

ELEC-E7861

Lecture 3

2021

Antti Oulasvirta

Aalto University

userinterfaces.aalto.fi

Schedule

Jan 14: Introduction

Jan 21: Computational modeling

Jan 28: Analytical methods

Feb 4: User research

Feb 11: Literature review

Feb 18: Research strategy

Feb 25: No meeting

Mar 4: Research planning

Mar 11: Study design

Mar 18: Data analysis

Mar 25: No meeting

Apr 1: Scientific writing

April 8: No meeting

Apr 15: Scientific presentation

Independent study period

May 14: Submission of paper (PDF)

May 15: Dress rehearsal

May 16: Final presentations

Recap: Qualities of a great research problem

1. **Relevance**

- If you solve your research problem, will it significantly help your audience apply the model?

2. **Preciseness**

- Is the problem formulated in a clear and precise way?

3. **Feasibility**

- Will you have the necessary skills, equipment, and time to solve the problem?

4. **Novelty**

- Has this problem been solved already by others?

5. **“Problem-solving capacity”**

- How will your solution increase our field's (or your customer's) capability to solve important problems?

Today

Pitching a research idea

Task analysis

A3: User research

Task analysis example from 2019

Roosa Piitulainen

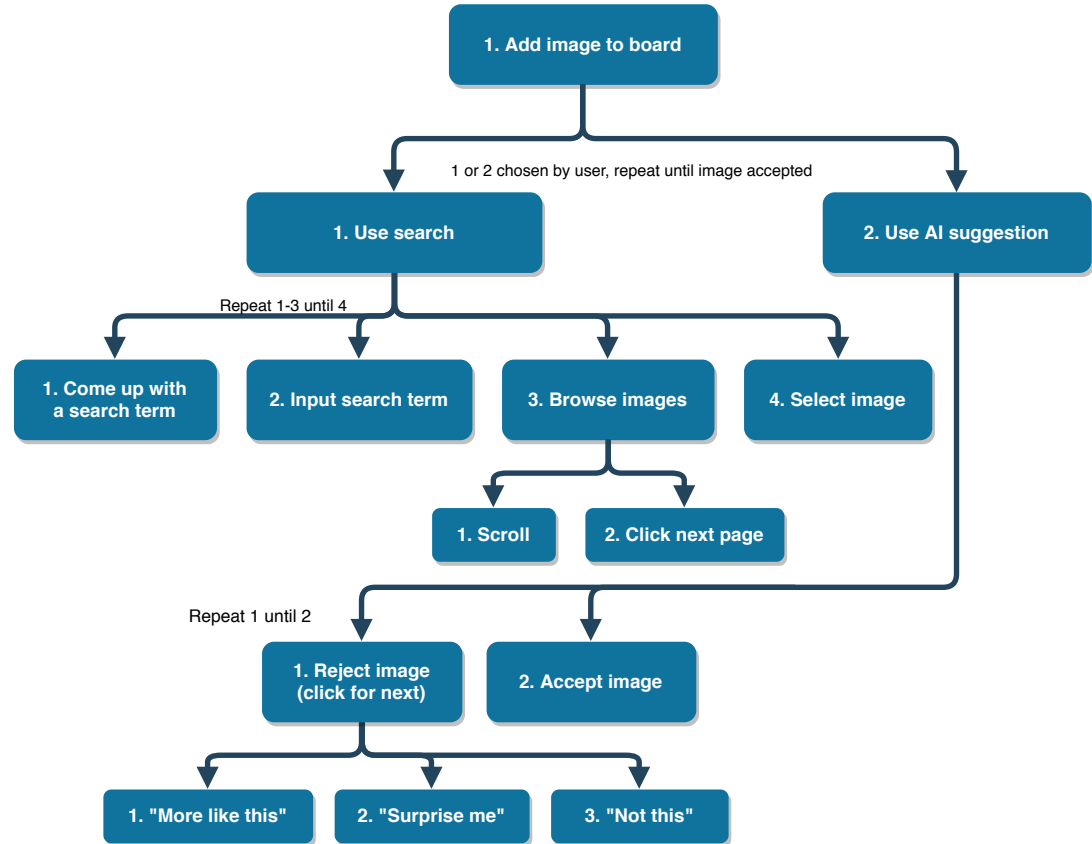
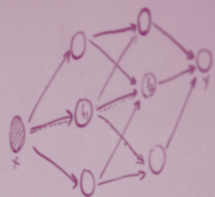


Figure 1: Task analysis diagram of adding an image to the moodboard

Pitching a research idea



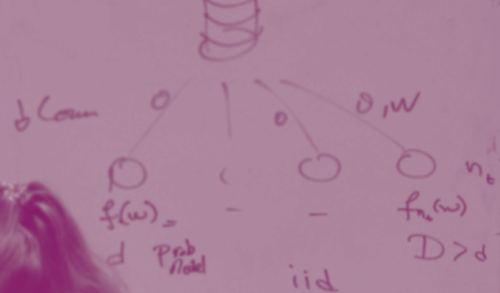
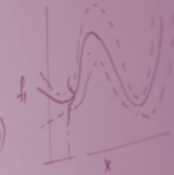


$$p(y, f_1, f_2) = \underbrace{p(y|f_2)}_{\text{likelihood}} p(f_2|f_1) p(f_1)$$

GP(0, K(x, x))

$$\{x_i, y_i, a_i\}_{i=1}^n$$

$$p(y|x)$$



+ availability
+ also iidness

Pitching scientific ideas: Why?

Fly fast, die fast: Kill poor ideas early

Expose limitations and pitfalls

Learn about the project

Learn to communicate it to others

Excite, raise interest and curiosity

Convince others to join the project

Types of pitches

Elevator science pitch: 30 s

Informal pitch to a colleague: 2 min

CHI Student Research Competition: 5 min

Workshop presentation: 5-10 min

Conference paper presentation: 15 min

Popular talks (E.g., TED): 10-15 min

University job application talk: 30-45 min

Conference keynote: 40-50 mins

Career talk: 80-120 min

Preparations

Open your Overleaf document and prepare a 2 minute pitch

You can use elements like:

”In my project, I ...[describe the practical HCI problem]”

”If we were able to [describe potential for improvement]”

”However, presently [describe what’s missing]”

”An earlier paper by ...[describe what they did]”

“My approach is [describe and justify]”

“I expect [describe your results]”

Let's do it

2+5 minutes, then switch
I will broadcast when switch
should happen

Important: Take notes. I will ask
you to submit them to MyCourses
later today

Think about four key
topics: the problem,
why it matters,
potential solutions
and the benefits of
fixing it.

Discussion

Today: Upload your notes to MyCourses

Assignment 3



Definition

“User research refers to empirical methodology for obtaining information about humans in the context of technology use, conducted with the aim of understanding it and informing decision-making and design.”



- 1. User research is applied empirical research**
- 2. Research data is collected in order to inform the practical decisions surrounding interactive technology**
- 3. Humans are studied in the special role of technology use (user)**

User research data is transformed to a representation that serves modeling

Requirements

Scenarios

Use cases

Customer journey maps

User personas

Experience maps

Task analysis

Work models

...

Question

Is user research necessary when doing computational modeling in HCI?

Why, why not?

Assignment 3

I will ask you to do a bit of user research and distill your findings using e.g. scenarios, use cases, personas etc.