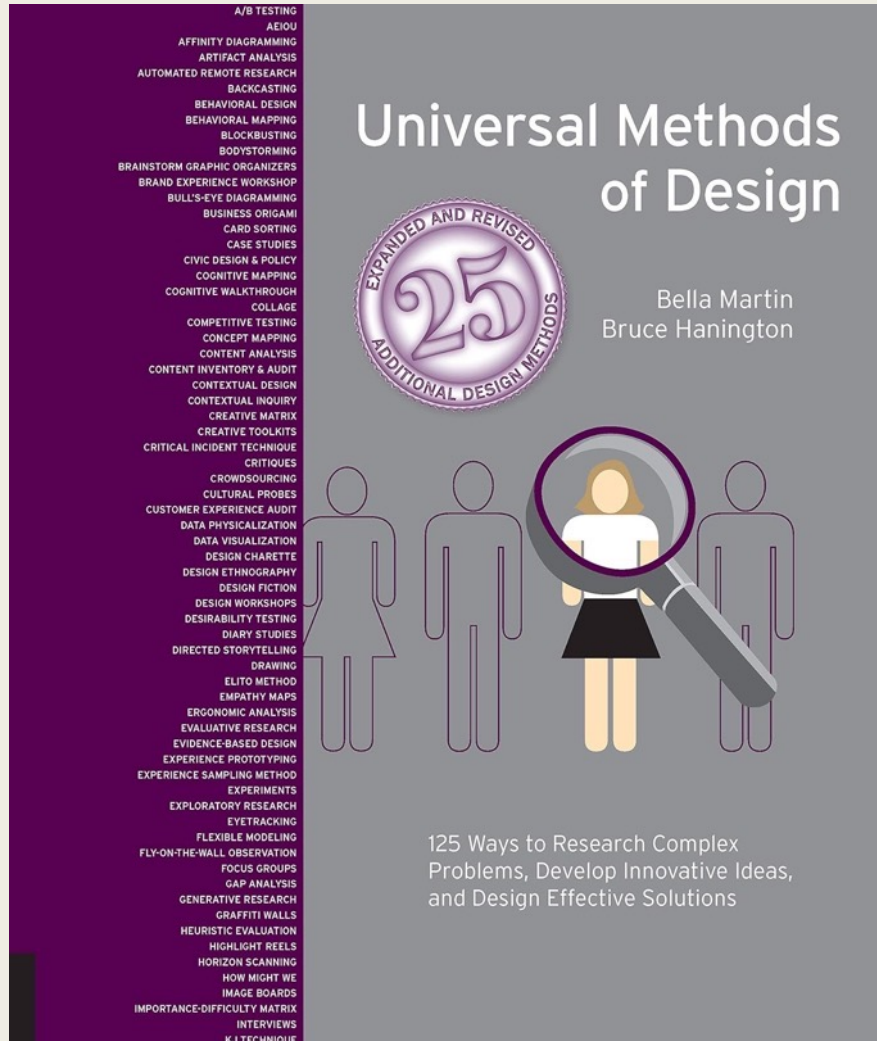
The screenshot displays the Piazza Q&A interface. At the top, the navigation bar includes 'PIAZZA', course information 'INFR110172023-45V1SEM1 HCI', and menu items like 'Setup', 'Q & A', 'Resources', 'Statistics', and 'Manage Class'. The user 'John Vines' is logged in. Below the navigation bar, there are tabs for 'LIVE Q&A', 'Drafts', and folders 'cw1', 'cw2', 'cw3', 'q&a_sessions', 'logistics', and 'other'. A secondary bar shows filters for 'Unread', 'Updated', 'Unresolved', and 'Following', along with a 'Ban User Console' and 'Note History' section.

The main content area features a 'New Post' button and a search bar. A sidebar on the left lists 'PINNED' posts, including 'Search for Teammates!' and 'Introduce yourself! What do ...', and 'TODAY' posts, including 'Introduce yourself! What is y...'. A 'LAST WEEK' section lists private posts like 'Introduce Piazza to your stu...', 'Get familiar with Piazza', and 'Tips & Tricks for a successf...'. A 'Welcome to Piazza!' message is also visible.

The main post, titled 'Introduce yourself! What is your background?', is from user 'note @6' and has 2 views. The post content reads: 'Hello everyone, Please reply to this thread introducing yourself! I'll start... I am John, a Professor in the School of Informatics, with a specialism in an area called "deisgn 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.' The post is categorized under 'q&a_sessions' and has an 'Edit' button and a 'good note' badge. It was updated 2 minutes ago by John Vines.

Below the post, there is a section for 'followup discussions, for lingering questions and comments' with a 'Start a new followup discussion' button and a text input field for composing a new discussion.

Useful resources



Martin and Hanington. 2012. *Universal Methods of Design*. Rockport, Beverly, USA

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



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>

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by Robert Spence and Mark Apperley

- 8 Contextual Design**
by Karen Holtzblatt and Hugh R. Beyer

Useful resources

Design Methods
by [Amy J. Ko](#)
2nd edition

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](#).

	Chapter 1 What designers do	~10 min read
	Chapter 2 How to design	~10 min read
	Chapter 3 How to understand problems	~10 min read
	Chapter 4 How to define problems	~10 min read
	Chapter 5 How to be creative	~5 min read
	Chapter 6 How to prototype	~10 min read
	Chapter 7 How to design interfaces	~15 min read
	Chapter 8 How to be critical	~10 min read

Ko, A. 2023. Design Methods.

<https://faculty.washington.edu/ajko/books/design-methods>

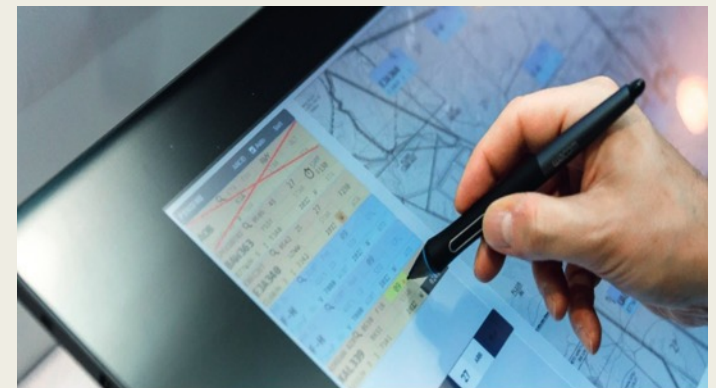
HCI “in the world”





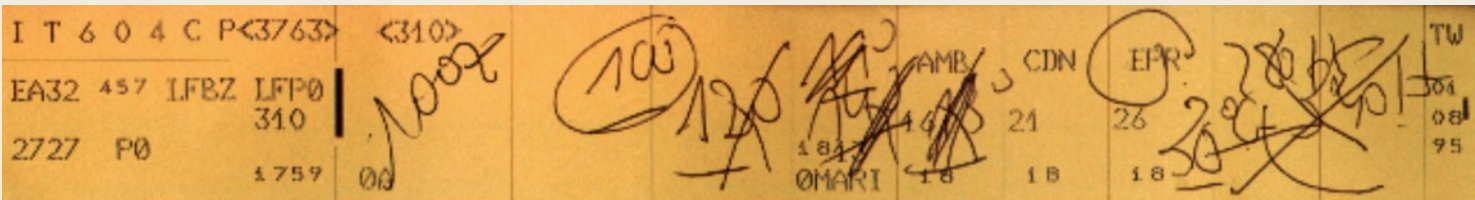
Harper, R. R, J. A. Hughes, and D. Z. Shapiro: 'Working in harmony: An examination of computer technology in air traffic control,' in E-CSCW '89, Gatwick, London, 13-15 September, 1989, 1989, pp. 73-86.

Harper, R. R., J. A. Hughes, and D. Z. Shapiro: 'Harmonious working and CSCW: Computer technology and air traffic control,' in J. M. Bowers and S. D. Benford (eds.): Studies in Computer Supported Cooperative Work. Theory, Practice and Design, North-Holland, Amsterdam, 1991, pp. 225-234



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

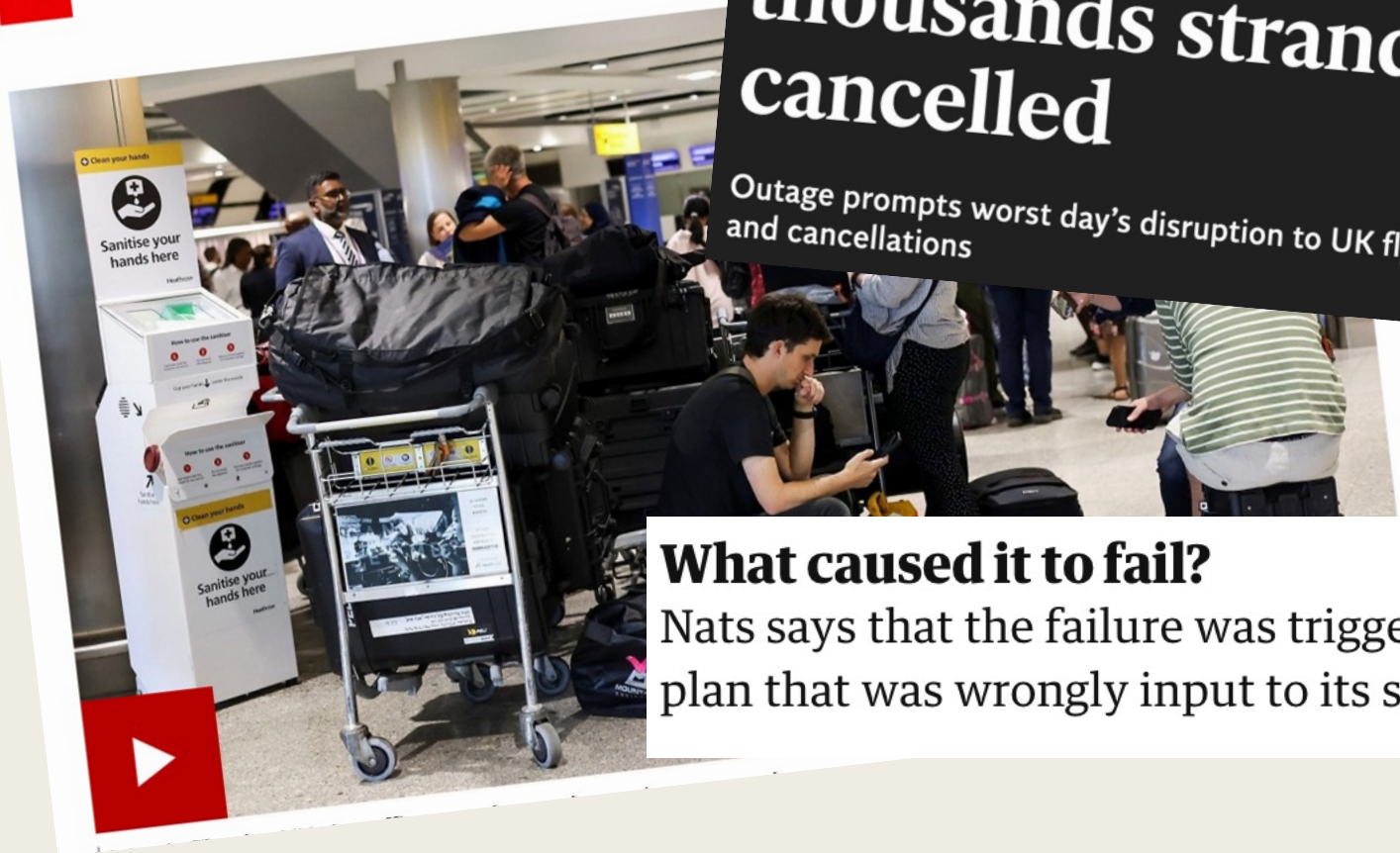
🕒 29 August



Travel > News & Advice

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 over air traffic co

🕒 29 August



NATS Major Incident Preliminary Report

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

NATS

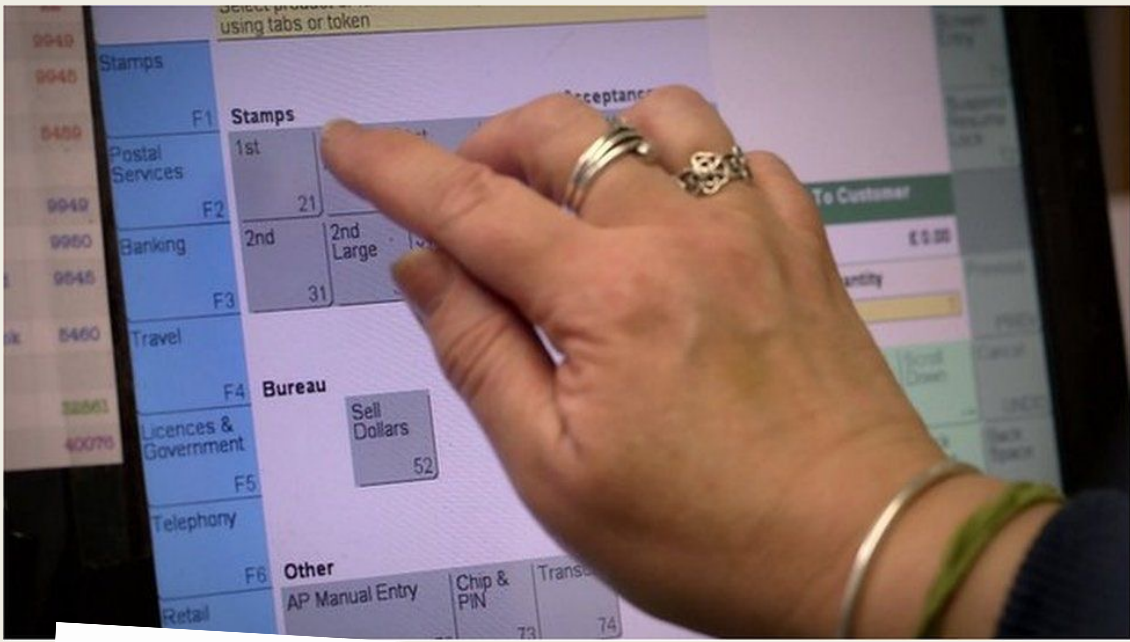
Issued by:
NATS: 4th September 2023

NATS Public

meltdown leaves
as 1,200 flights

Icelandic volcano in 2010 - as 200,000 hit by delays

a single piece of data in a flight
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

2 hours ago

 Post Office Inquiry



 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 of 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