# EDUCATION IN USER EXPERIENCE DESIGN

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# Agenda

**Welcome**

**Today's session: user experience design ("UX design")**

1) Purpose of user experience design education, and the value it offers.

2) How this can be delivered, bearing in mind the benefits of a joined-up learning journey.

- School
- University
- Providers of education outside traditional establishments; self-directed learning or learning from experience

Historical context  Current situation  Current educational provision  Teaching and learning opportunities  Framework for improvement
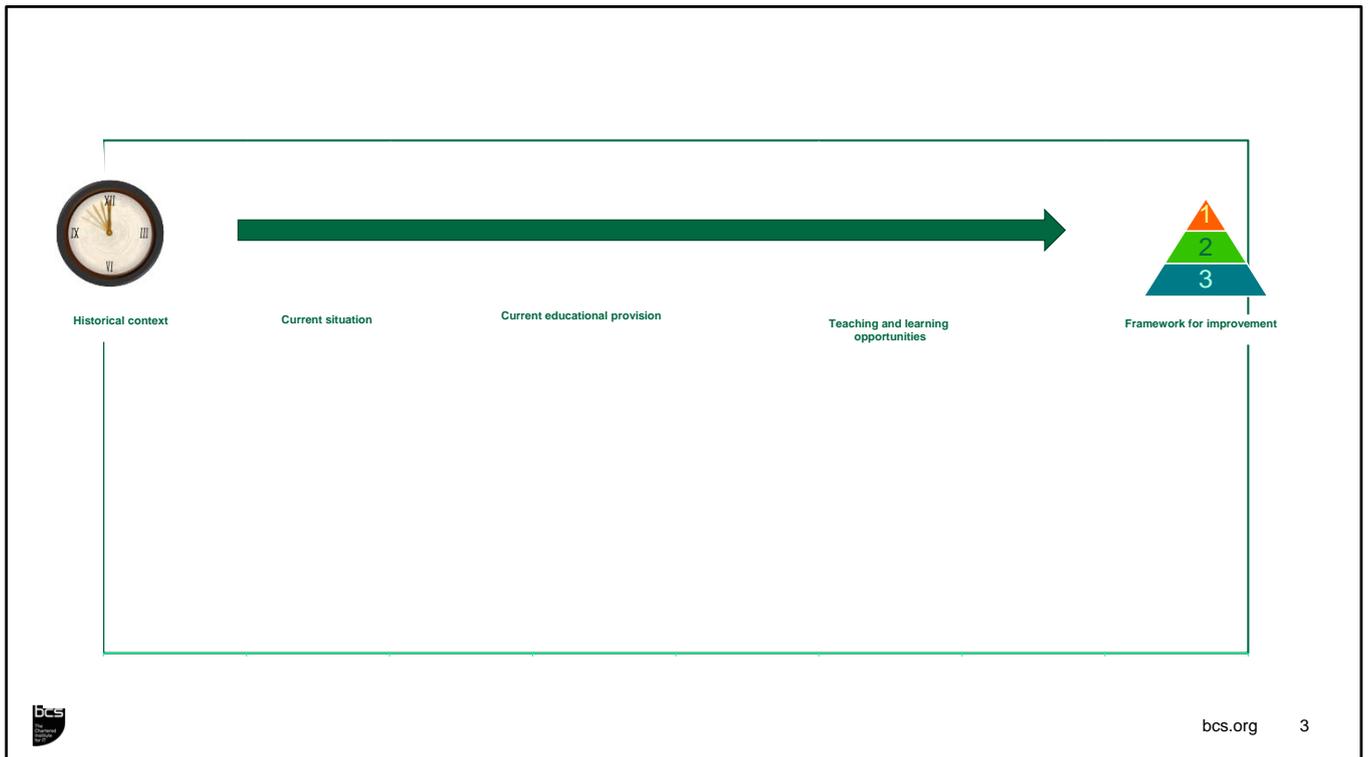
**Historical context**: origins; definition of the subject

**Current situation**: where does UX fit in? how are the skills used in the real world? Benefits of this knowledge

**Current educational provision:** what education is currently available, where the strengths are, examples of good practice

> Current issues: where the gaps are in educational provision; what isn't working for learners at the moment

**Teaching and learning:** how should this look in UX? What teaching and learning techniques can we use?

**Opportunities:** How can we provide learners with the opportunity to develop their skills and interest in UX at different stages of their education?

**Framework**: for a joined-up learning journey. How can we develop strategy in this area?

# Historical context

UX / HCI origins in the 1980s- impact of
--invention of GUIs **(enabler)**
--increasing functionality **(enabler and cause)**
--frequency of use **(cause/ encouragement/ feasibility)**

Digital technologies. The first examples had poor user experience- but at the time all digital tech was amazing.

Difference between UX and digital UX.
Usability also important in other technologies

Important to understand the context.

Factors driving developments:
• user needs
• user preferences
• context of use
• Business objectives
 ….. And others

# Shifting definitions

- HCI
- Usability
- User experience

Origins of HCI /<u>human factors</u>, especially :

- Efficient functioning of systems
- User stress/ ergonomic issues
- Safety

Not many other subjects that have this level of debate and change in subject terms.
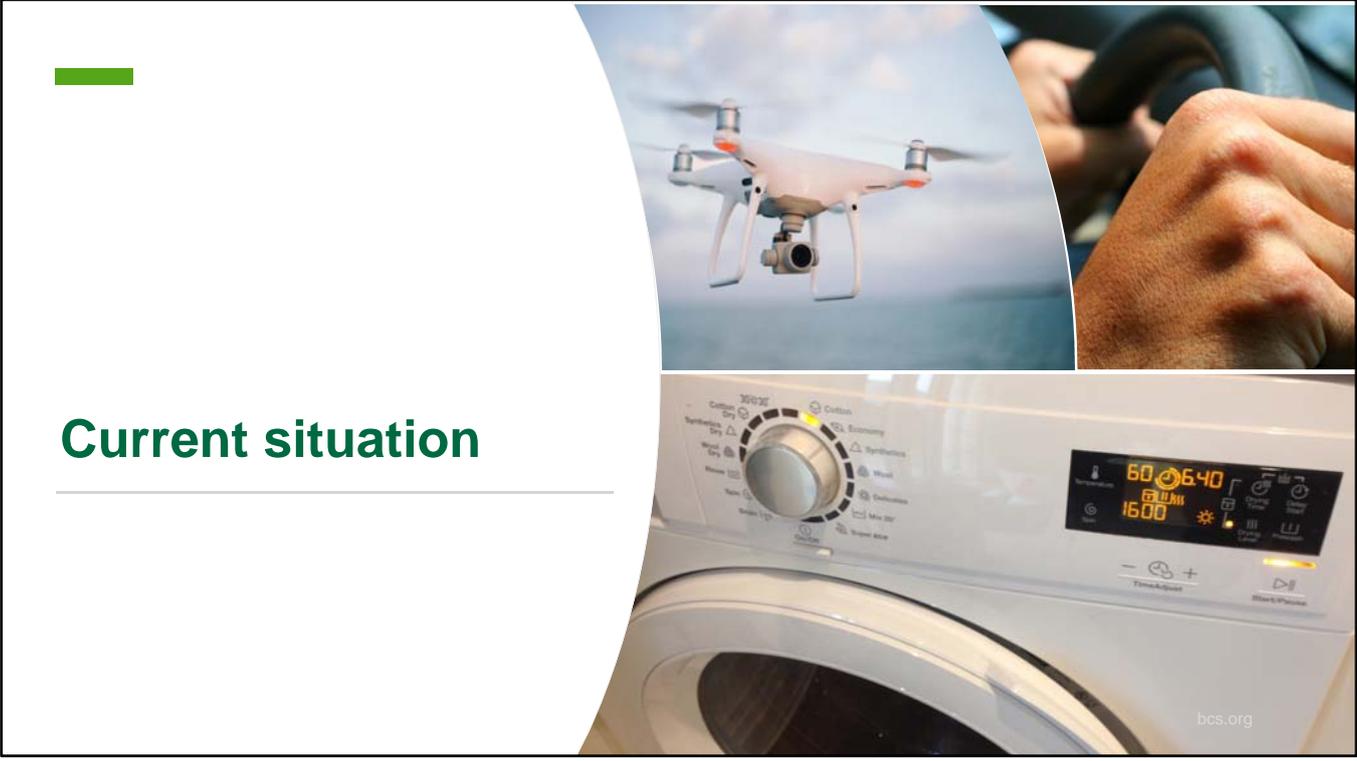
# Current situation

So many applications of UX

Current trends:
Split UX design – UX-Research
Split UI and UX
Split HCI / human factors and UX

We still need :
HCI and human factors
Cognitive engineering
Information architecture
Usability engineering
User interface design

# Identity

- Art?      http://www.csszengarden.com/
- Engineering?   https://www.raeng.org.uk/publications/other/ehom-poster-royal-academy-of-engineering
- Psychology?    http://www.flowol.com/Flowol4Tutorial.aspx
- Social science? 1
- Computing? 2
- Design?      https://youtu.be/-ySx-S5FcCI
- Business?    https://www.businessmodelcompetition.com/ash-maurya--lean-canvas.html



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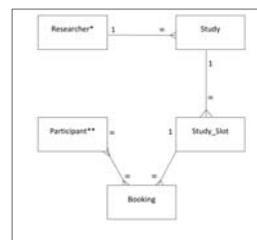


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# The need for UX optimisation

- User expectations
- Competitiveness

**Social design and values-based design**: examples of human-centred design thinking which apply widely outside UX. Therefore UX can act as a vehicle for social good.

- Empowerment of users to have a say in the design of things that serve their needs/ interests.
- Political aspect – participatory design is considered democratic
- Shift control towards user (customise, adapt, willing to help with design )
- General awareness (everyday conversations, news media).
- Growing intolerance/ inexcusability of hard-to-use products/ services (inc. software)
- Technology is now ubiquitous and we don't want to have technology in our space if it is obstructive, rude, etc. Users often personify computer technology.

Keeping UX strong is good for UK tech sector as a whole when facing competition from elsewhere. Essential for brand loyalty. Must have UX embedded everywhere there is technology. Can reduce IT support costs.

As new technologies emerge there is a particular need for UX at the beginning – e.g. drones, autonomous vehicles

# The UX professional

- UX specialisms

- What level of knowledge?

- Qualifications vs. experience

The problems with limited knowledge/ gaps in knowledge:

e.g. eye tracking – it is not possible to correctly interpret the results without understanding cognitive activities thoroughly. It is easy to jump to the wrong conclusions about the reasons for certain results.

**Poor recognition**: of the term 'UX'

**Uncontrolled growth** ('free-for-all'): the skills and standards for the field are not well-established. Lots of short courses etc.
- The societal and educational benefits are not acknowledged as much as in other subjects.
- Academic qualifications in UX are not well recognised (perhaps because they are unheard of)

Therefore a challenge to form proper professional identity.

# Professional accreditations

- CITP (BCS)
  - user research
  - user experience analysis
  - user experience evaluation

Strands in the competency framework (SFIA)

See Skills Framework for the Information Age © SFIA Foundation

**Current educational provision**

Poor perception and recognition of the field

The computing curriculum
The DT curriculum
Undergraduate options
Postgraduate options
'Migration'
On-the-job
Short courses

Challenges of transferring from other academic fields.
Need to make quite challenging links from one context/ domain to another. There will not be a balanced set of skills and knowledge – it could be 'lop-sided.'

Lots of integrated knowledge is needed. Inter-disciplinary knowledge rather than multi-disciplinary.

How current educational  routes into UX shape perception (e.g. disciplinary areas)

# University-level UX

## UX university courses in the UK
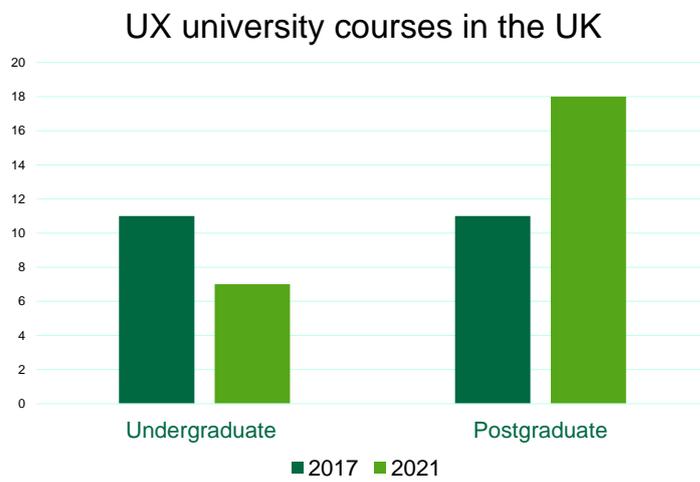


- See Appendix for source

# Current issues

- Lack of awareness (educators and learners)
- Lack of educational framework
- Lack of pedagogical research
- Lack of identity

**Lack of awareness:**
Lack of awareness even among undergraduate students

**Lack of Framework**
Giving opportunities at the right time should be a priority, as well as establishing a smooth learning journey (smooth transition into work and not having to 'migrate')
Getting into university research – currently no good route as there is not enough early provision/ awareness
- Not enough UX experts teaching in schools (most from Comp Sci background)

**Lack of research:**
- In UX
- In education in UX

Research on pedagogy limited to:
- Articles that draw heavily on the personal experiences of educators
- Assessments of particular teaching techniques/ taxonomies

**Lack of identity**
- As an academic area
    - Poor integration of UX education in syllabi
    - Few well-recognised qualifications in the field
    - Juggled between different subject areas = Academic demotion
- As a professional area
    - Lack of professional bodies

QUESTIONS

**Teaching and Learning opportunities**
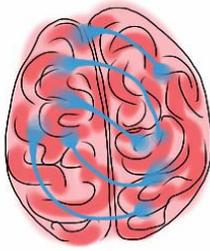
Children today participate in a wide range of content creation and the school computing curriculum supports them to acquire the technical computing skills (programming) to create software. It is not sufficient to have no UX alongside this.

UX develops metacognitive skills. Solving complex problems and understanding peoples' needs and behaviours. Empathy.

This is possible from young age .

Education in UX in earlier stages could save costs of on-the-job/ informal learning for employers and employees.

What teaching and learning techniques best support UX education?
• New roles of the 'teacher' and 'learner'

# Academic UX

Example of how UX can be applied even to simple programs/ command-line interfaces.
Make the game easier/ harder etc.

Other examples: older students designing learning resources for younger students; – understanding the user's needs, which may be different to their own.

Framework for improvement
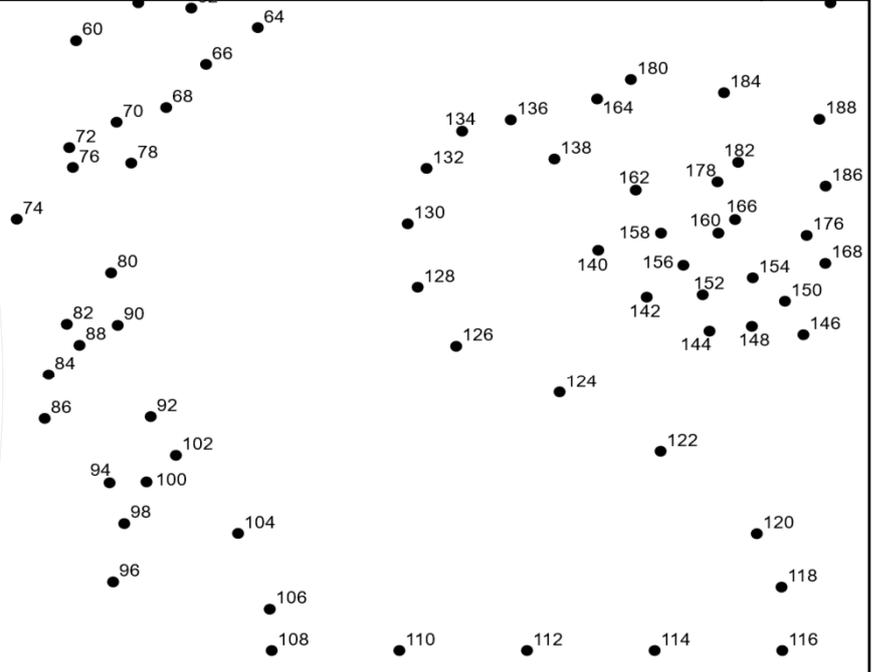
Need to get organised cross-phase.

# Framework options
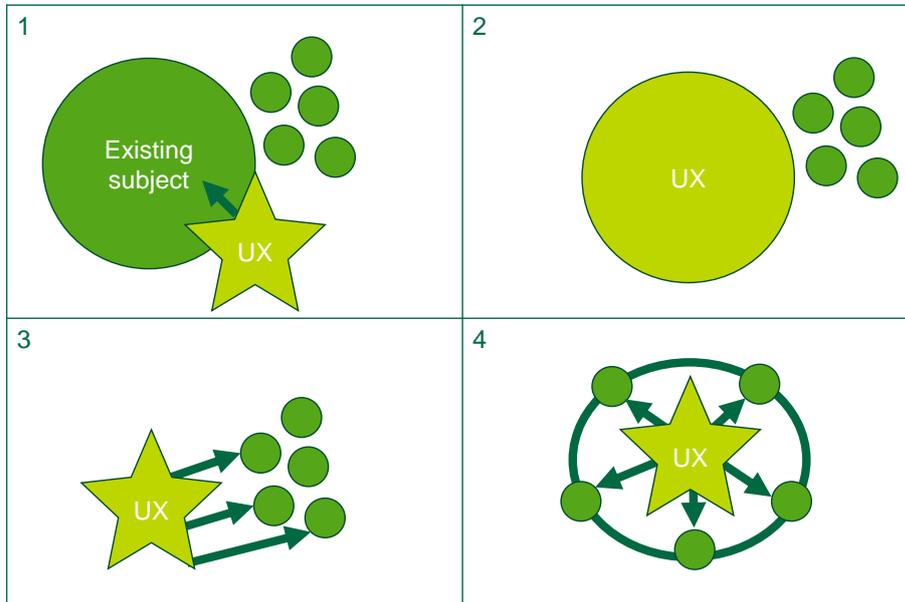
1. Give one subject ownership, e.g. part of Computing (computing has 'ownership'); part of Design (design has 'ownership') – could also be psychology.

2. Standalone subject

3. Integrated into several other subjects

4. Cross-curricular theme

ISSUES

1. Amount of time dedicated to UX
2. Expertise of teachers/ lecturers
3. Students able to see cross-curricular links/ develop their skills more transferably
4. Existing provision in school Design and Tech., and Computing curriculums
   - General assessment is that these curricula do draw on UX concepts but not in a structured, defined or well-developed way.

# Action!

# QUESTIONS

**THANK YOU**

Find my research on this topic on Research Gate.

# Appendix

Undergraduate courses in UX **2017**

Search results from ucas.com, 24/3/17. Search terms: user experience design; human computer interaction.
Entry requirements from institution web sites. Green highlights = courses still offered for 2021 entry.

| Institution | Course | | Entry requirements (standard offer as stated, all accept similar equivalents) | School/ Faculty | Accreditation |
|---|---|---|---|---|---|
| Norwich University of the Arts | BSc | Interaction Design | 3 A-levels, grades BBB, at least one in an art, design or media related subject. | N/A | |
| Norwich University of the Arts | BSc | User Experience Design | As above | N/A | |
| Blackpool and The Fylde College/ Lancaster University | FdSc / Top-Up degree | Interactive Media Development | Min. 64 UCAS points in an "appropriate discipline." | N/A | |
| Brunel University | BSc | Business Computing (Human-Computer Interaction) | A-levels (all subjects considered). | Computer Science | IEng (full), CEng (partial). BCS. |
| University of Dundee | BSc | Applied Computing - Human Computer Interaction | A-levels / Highers including two science subjects. | Computing | BCS |
| University of Manchester | BSc/ MEng | Computer Science (Human Computer Interaction) | A*AA-AAA including two of: Physics, Bio, Chem, Maths, Further Maths, Comp Science and/or Statistics. | Computer Science | |
| Newcastle University | BSc | Computer Science (HCI) | A-levels (any) AAB-ABB/AAC | Computing Science | BCS |
| London College of Creative Media | BSc | Digital Product Development | Portfolio, interview, one 'relevant' A-level subject | N/A | |
| Cleveland College of Art and Design | BA | Design for Digital Industries | Not specified | N/A | |
| University of the Arts London | BA | Information and Interface Design | A-levels to include Social Sciences. 64 UCAS tariff points | N/A | |

Total = 11

Undergraduate courses in UX **2021**

Search results from ucas.com, 19/08/20. Filter applied: courses stating in 2021.
Search terms: user experience design; human computer interaction. Entry requirements from institution web sites.
**Courses highlighted in green on the previous page still offered,** **with the following additions:**

| Institution | Course | | Entry requirements (standard offer as stated, all accept similar equivalents) | School/ Faculty | Accreditation |
|---|---|---|---|---|---|
| Manchester Metropolitan University | BSc | Web & User Experience Design | A levels: BBC | School of Digital Arts | |
| Ravensbourne University London | BA | User-Experience and User-Interface Design | 2 A levels, grade C or above, plus portfolio of relevant work | N/A | |

Total =  7

Postgraduate courses in UX **2017**

Search results from prospects.ac.uk/postgraduate-courses 24/3/17. Search terms: user experience design; human computer interaction. UK only. Entry requirements from institution web sites.

| Institution | Course | | Normal entry requirements | School/ Faculty | Accreditation |
|---|---|---|---|---|---|
| Loughborough University | MA | User Experience Design | Upper 2nd class Hons degree (any) or 3 + years UX industry experience. | Loughborough Design School | |
| University of Brighton | MSc | User Experience Design | Good Hons degree with substantial elements of computing, psychology, information design or product design. | Computing, Engineering and Mathematics | Partial- BCS |
| City, University of London | MSc | Human-Computer Interaction Design | Not specified | Department of Computer Science | Partial- BCS |
| UCL | MSc | Human-Computer Interaction | Upper 2nd degree in computer science, psychology, ergonomics or related field | Faculty of Brain Sciences | |
| University of Birmingham | MSc | Human-Computer Interaction | Upper 2nd degree in Computer Science/Computer Engineering | School of Computer Science | |
| University of Nottingham | PGCert | Usability and Human Computer Interaction | Upper 2nd class Hons degree- computer science, engineering, natural sciences, social sciences or art and design subject | Department of Mechanical, Materials and Manufacturing | |
| University of Nottingham | MSc | Human Computer Interaction | Upper 2nd class Hons degree (relevant subject) | School of Computer Science | |
| University of Bath | MSc | Human Computer Interaction | Upper 2nd class Hons degree (relevant subject), Maths A-level/ undergrad. module | Faulty of Science (Computer Science) | CITP |
| University of St Andrews | MSc | Human Computer Interaction | 2.1 Hons degree. Evidence of programming experience. | Computer Science | |
| University of York | MSc | Human-Centred Interactive Technologies | Upper 2nd class Hons degree (Computing or relevant subject) | Computer Science | IET- partial CEng requirements |

Total = 11

Postgraduate courses in UX <mark>2020</mark>.

Search criteria as before. Search performed 15/8/20. **All 11 degrees from the previous page still offered**, with the following additions:

| Institution | Course | | Normal entry requirements | School/ Faculty | Accreditation |
|---|---|---|---|---|---|
| Goldsmiths, University of London | MSc | User Experience Engineering | Upper 2$^{nd}$ class Hons degree (Computing, Psychology, Design or related) | Department of Computing (with input from Department of Psychology / Institute of Management Studies) | |
| University of Central Lancashire | MSc/ MRes | User Experience (UX) Design | 2.1 in a Computing or Technology-related subject, or a non-related degree with relevant work experience | School of Physical Sciences and Computing | |
| Birmingham City University | MSc | User Experience Design | (2:2+) broadly related to User Experience Design (e.g. Computing, Mathematics, Engineering, Business, Marketing, Psychology, Art and Design) | School of Computing and Digital Technology | |
| University of the Arts London | MA | User Experience Design | Hons degree (design/ social sciences suggested) | London College of Communication | |
| Kingston University | MSc | User Experience Design | 2:1 in art and design, computer science, humanities or psychology | Unknown | Partial - BCS |
| Newcastle University | MSc | Human-Computer Interaction | 2.2 Hons degree in any subject | School of Computing | CITP- BCS |
| Swansea University | MSc by research | Human Computer Interaction | 2.1 | Computer Science | |
| Falmouth University * | MA | User Experience Design | Any Hons degree | Not applicable | |

Total = 18

\* did not appear in prospects.ac.uk search results