

## Further Human–Computer Interaction: Supervision 1

Lectures covered by the supervision: <https://www.cl.cam.ac.uk/teaching/2324/FHCI/>

- Lecture 1: What is a theory in HCI? Why take a theory driven approach to HCI?
- Lecture 2: Design of visual displays
- Lecture 3: Goal-oriented interaction
- Lecture 4: Designing efficient systems

### Previous exams

Supervision questions:

1. Think of one human-computer interface you have used and which you think was well designed and one interface you used which you think was poorly designed. For each of these two interfaces:
  - a. Sketch the interface (hand-drawn sketch, not screenshot).
  - b. Explain the nature of the information structure that the user creates and interacts with when using the site/application.
  - c. Describe the aspects that make it an enjoyable/efficient (or an unenjoyable/inefficient) interaction experience by focusing on the aspects of the visual language (marks, symbols, regions, surfaces). For each aspect, explain the nature of the correspondence between the visual appearance and its meaning or purpose within the interaction design.
  - d. Apply the Fitts law to the interfaces.
  - e. Redesign the second interface in order to address its poorly designed aspects. Suggest metrics on how you would quantify the improvements and suggest an evaluation study (who should participate, how many experiments, etc.). Provide a sketch of your design and comment on how the deficiencies you noted above are specifically addressed and any trade-offs that you had to make.
2. In your favourite programming language, choose one API and model it with Cognitive Walkthrough approach.
3. Create an example for each of the following theories of meta reasoning:
  - a. Optimal search
  - b. Bounded rationality
  - c. Satisficing
4. Write a short essay describing how the three waves of HCI have contributed and impacted the design of your mobile phone (max 1500 words). To get you started, you can think about, for example, elements of physical design, how you use various apps, how you use your phone to communicate and how it influences your social relationships, what its role is in the context of work/study, any idiosyncratic uses you've found for it etc.
5. [Part IB – 2018 – Paper 7](#)
6. Summarize the main message from lesson 1 in 1-3 sentences?
7. Summarize the main message from lesson 2 in 1-3 sentences?
8. Summarize the main message from lesson 3 in 1-3 sentences?
9. Summarize the main message from lesson 4 in 1-3 sentences?

BONUS:

1. Discuss similarities between heuristic and biases mentioned in this course and "mental models" and "human memory" discussed as risk factors in Software and Security Engineering course.

Save your answers into MS Teams or email them to me. Please use the following naming pattern:

FCI\_Supervision\_1\_Answers\_<last name>\_<first name>\_Lent\_2024

Send your answers as a pdf, doc, image, or any other format of a document for which there exists an easily available software to open.

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