

# Welcome to Human- Computer Interaction

Dr Uta Hinrichs & Dr Tara Capel

# who are we?



Uta Hinrichs  
[uhinrich@ed.ac.uk](mailto:uhinrich@ed.ac.uk)



Tara Capel  
[tcapel@ed.ac.uk](mailto:tcapel@ed.ac.uk)

# today

- Overview of the course
- What is HCI & why is it important?
- Examples of HCI
- Design Process

who are  
you?

# course overview

# objectives

(in short)

- Knowledge of the issues and problems in HCI
- An understanding of human perception and behaviour in analysing their interactions with technology in their every day lives
- Use established design principles and methodologies to solve HCI problems
- Confidence in applying different disciplinary perspectives on HCI to design problems
- Devise, plan and execute task analysis and system evaluation studies, and present findings in a clear and effective manner
- Awareness of current areas of HCI research

# objectives

(inofficial)

- Get you excited about HCI research and practice
- Get you to think critically about the design of interactive systems and their impact
- Give you the tools to evaluate interactive systems from different perspectives

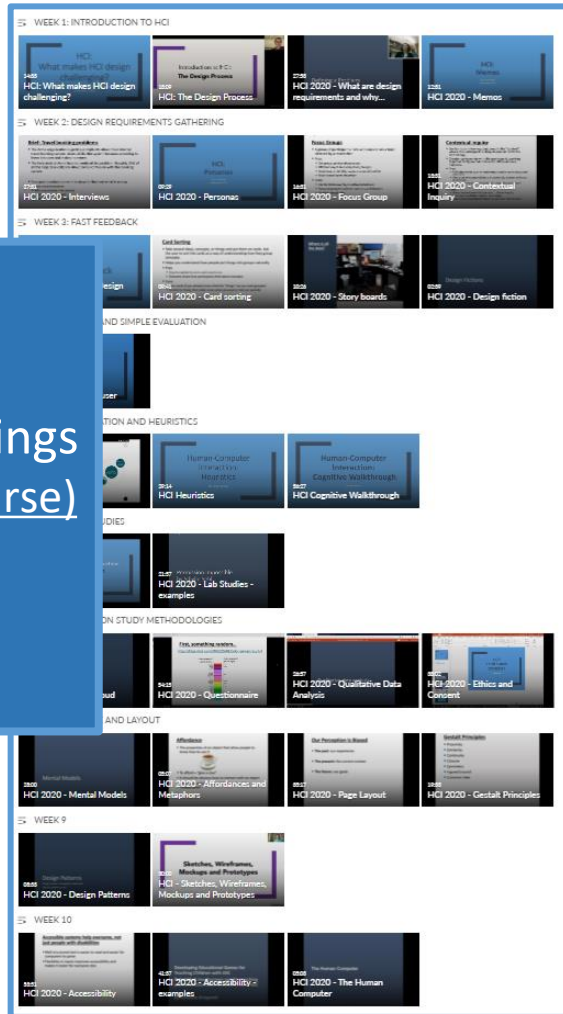
# course philosophy

- Theory + hands-on work
- Participatory
- Flipped classroom teaching style



# flipped classroom

Videos & Readings  
(all on OpenCourse)



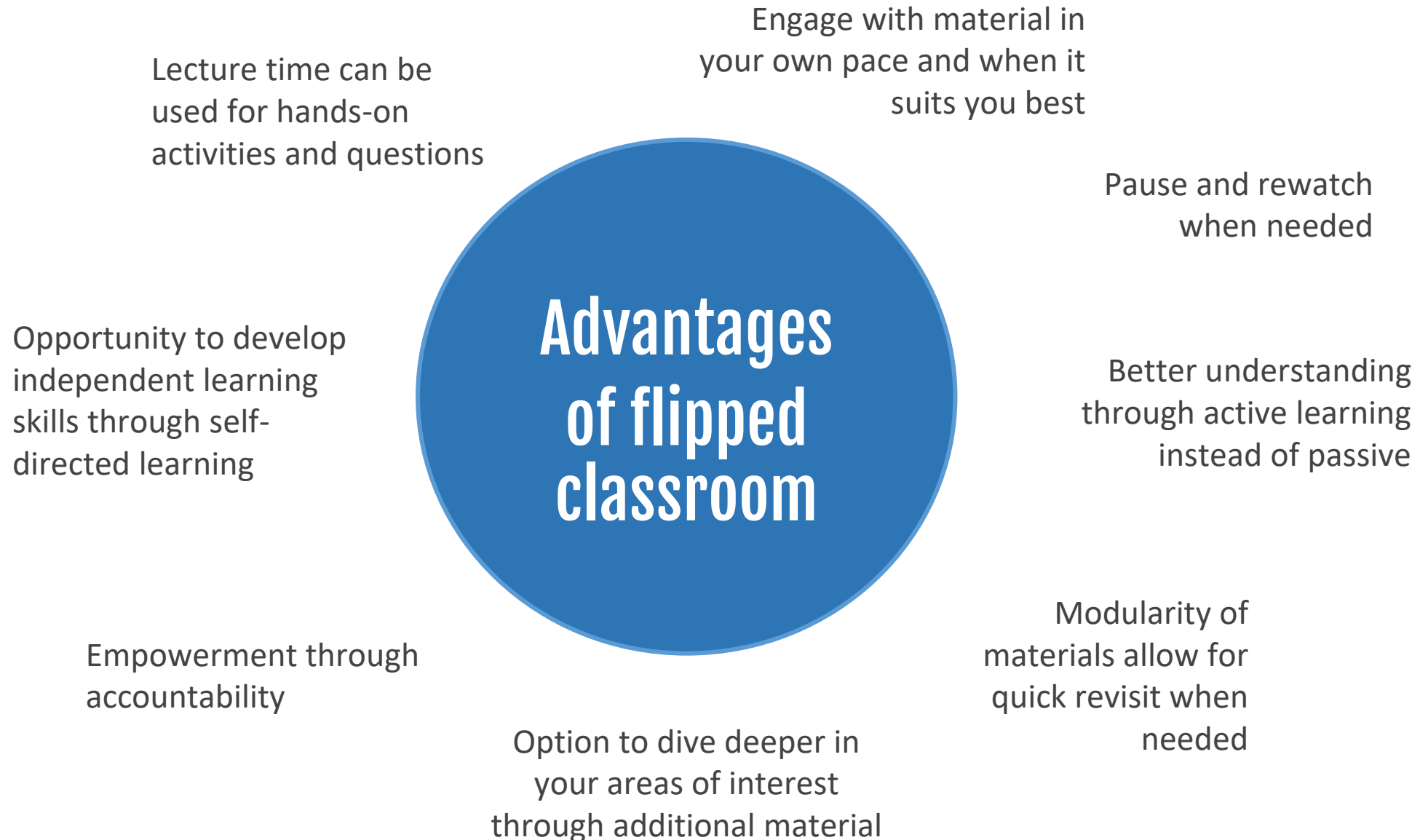
Mondays &  
Wednesdays

- Recap
- Q&A
- Hands-On Activities



Photo by [Dylan Gillis](#) on [Unsplash](#)

# flipped classrooms



# What do we expect of you?

1. Engage with the material **before** the live lecture
2. Take note of questions and things you would like to discuss
3. Ask your questions during the lecture or on Piazza
4. Answer your fellow classmates' answers on Piazza
5. Attend the lecture and participate in the hands-on activities

# What can you expect of us?

1. Preparation of materials including guidance texts
2. Recap of material during live lectures
3. Q&A and discussion of student-proposed topics that come up
4. Preparation of hands-on activities and material
5. Presence on Piazza
6. Office hours

# course structure

- 10 credits
  - Work expectation: 6-7 hours/week
  - 2 hours lecture
  - 2 hours lecture preparation
  - 2-3 hours coursework
- Monday Lecture: 12:10 – 13:00
  - Old College; Usha Kasera Lecture Theatre
- Wednesday Lecture: 14:10 – 15:00
  - 13-15 South College Street - Newhaven Lecture Theatre
  - **Except Week 3!!** → Usha Kasera Lecture Theatre

# lecture etiquette

- Attendance is strongly advised
- Questions are welcome any time
- Suggestions are welcome!
  - More off...
  - Less off...
- Active participation is expected

# course materials

- All lecture materials will be made available on OpenCourse week-by-week
- Video lectures by multiple HCI experts



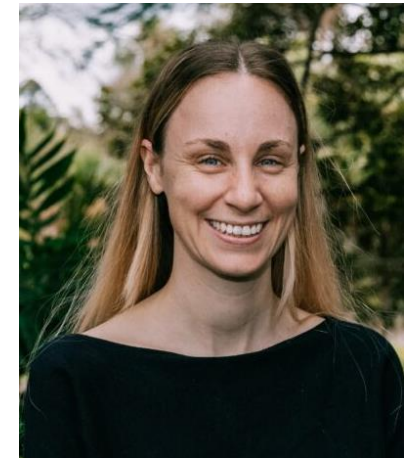
Kami Vaniea



John Vines



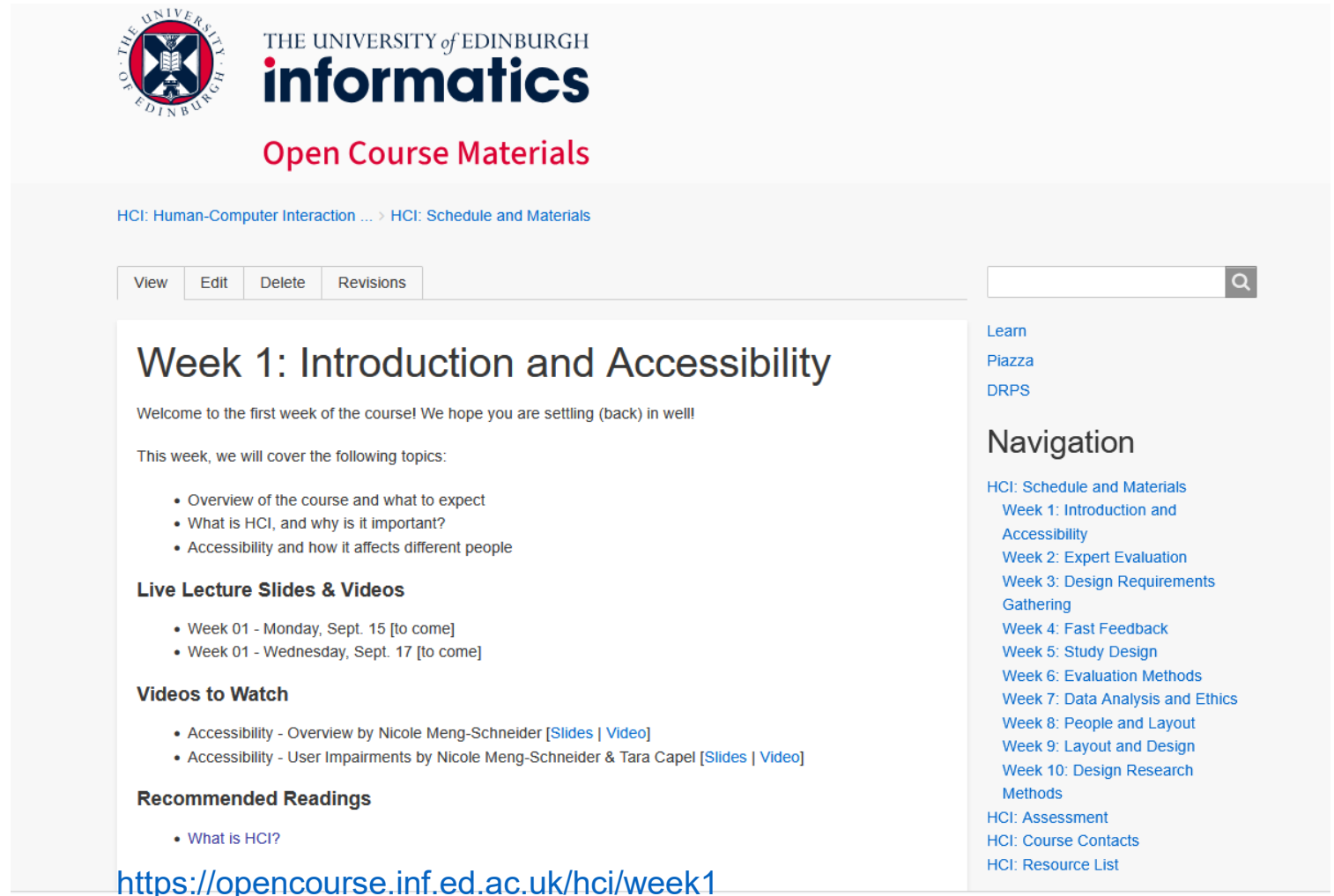
Nicole Meng-Schneider



Tara Capel

# course materials

- All lecture materials will be made available on OpenCourse week-by-week



The screenshot shows the 'Open Course Materials' page for the University of Edinburgh Informatics course. The header features the university's crest and logo. The main content area is titled 'Week 1: Introduction and Accessibility' and includes a welcome message, a list of topics, and sections for live lecture slides, videos to watch, and recommended readings. A right-hand sidebar contains navigation links for the course schedule and materials.

**THE UNIVERSITY of EDINBURGH**  
**informatics**  
**Open Course Materials**

HCI: Human-Computer Interaction ... > HCI: Schedule and Materials

View Edit Delete Revisions

## Week 1: Introduction and Accessibility

Welcome to the first week of the course! We hope you are settling (back) in well!

This week, we will cover the following topics:

- Overview of the course and what to expect
- What is HCI, and why is it important?
- Accessibility and how it affects different people

### Live Lecture Slides & Videos

- Week 01 - Monday, Sept. 15 [to come]
- Week 01 - Wednesday, Sept. 17 [to come]

### Videos to Watch

- Accessibility - Overview by Nicole Meng-Schneider [Slides | Video]
- Accessibility - User Impairments by Nicole Meng-Schneider & Tara Capel [Slides | Video]

### Recommended Readings

- What is HCI?

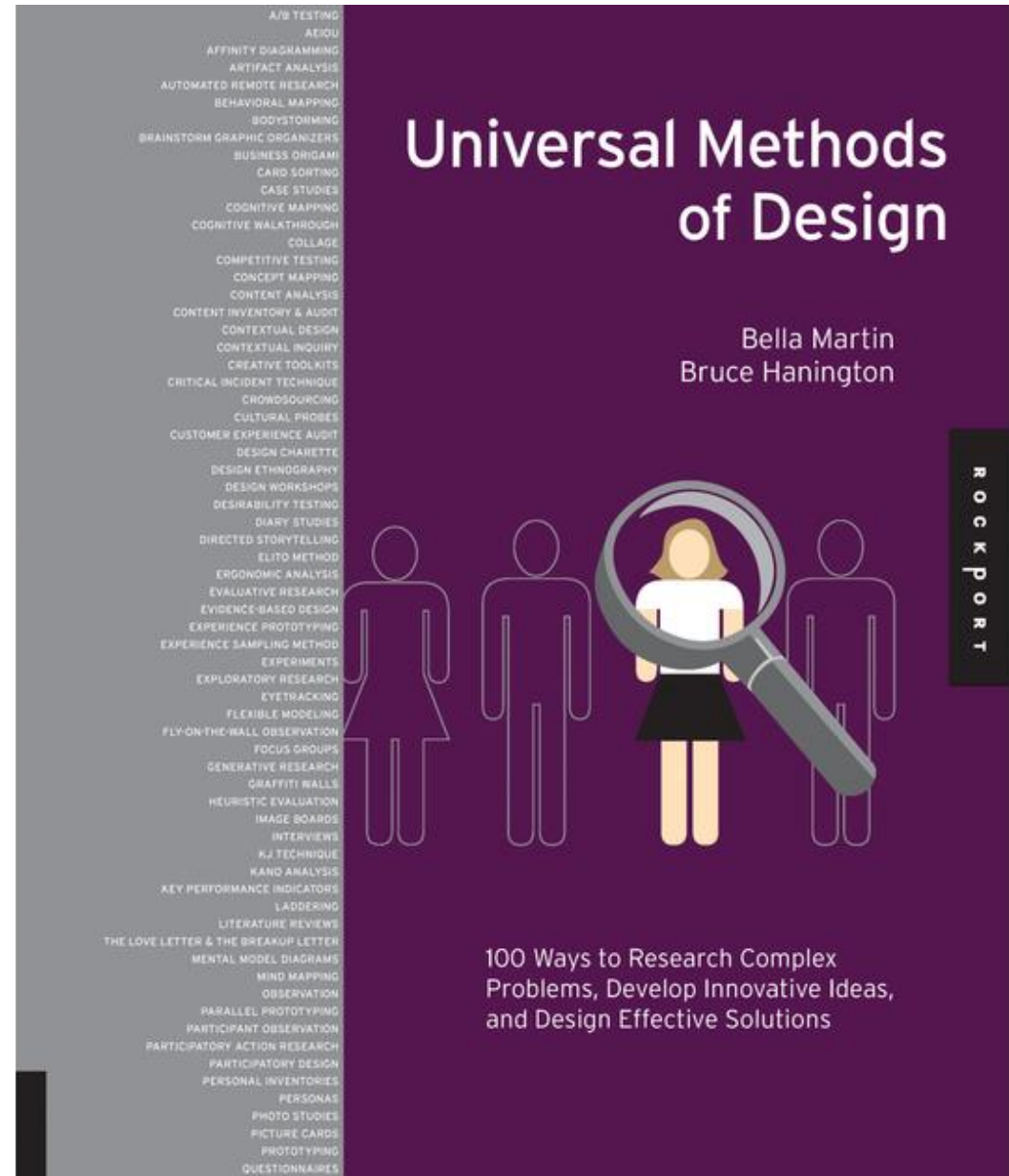
<https://opencourse.inf.ed.ac.uk/hci/week1>

Learn  
Piazza  
DRPS

## Navigation

HCI: Schedule and Materials  
Week 1: Introduction and Accessibility  
Week 2: Expert Evaluation  
Week 3: Design Requirements Gathering  
Week 4: Fast Feedback  
Week 5: Study Design  
Week 6: Evaluation Methods  
Week 7: Data Analysis and Ethics  
Week 8: People and Layout  
Week 9: Layout and Design  
Week 10: Design Research Methods  
HCI: Assessment  
HCI: Course Contacts  
HCI: Resource List

# course materials





# assessment

- 100% coursework
- Coursework 1: Heuristic Evaluation
  - Formative; not marked
  - Individual + group work
- Coursework 2: Re-Design + Evaluation
  - Summative – 100% of grade
  - Groupwork
- All coursework will be released on Learn shortly!

# groupwork

- Coursework requires you to work in groups of 3-4 students
- You can form your own group
  - More info on how to sign-up your group to come

**OR**

- We can assign you a group
  - If you want to be assigned a group, please fill out this form:

# contact

- Uta Hinrichs (course organizer)
  - [uhinrich@ed.ac.uk](mailto:uhinrich@ed.ac.uk)
  - School of Informatics 4.19a
- Best practice
  - Talk to me right after the lecture
  - Get in touch via email
  - Office hours: Thursdays, 10:00 – 11:00
- For general questions that might be of interest to everyone
  - Post the question on Piazza

**any questions?**

**what is Human- Computer Interaction?**

# what is Human- Computer Interaction?

## Interaction Design Foundations:

Human-computer interaction (HCI) is a multidisciplinary field of study focusing on the design of computer technology and, in particular, **the interaction between humans (the users) and computers**. While initially concerned with computers, HCI has since expanded to cover almost all forms of information technology design.

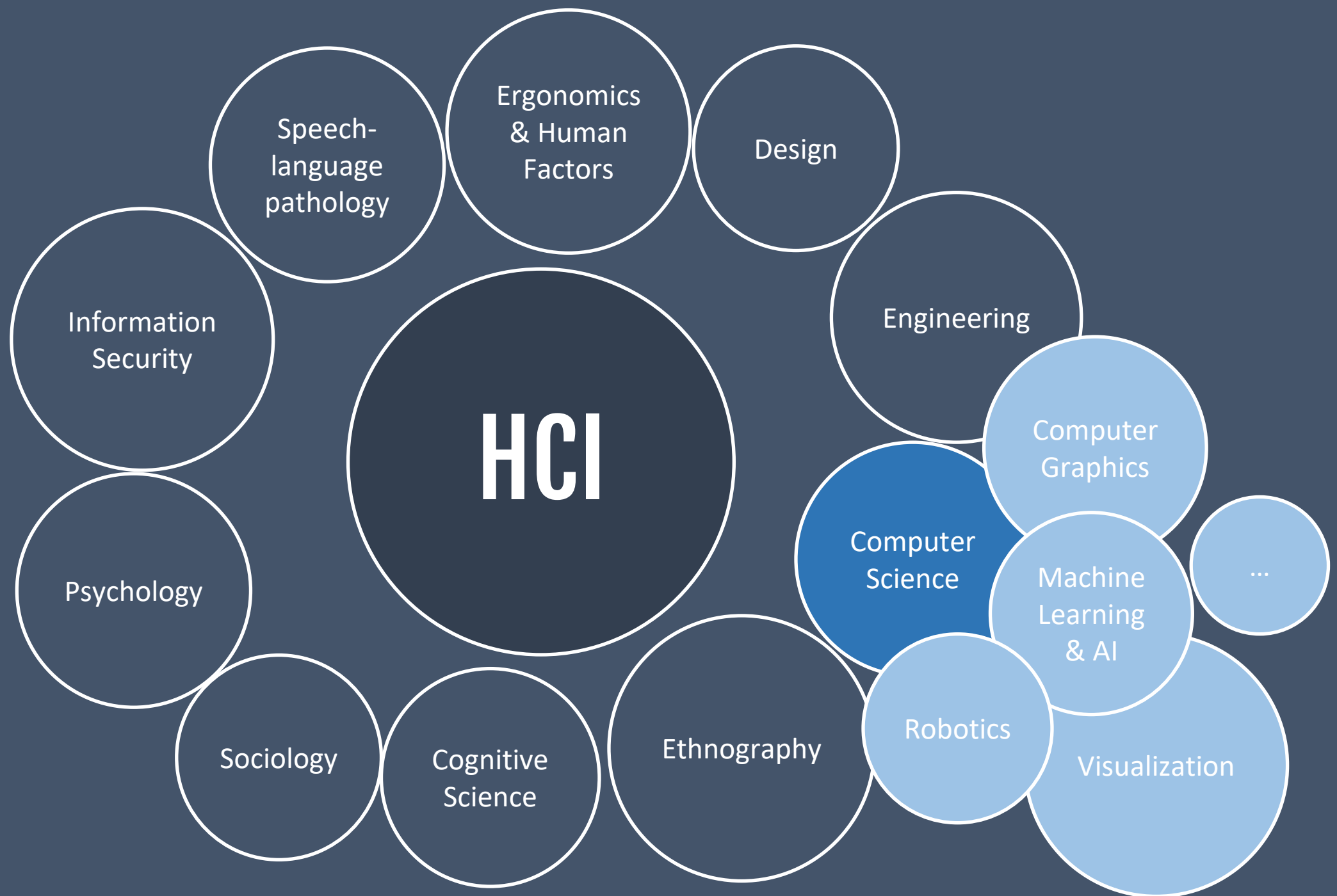
[Interaction Design Foundations](#)

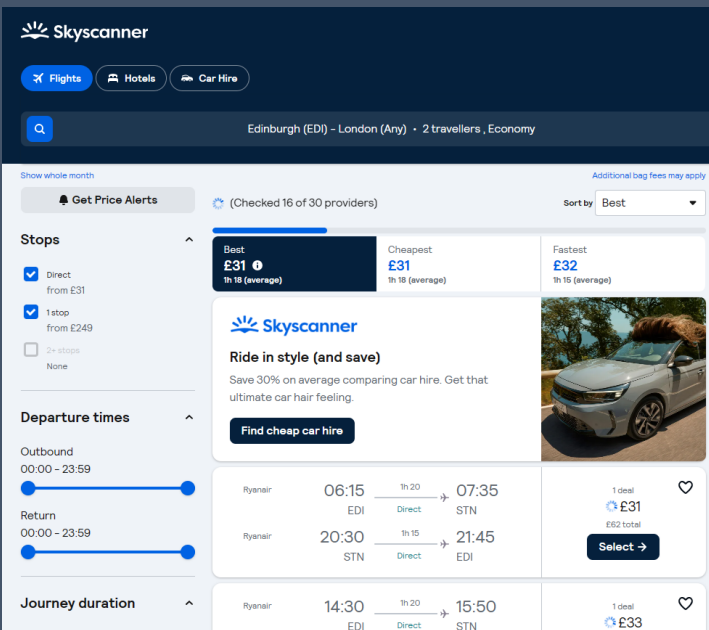
# what is HCI?

- Research field
  - Design methods
  - Evaluation methods
  - Theory
  - Domain-specific research
  - ...
  - [28 ACM SIGCHI conferences](#)
- Practice
  - Interface design
  - Interaction design
  - UX design
  - ...

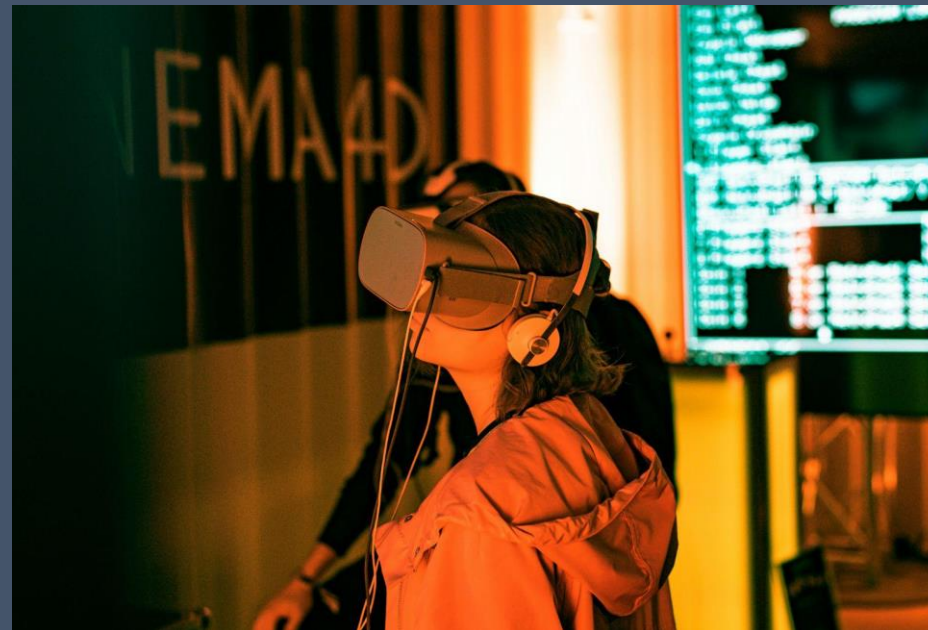
**HCI is interdisciplinary.**







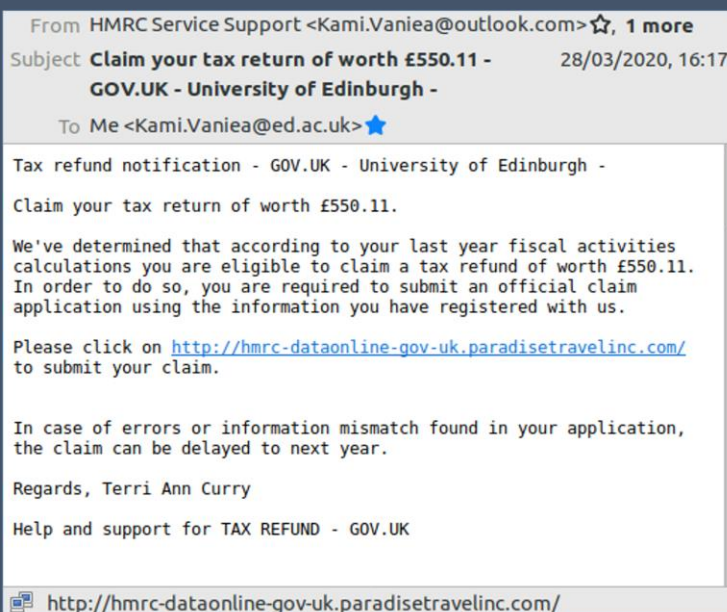
<https://www.skyscanner.net/>



by Nicolas Arnold on Unsplash



<https://tonies.com/>



Kami Vaniaa



by i yunmai on Unsplash



<https://www.forbes.com/>

**HCI is everywhere.**

raise your hand  
if you can relate



<https://www.youtube.com/watch?v=HtTUsOKjWyQ>

# your experience with technology

- Get together in pairs
- Discuss your experience with a particular piece of interactive technology you know/use
  - For what activities do you use it and how frequently?
  - Is it easy or difficult to use?
  - Do you enjoy interacting with it, or not? Why?

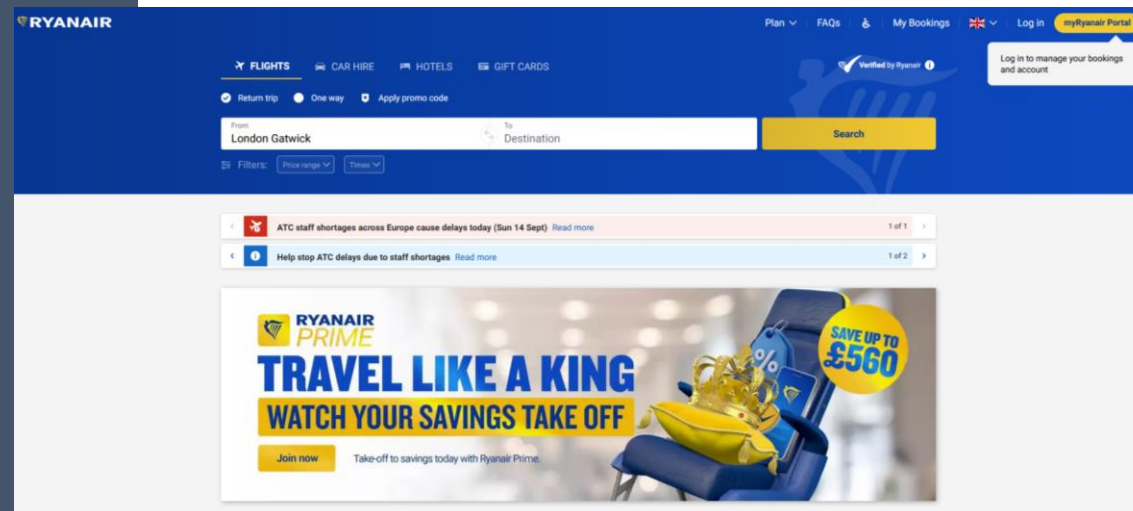
[5 minutes]

**HCI research & practice are  
important.**

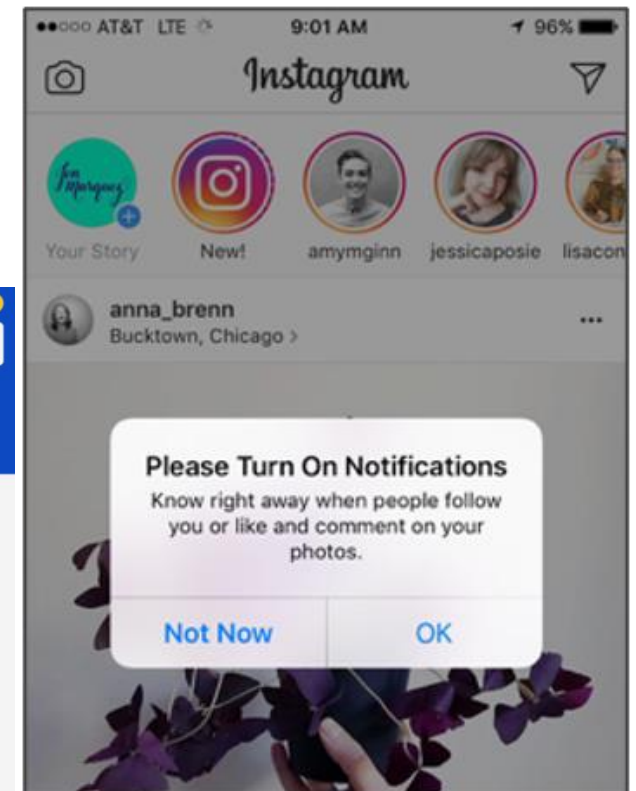


# why is an understanding of HCI important?

- Understand users and their needs
  - Create positive user experience
  - Reduce frustration
  - Increase positive impact of technology
- Awareness of the dark side of user experience design



<https://www.ryanair.com/gb/en>



# what topics does HCI encompass?

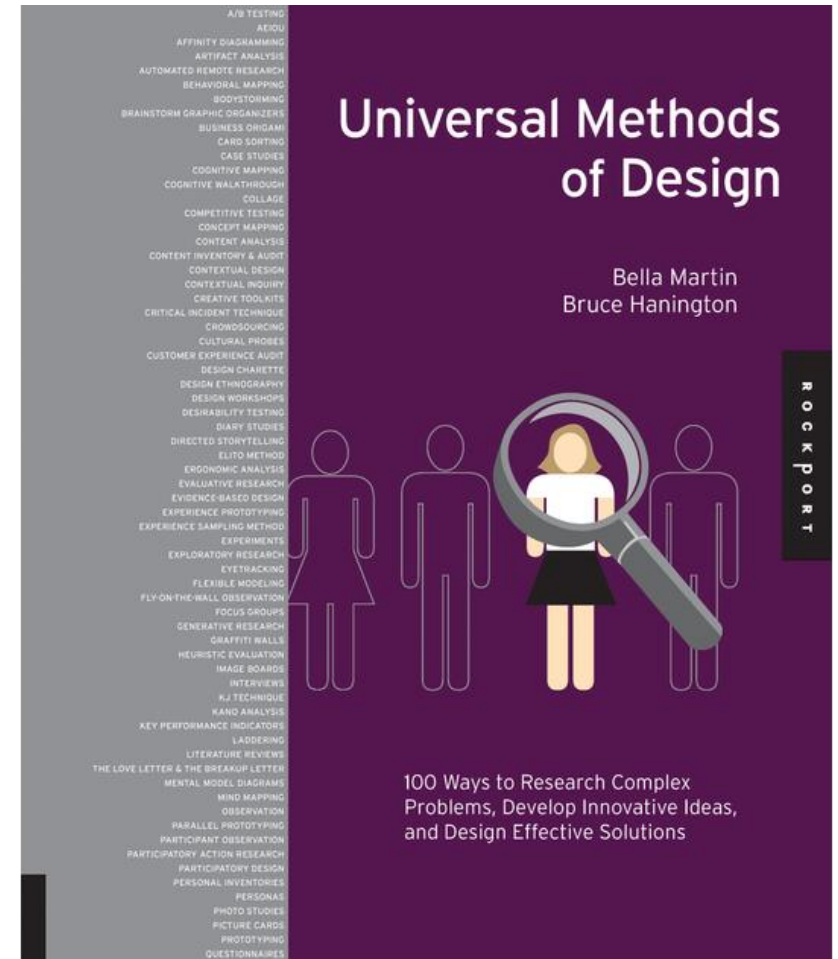
- Accessibility
- Design Processes
- Prototyping and Design
- HCI Research Methods
- Evaluation Methods
- Data Analysis
- Ethics



# design process

# Universal Methods of Design “approach”

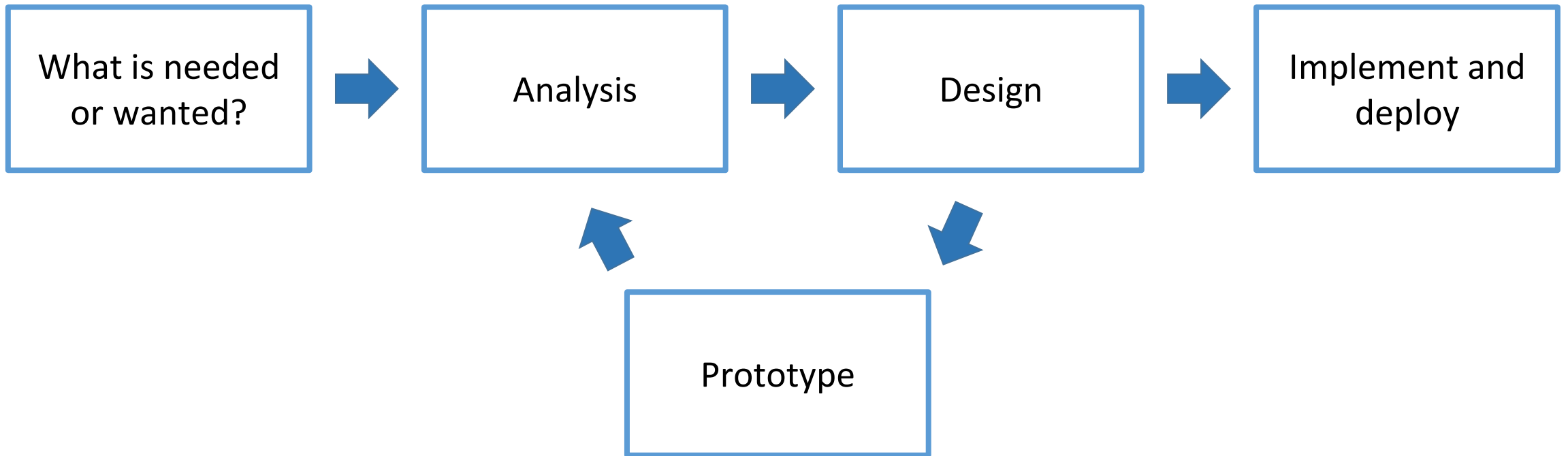
1. Planning, scoping + defining
  - What do we want to do?
2. Exploration, synthesis + design implications
  - Would it work? Would it solve the problem?
3. Concept generation
  - Create a prototype and try it out
4. Evaluation, refinement + production
  - Build it, test it, fix it
5. Launch and monitor and iterate
  - See if it works in the real world, with real users, and perform ongoing review and iteration



# Universal Methods of Design “approach”

1. Planning, scoping + defining
    - What do we want to do?
  2. Exploration, synthesis + design implications
    - Would it work? Would it solve the problem?
  3. Concept generation
    - Create a prototype and try it out
  4. Evaluation, refinement + production
    - Build it, test it, fix it
  5. Launch and monitor and iterate
    - See if it works in the real world, with real users, and perform ongoing review and iteration
- What is wanted/needed?
  - Analysis
  - Design
  - Prototyping
  - Implement & Deploy

# Design Process (very simplified)



# a novel search interface for public libraries



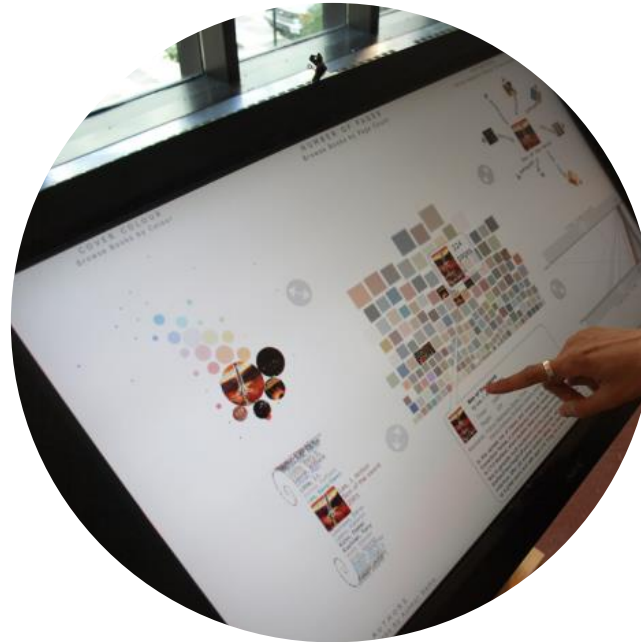
How to support systematic in-situ search at public libraries?

# 1. What is needed or wanted?

- Literature review on search approaches
- Existing alternative search approaches
- Interviews with library staff



StorySurfer. Eriksson and Lykke-Olsen, 2007



Bohemian Bookshelf. Thudt et al., 2012



FacetStreams. Jetter et al., 2009

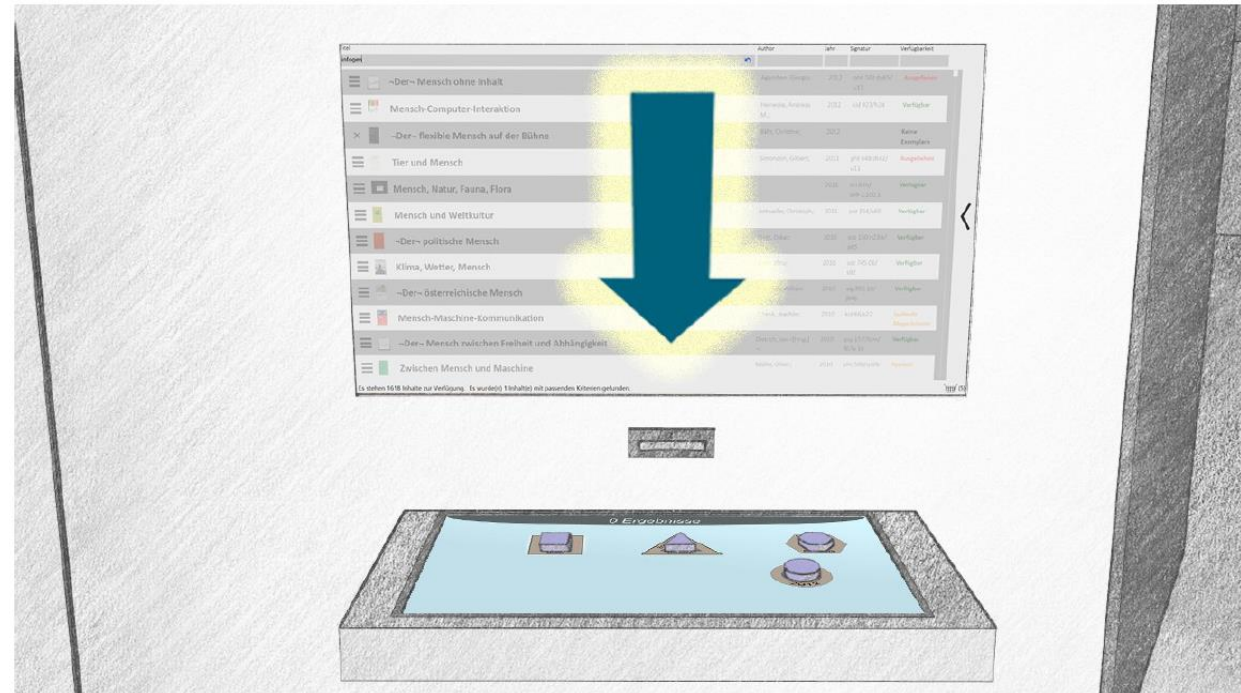
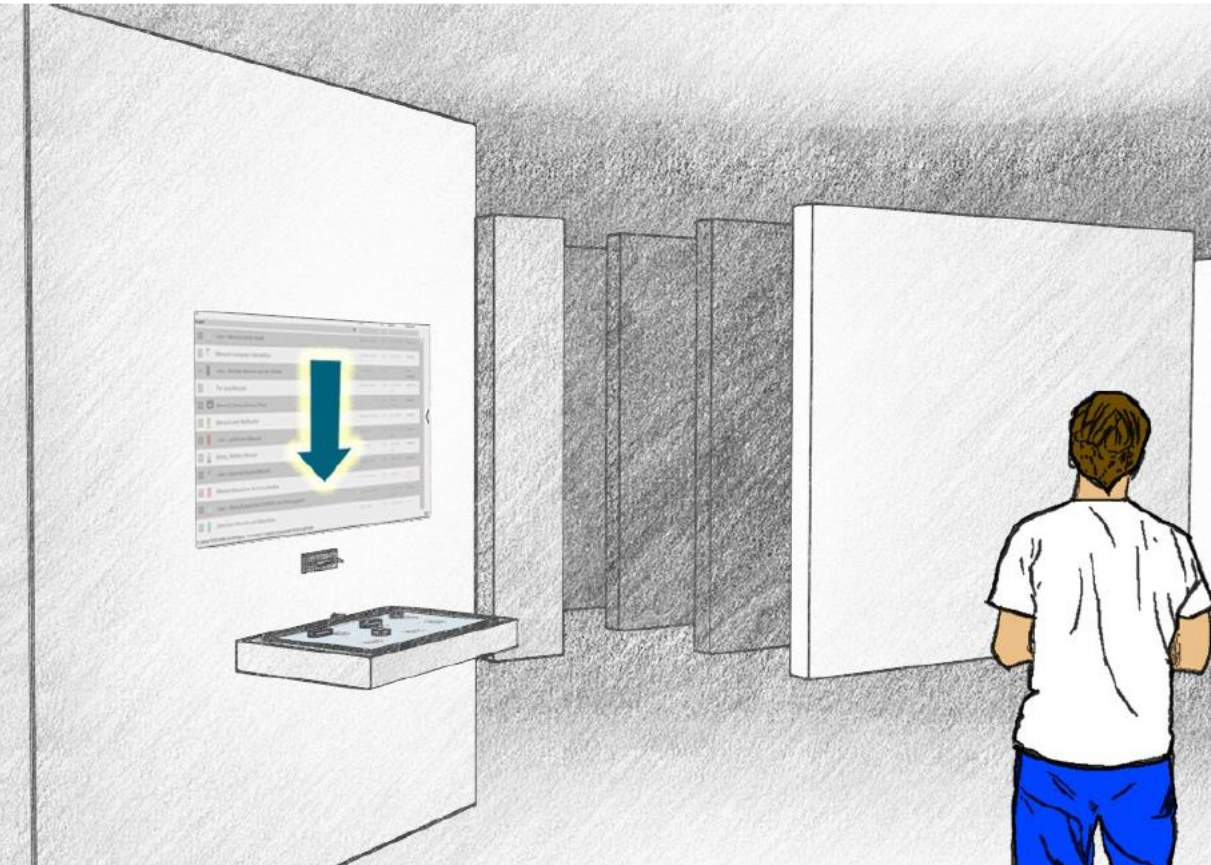
# 2. Analysis

- Definition of design goals
  - Visibility and accessibility of search criteria
  - Transparency of search process
  - Proactive approach to search
  - Shared experiences
- Task analysis
  - General browsing vs. systematic search



# 3. Design

- Within-team design workshops
  - Brainstorm ideas
  - Sketch ideas
  - Storyboarding

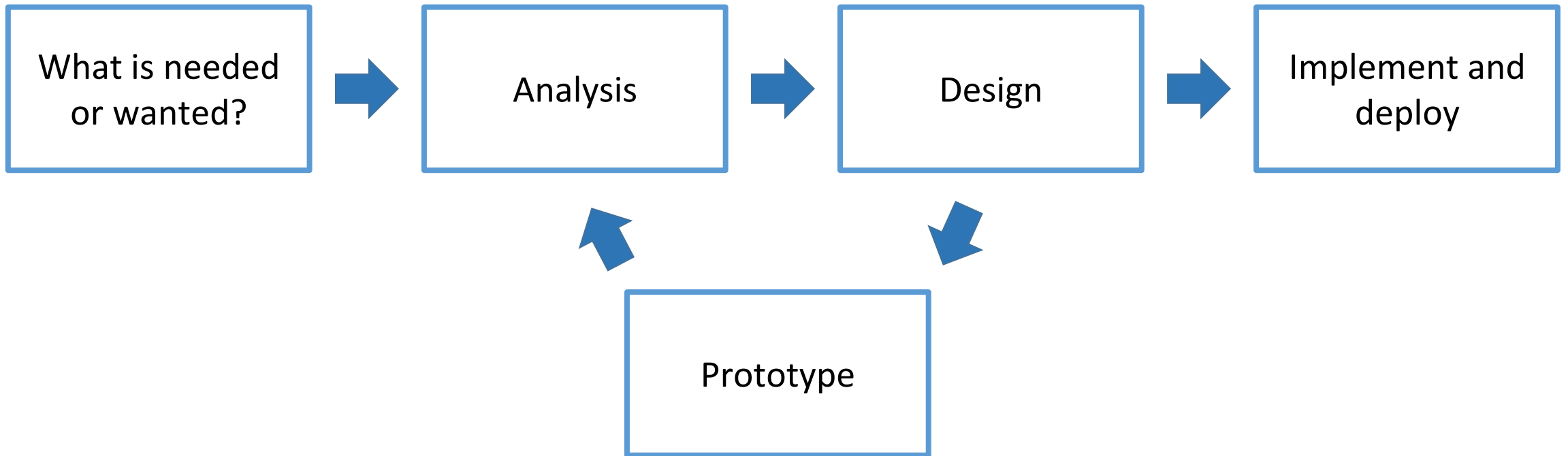




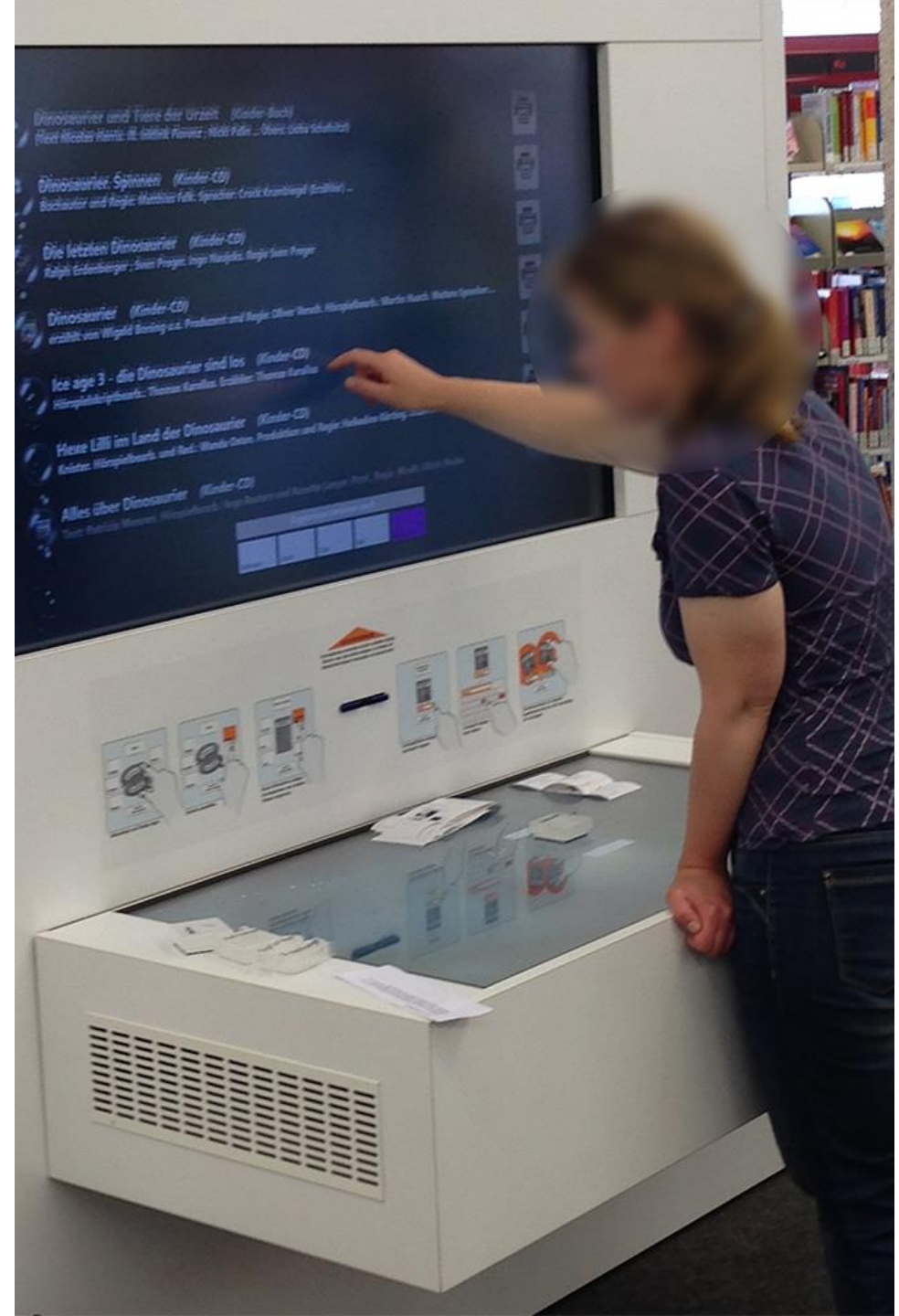
# 4. Prototype

- Paper prototype
- Low-fidelity prototype with some functionality
- High-fidelity prototype

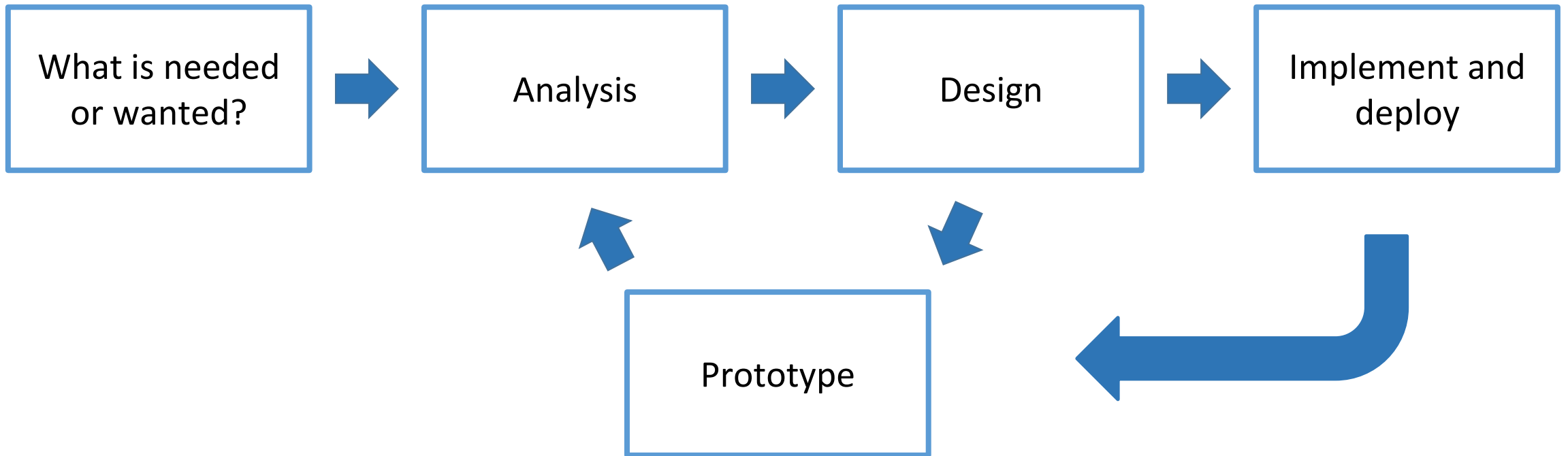
# Design Process (very simplified)



# 5. Deploy- ment

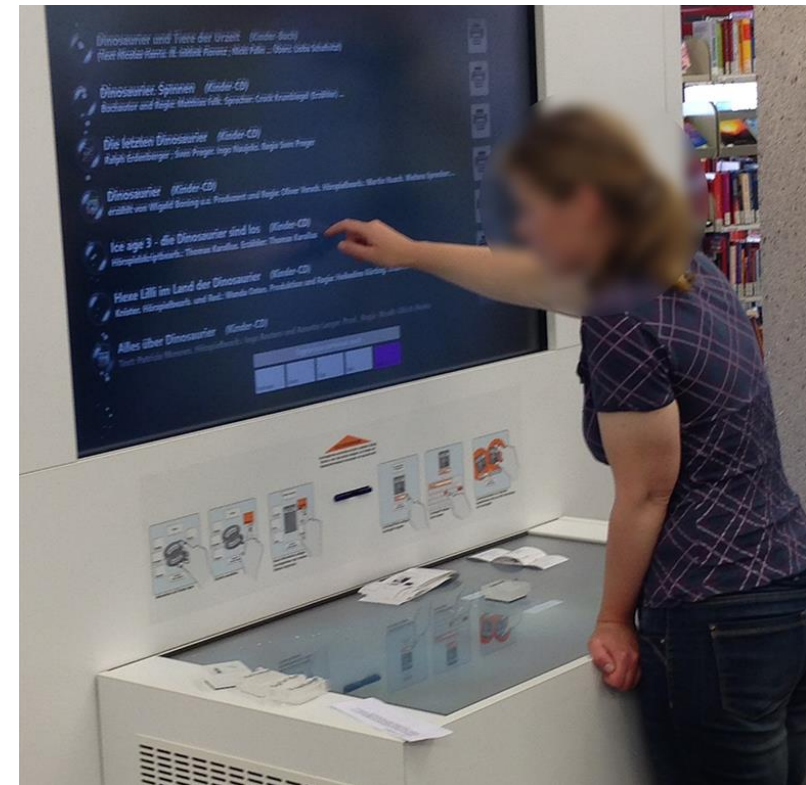
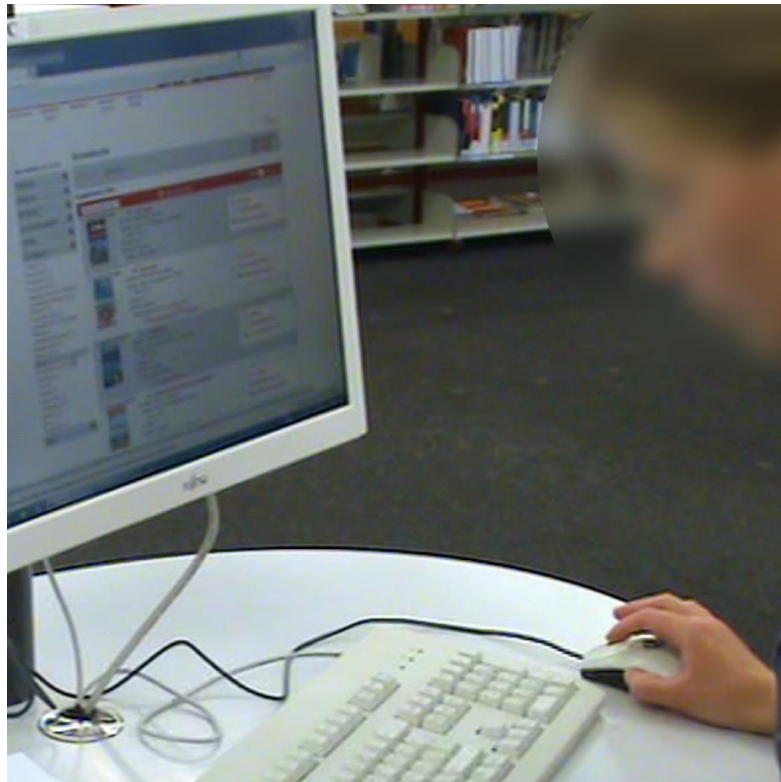


# Design Process (very simplified)

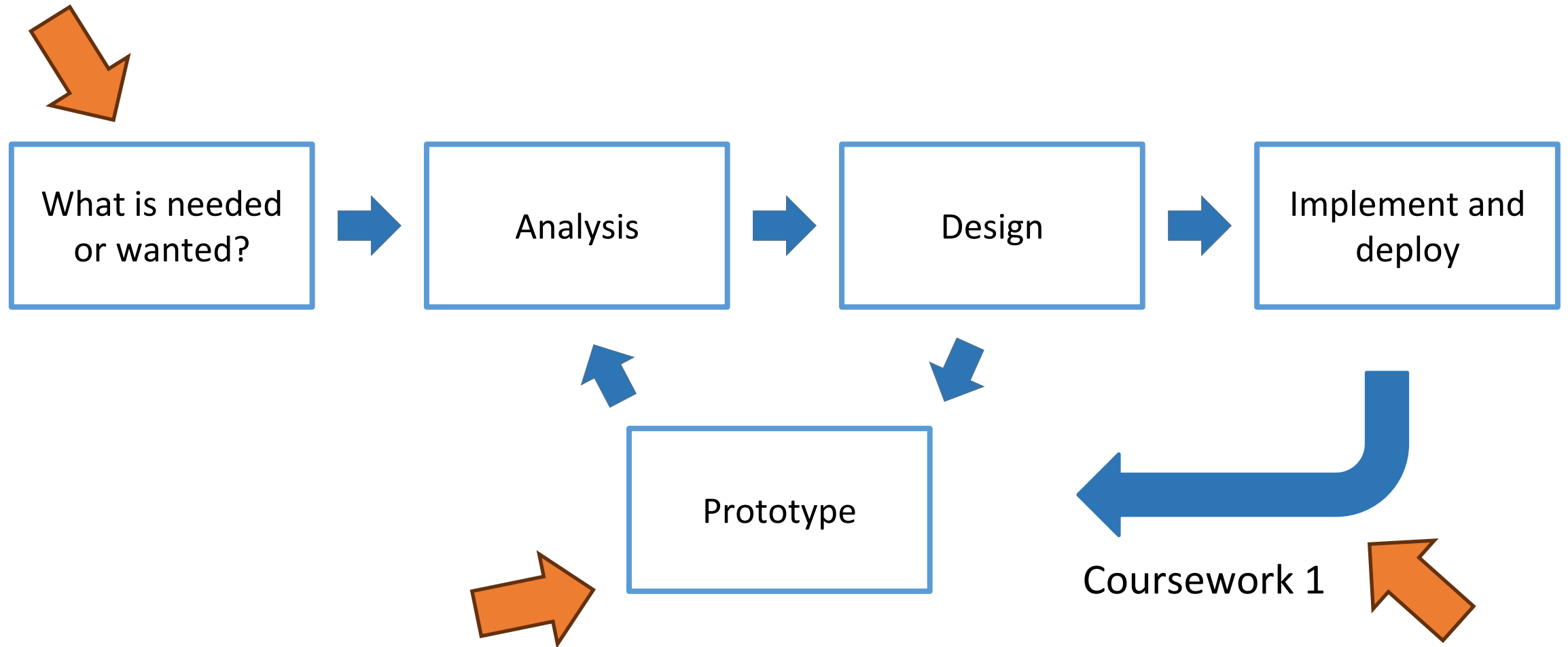


## 2. Analysis

- Comparative qualitative study with library visitors



# Different Entry Points to the Design Process



**any questions?**

# next steps

- Wednesday: Accessibility
  - 13-15 South College Street - Newhaven Lecture Theatre
- Watch the videos on accessibility
  - OpenCourse, Week 1
- Homework
  - Note down any technology or interfaces you experience difficulties with.
  - Take a screenshot and/or jot down notes to discuss during the in-class activity on Wednesday
- Think about forming groups for the coursework