HCI 2025

Human Computer Interaction

Introduction to the course

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Alberto Monge Roffarello, Tommaso Calò

Academic Year 2025/2026

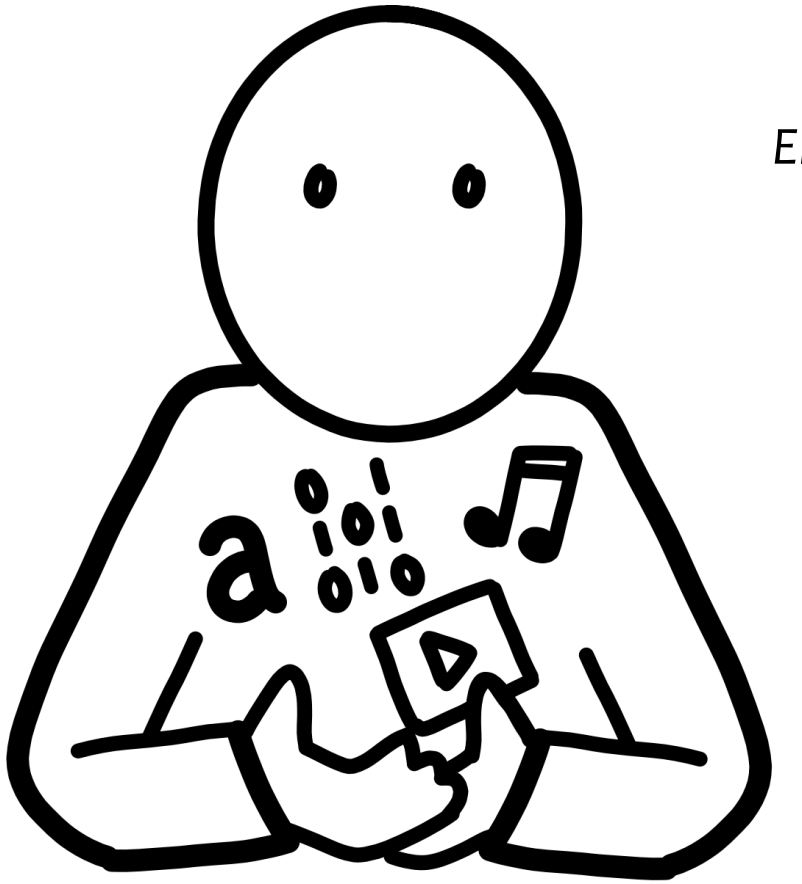
Disclaimer

Students (you!)

Expectations?

Students (last year)

End-of-course questionnaire



Teachers (us)

Goals and motivation

Everybody here

Topics, organization, and exam

Students
(you!)

What do you hope to learn in this course?

Teachers
(us)

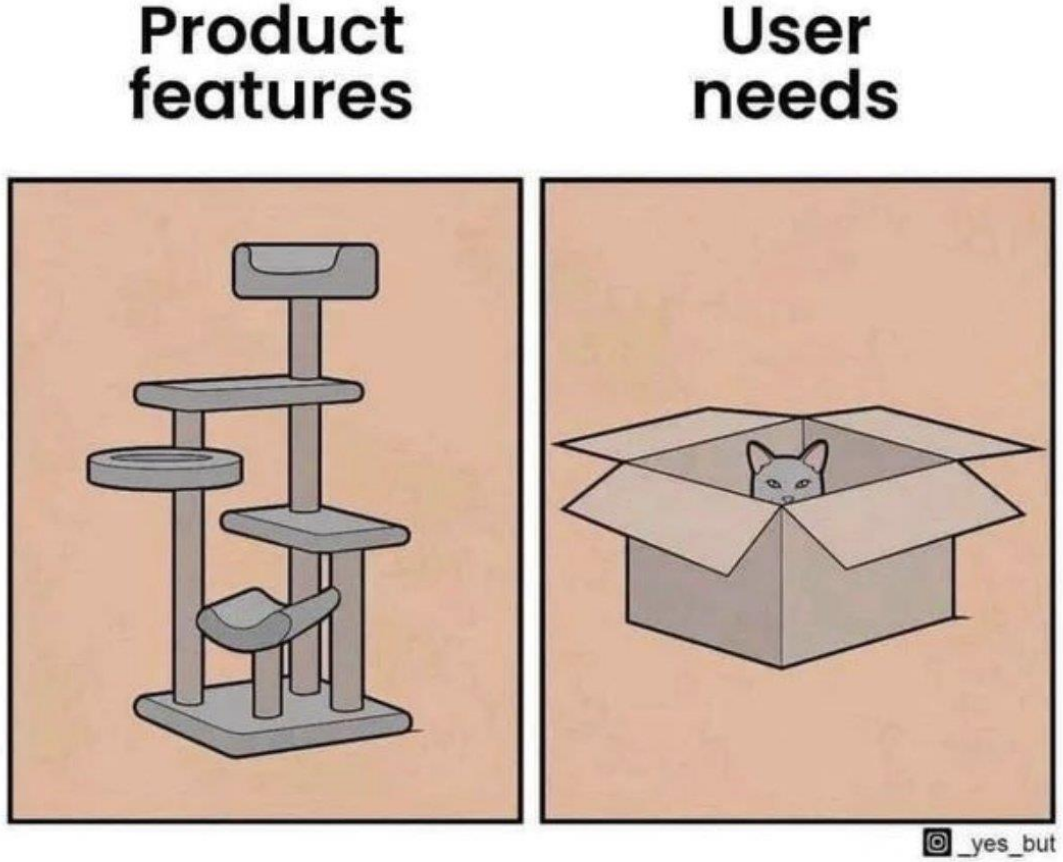
Goals and Motivation

Goals

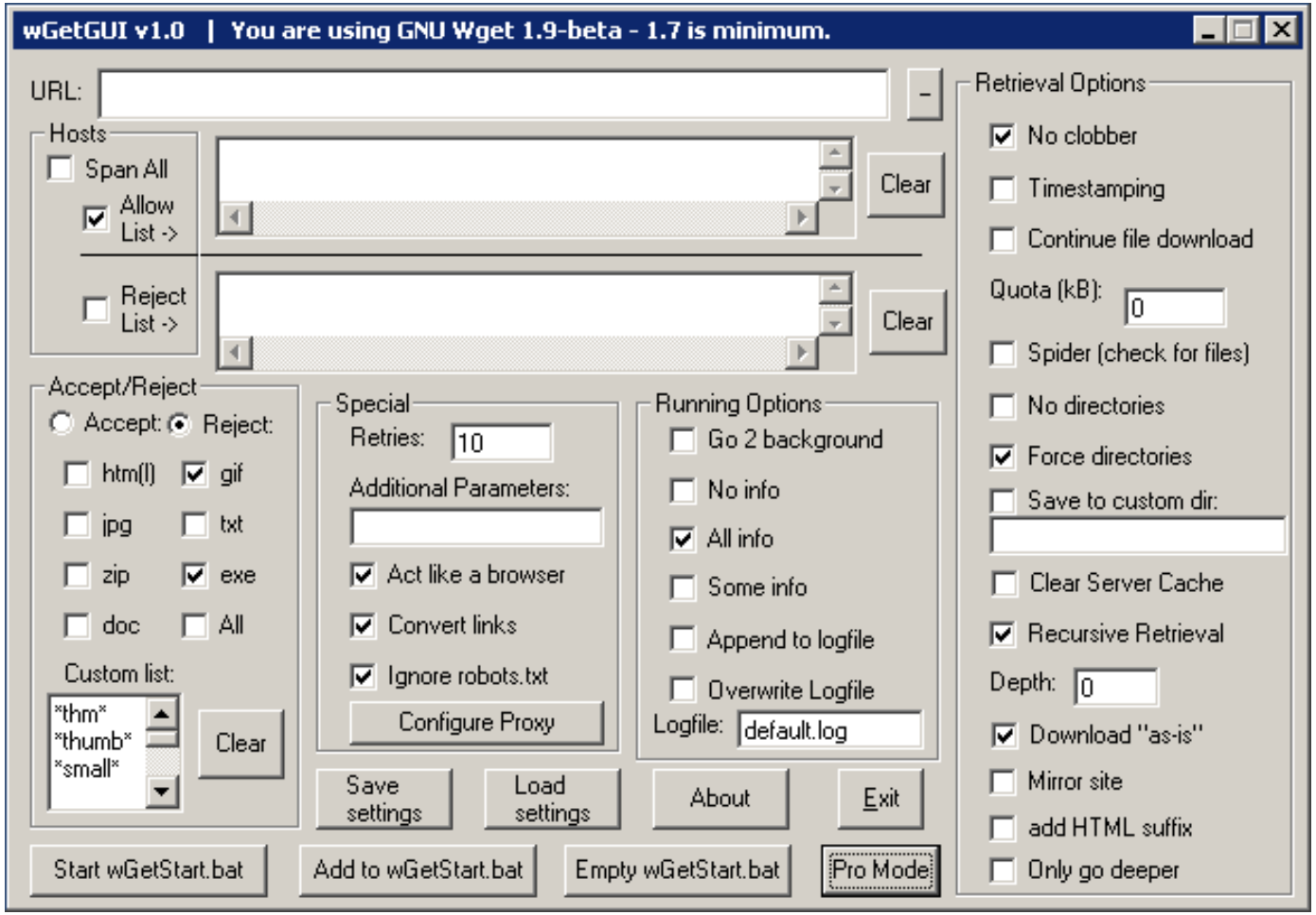
- Understanding how to design the user experience when interacting with modern applications, devices, and environments
- Gaining in-depth knowledge of a human-centered process to create interactive systems
  - and how to apply it in practice
- Becoming familiar with methods to gather and listen to users' needs
- Learning to evaluate interactive systems with their users

Why?

source: https://www.instagram.com/p/CT8qVYaDE_R/



Why?


wGetGUI v1.0 | You are using GNU Wget 1.9-beta - 1.7 is minimum.
URL:
Hosts
Span All
Allow List ->
Reject List ->
Clear
Clear
Accept/Reject
Accept:
Reject:
htm(l)
gif
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txt
zip
exe
doc
All
Custom list:
thm
thumb
small
Clear
Special
Retries:
10
Additional Parameters:
Act like a browser
Convert links
Ignore robots.txt
Configure Proxy
Running Options
Go 2 background
No info
All info
Some info
Append to logfile
Overwrite Logfile
Logfile:
default.log
Retrieval Options
No clobber
Timestamping
Continue file download
Quota (kB):
0
Spider (check for files)
No directories
Force directories
Save to custom dir:
Clear Server Cache
Recursive Retrieval
Depth:
0
Download "as-is"
Mirror site
add HTML suffix
Only go deeper
Save settings
Load settings
About
Exit
Start wGetStart.bat
Add to wGetStart.bat
Empty wGetStart.bat
Pro Mode

How to Design and Develop Good Interactive Systems?

- *Iterative* and *human-centered* process
- People needs (not “wants”)
- Design principles and guidelines
- Usability goals
- Prototyping (rapidly and frequently)
- Evaluation (various kind)
- Programming

2024 End-of-course Questionnaire


Students
(last year)

Full responses: 89% Course satisfaction: 92.02% Teacher(s) satisfaction: 95.5%

- Relevant critiques*:
  - Better organization of the feedback sessions
  - More initial guidance on the projects

** considered in planning this year's course*

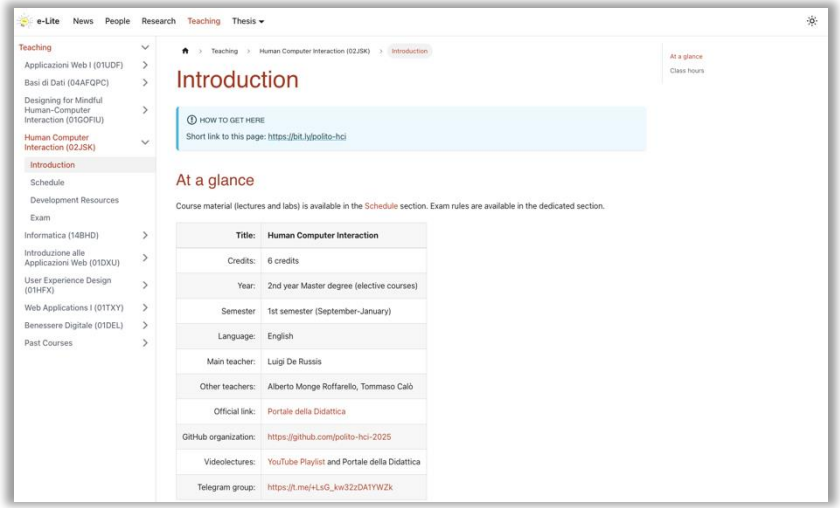
Everybody here

Topics, Organization, and Exam

Course Topics… At a Glance!

1. Introduction to HCI (*this week!*)
2. Problem framing and needfinding
3. Tasks and their analysis
4. Prototyping at various levels of fidelity
5. Design guidelines, principles, and heuristics
6. Visual design and design patterns
7. Heuristic evaluation
8. Usability testing
9. Advanced interactions

Learning Material



- Course website - http://bit.ly/polito-hci
  - Slides, exercises, lab texts
  - Full schedule
  - Templates and deadlines
  - Supplementary material
- Video lectures (for classes, only)
  - YouTube - https://youtube.com/playlist?list=PLs7DWGc_wmwRZTkWQEtk51dG19SnJi0sf
  - Portale della Didattica
- GitHub - https://github.com/polito-hci-2025
  - Slides, lab texts, examples, group work, …

Communications

- We will use **Telegram** for quick communications
  - Among students, with teachers, etc.
- Join at https://t.me/+LsG_kw32zDA1YWZk
- Two **topics**:
  - News and Updates -> Announcements, reminders, and official information
  - Q&A -> For feedback and questions
- Private conversations can be done via direct messages
- Emails are an **alternative** for longer, slower, and private conversations
  - Use “Office Hours”, too

Office Hours

Why?

- An opportunity for *individual students (or groups)* to discuss any need or challenge
- To clarify information and ask questions on the course
- To discuss academic or career goals
- To know more about certain topics
- …

When?

- Every **Thursday 9:00-10:00** and **15:00-17:00** in my office; book a 30-min slot at: https://calendly.com/luigi-derussis/office-hours
- Also: on request, in person or remotely

Course Methodology

- Project-based

  → students learn by doing a project, in teams

- Problem-based

  → the project work starts from elicited and real users' needs (*needfinding phase*)

Course Methodology

- Projects developed **during** the semester and **step-by-step** (*assignments*)
  - Within a given *theme* and mostly in the *labs*
  - Iterating on *prototypes*

- *Checks* at the end of two assignments: **feedback** to the teams
  - Feedback is there to help students improve the next step in their projects in addition to possibly improve the final grading
  - We will keep a note on how those two assignments go (poor, good, excellent)

Course Organization

- Classes
  - 3 h/week
  - Interactive lectures + exercises
- Laboratories
  - 1.5 h/week
  - 3 Lab slots
  - Starting from **Week 2**
  - For group projects
- **Exception:** first week
  - Class instead of Lab (first 3 hours)

	MO	TU	WE	TH	FR
08:30					
10:00					
11:30					
13:00			*Lab* 2I		
14:30			*Lab* 2I		
16:00	*Class* R1b		*Lab* 2I		
17:30	*Class* R1b				

Classes

- In-person, in rooms with power outlets at the desks

- Lectures video-recorded and made available soon after each class
  - *not streamed live*
  - not in-class exercises and labs

- *This week*: lecture on Wednesday at 13:00 (3 h)

Laboratories

- Starting **October 1, 2025**
  - in rooms with power outlets at the desk

- For group activities

- Assignment text online some days in advance
  - we *aim* at “one week in advance”

Laboratories

- **Collaborative** and interactive places, to work and share feedback
  - In-person attendance is *fundamental*!
  - Each team will be in the **same slot** and will work with the **same teacher** for the entire semester
  - The teacher is there to **support** the teams' work, <u>not</u> just reply at questions
- Two **main activities** within labs, identical for the three slots:
  1. *Assignments* - Teams work on steps of the project with the guidance of the teacher
  2. *Checks* - Teams present their assignment work to the teacher and receive feedback

Laboratories

- Each of the three slots will have a specific **theme**
  - All the projects must fall in the slot's theme and specialize it
  - Slots must have around the same number of assigned teams

- 2025 themes:
  1. **Health and Wellbeing** (13:00-14:30, Alberto Monge Roffarello)
  2. **Education and Learning** (14:30-16:00, Luigi De Russis)
  3. **Generative AI beyond Conversation** (16:00-17:30, Tommaso Calò)

Teams

- 3-4 students (*preferably* 4)
- It is students' responsibility to form teams
  - Teachers may help, but not automatically assign anyone
- Teams <u>cannot</u> be changed during the semester

- In case of issues among teammates: please, **<u>TALK</u>** with the teachers

- Each team will work on their own GitHub repository
  - we will create and assign private repositories to each group

About The Exam

We will provide a *template* for the reports, which will need to be documents (not slides)

1. **Project development** (in team, up to 20 points)
   - Final report – process, execution, and outcomes of *four group assignments*
   - Prototypes "source"
2. **Heuristic evaluation** (individual, up to 6 points)
   - Report – outcome and execution of *one individual assignment*
3. **Oral discussion** on the project (up to 4 points)
   - As a group, mandatory

- The realized project will be valid until the end of the **academic year**
- Additional points (max 2) can be assigned for the participation and effort during the course, the project quality and creativity, and the oral discussion

Evaluation Criteria

- Invested effort in the project activity, including the willingness to incorporate the provided feedback
- Originality, complexity, and richness of the work
- Methodological and technical correctness of the entire process
- Completeness and communication quality of the assignments' outcomes and report(s)
- Quality of the presentations and oral discussion
- Individual contribution

Project Development

- **Goal:** to give hands-on experience with the modern human-centered design process described during the course
- Projects will be built **step-by-step** and mostly carried on *during* labs
- Project's topic proposed by each group
  - Within the chosen theme and based on *needfinding*
- *Group assignments* represent the various process steps
  - Start during a lab
  - Often followed by *checks* with teachers (in one of the following labs)
  - Evaluated at the exam through reports and discussion

(Planned) Assignments and Checks

- Assignment 1 [group]
  - *Needfinding*
  - Starts at week 2, ends/check at week 4 (duration: **2 week**)
- Assignment 2 [group]
  - *Storyboard and Low-fidelity prototype*
  - Starts at week 5, ends/check at week 7 (duration: **2 week**)
- Assignment 3 [individual]
  - *Heuristic evaluation on another group's low-fidelity prototype*
  - To be done **during** the labs of week 8 and 9; *cannot* be changed after
  - Results passed to the other group

(Planned) Assignments and Checks – cont'd

- Assignment 4 [group]
  - *Medium- to high-fidelity prototype*
  - Starts at week 10, ends at week 11, no check (duration: **1 week**)

Coding will start here, not before!

- Assignment 5 [group]
  - *High-fidelity prototype and evaluation* (+ final report)
  - Starts at week 11, ends **one week before each exam date**
    - The course is composed of 14 weeks

Assignments and Checks – Summary

	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	…	Exam -1 week
A1				Check												
A2							Check									
A3																
A4																
A5																

Oral Discussion

- **All teammates** present and presenting
- Each group will have 30 mins to:
  1. Give a brief *introduction* to the project (*no slides*)
  2. Do a *demonstration* of the implemented prototype, where students cover the main features and everybody in the team speak
  3. Answer some *questions* from the teachers, about what students showed and/or about the submitted report(s)
- **Beware:** the demonstration is typically the most critical part
  - it needs to be carefully prepared, and not rigged up at the moment
- Teachers will have already read the report(s) and had a look at the final prototype code, so there is no need to cover those

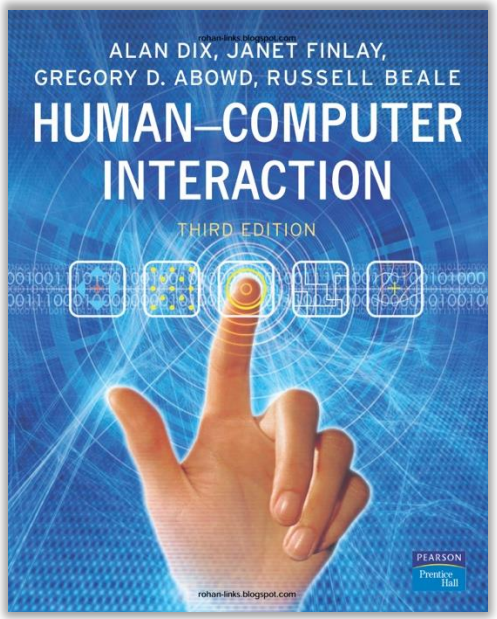
Introducing… the Assignment Zero

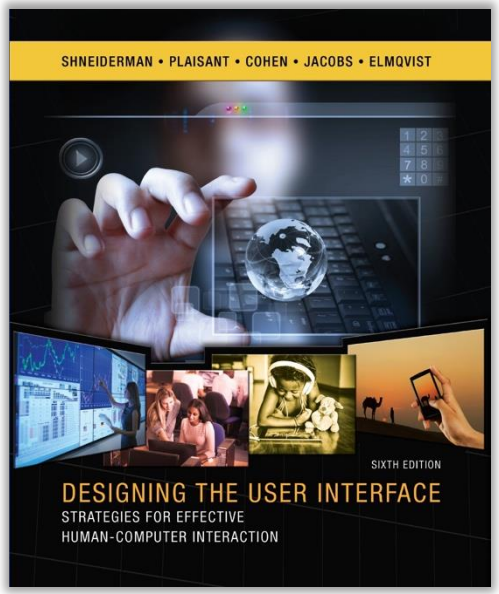
- Submit group composition
  - Group name
  - 4 persons (max), for each:
    - ID (matricola), Surname, Name, GitHub username, e-mail
  - Two preferred lab slots/themes
- Submission link (Google Form):
  - https://forms.gle/1hvLn5sRGvohpW9q8

Deadline:
September 30, 2025
End of Day (EoD)

Suggested Books

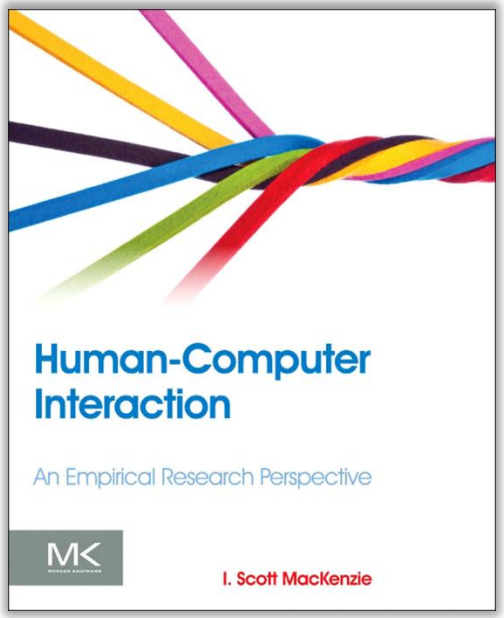
- Alan Dix, Janet Finlay, Gregory D. Abowd, Russel Beale, "Human-Computer Interaction", 3rd edition, Prentice Hall, 2004, ISBN 0-13-046109-1
- Shneiderman, Plaisant, Cohen, Jacobs, Elmqvist, "Designing the User Interface: Strategies for Effective Human-Computer Interaction", 6th edition, Pearson, 2016, ISBN 013438038X / 9780134380384

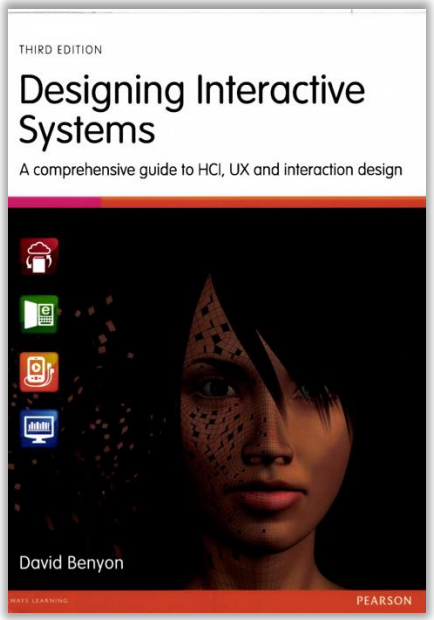




Suggested Books

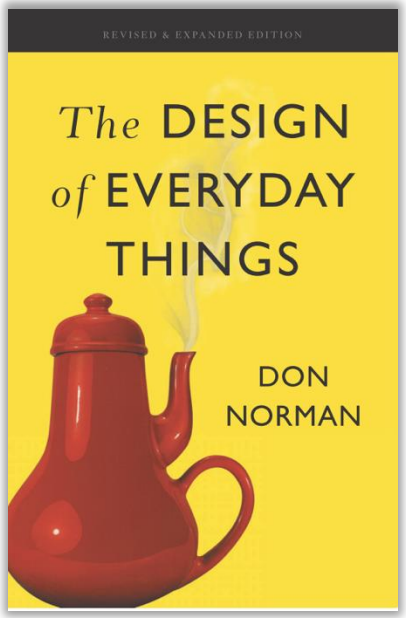
- I. Scott MacKenzie, "Human-Computer Interaction: An Empirical Research Perspective", Morgan Kaufmann, 2013, ISBN 978-0-12-405865-1
- David Benyon, "Designing Interactive Systems", 3rd edition, Pearson, 2014, ISBN 978-1447920113

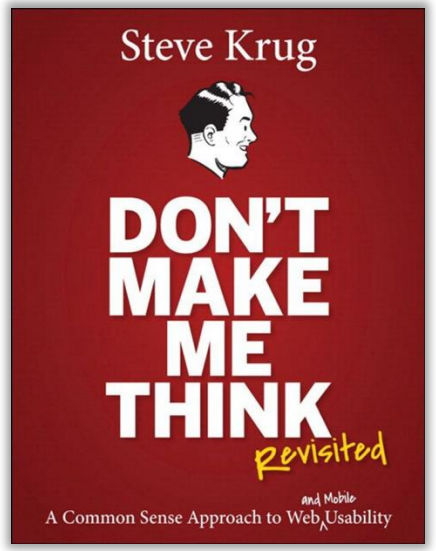




Suggested Books

- Don Norman, "The Design of Everyday Things: Revised and Expanded Edition", Hachette UK, 2013, ISBN 0465072992/ 9780465072996
- S. Krug, "Don't Make Me Think: A Common Sense Approach to Web and Mobile Usability - revisited", Pearson Education, 2014, ISBN 0321648781/9780321648785





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