

CS-E4900 User-Centered Methods for Product and Service Design

User Research & Qualitative Data Analysis

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Things You Will Learn Today

- You will learn about Qualitative Data Analysis
- You will learn a few QDA tools
- You will learn who will tutor you on our weekly workshops and where
- You will learn when and where to return your weekly deliverables

Today's Agenda

- Introduction to QDA and tools and examples
- Teamwork starts/continues Wed 12:15-14:00 on Learning hub
 - Tutors will circulate in groups to answer questions and to get you started
 - Official PuuhaBoksi™ will be in **LH** (StickyNotes, pens and stuff)
- Return final deliverables by next Wednesday's workshop

User Research Phases

1. Planning the study
2. Data collection and processing
3. Data Overview
4. Detailed analysis
5. Reporting the results

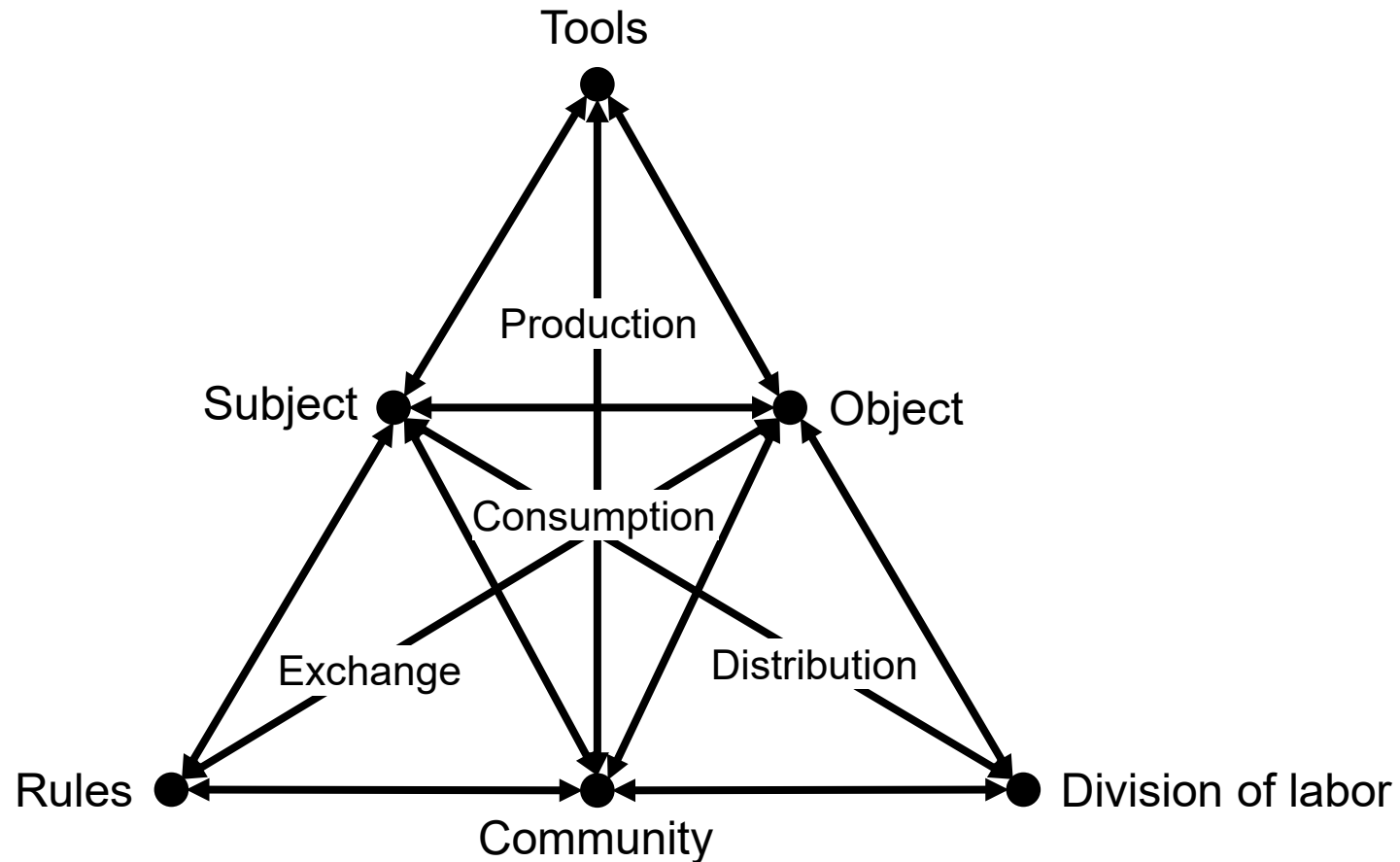
3. Data Overview

- Design team must acquire an overview of all the collected data
 - Ideal: Everyone goes through all materials individually and then as a group
 - Practical: collectors present their materials while others ask questions or comment
- Data coding (use appropriate tools)
- See the big picture (affinity diagrams, mind maps, ...)

Data Coding

- Read the transcripts carefully (yes, every line counts)
- Label the interesting bits
 - Actions, activities, concepts, quotes, opinions, tasks, ...
 - Phenomenon can be important because:
 - You say so,
 - Users says so, or
 - Don Norman says so
- Either use a pre-existing analysis framework or theory or construct and conceptualize what you find in the data

One Possible Analysis Framework

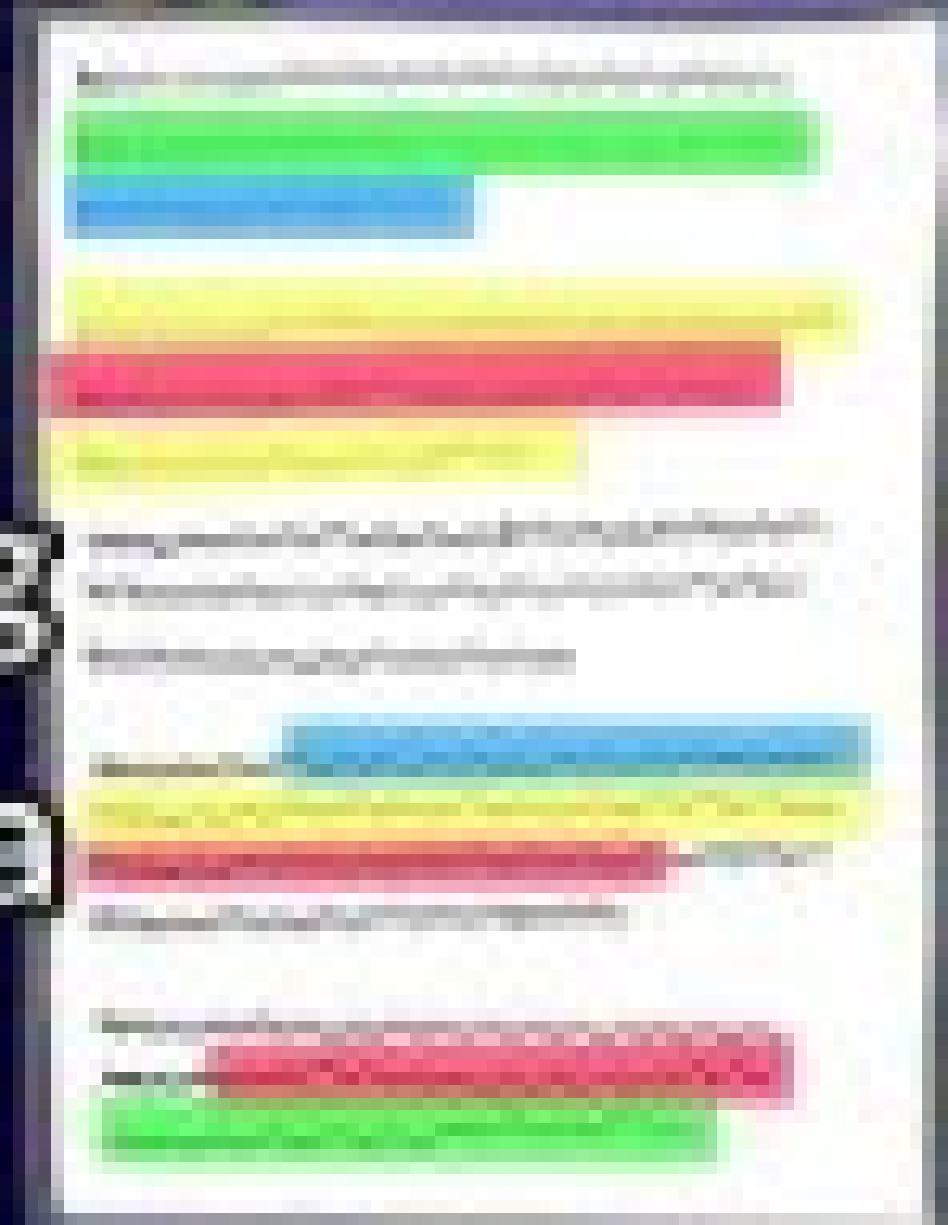


Kuutti, K., 1995. Activity theory as a potential framework for human-computer interaction research, in: Nardi, B. (Ed.), Context and Consciousness: Activity Theory and Human-Computer Interaction. MIT Press, pp. 17–44.

Data Coding Tools

- ATLAS.ti (available at <https://download.aalto.fi>)
- Weft QDA (available at <http://www.pressure.to/qda/>)
- QDA Miner Lite (<https://provalisresearch.com/products/qualitative-data-analysis-software/freeware/>)

Beginners guide to coding qualitative data



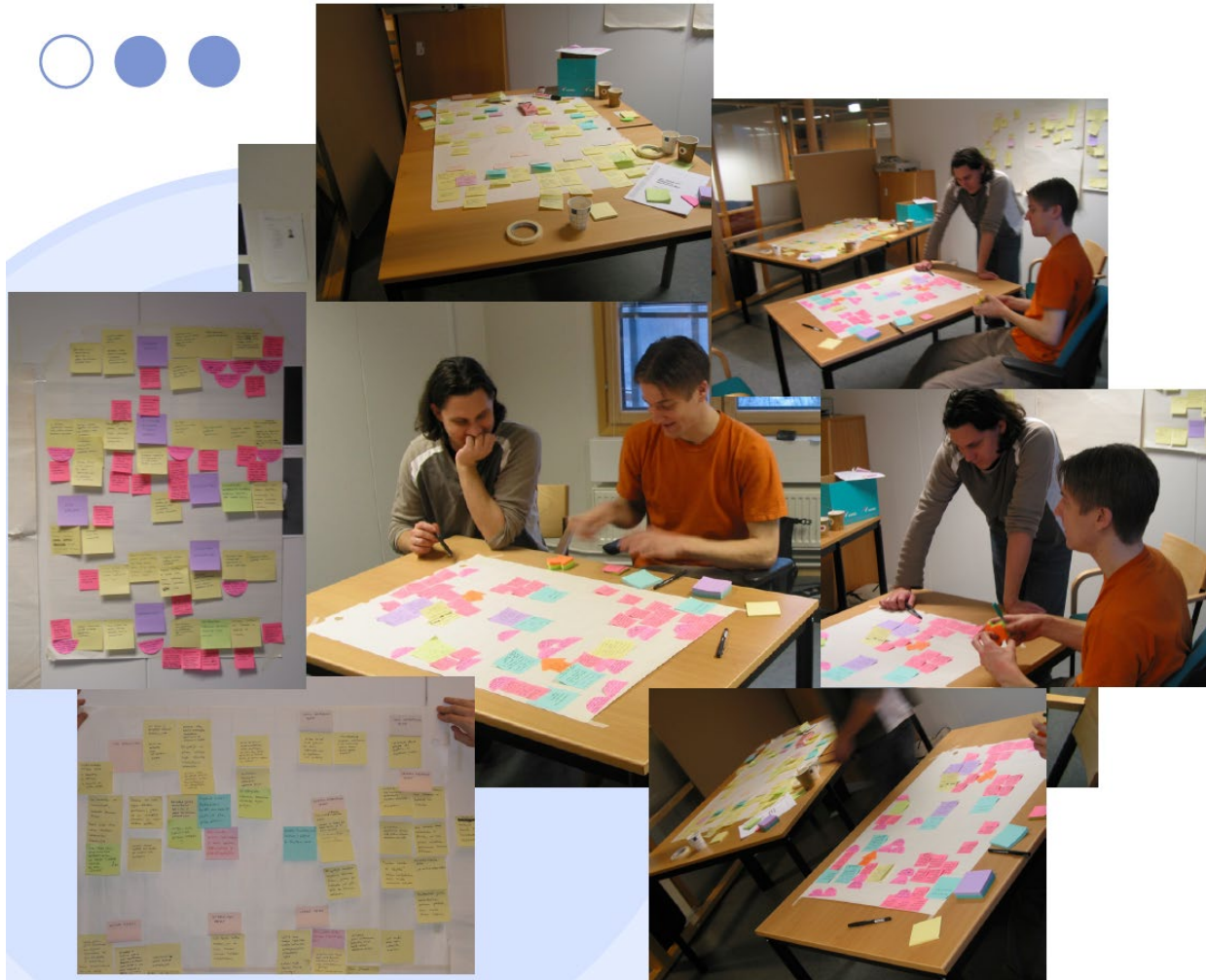
User Research

<https://youtu.be/IYzhgMZii3o>

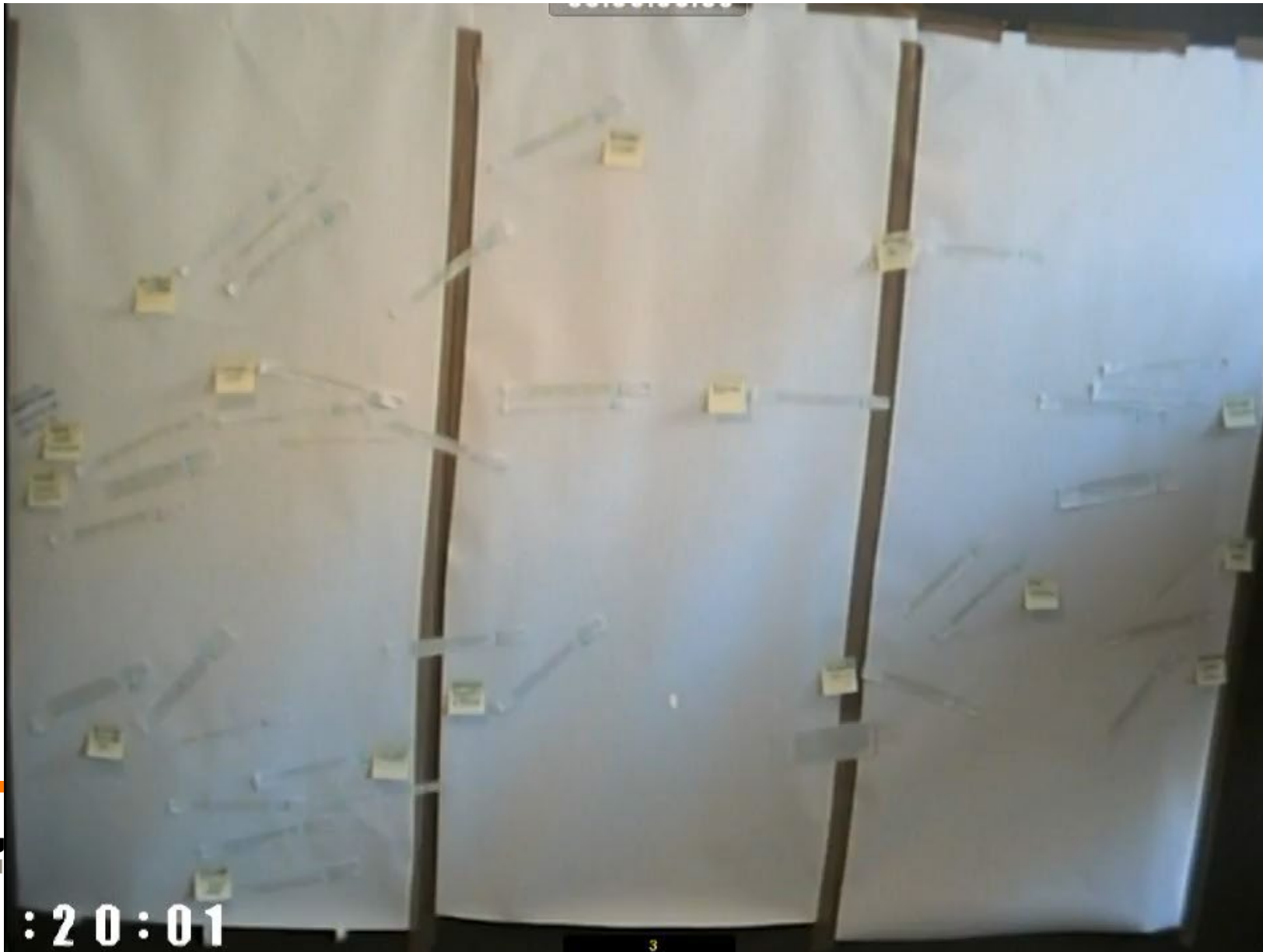
Categorization

- Open vs. Closed coding
- First create, combine, unify or aggregate codes
- Create categories or themes with available tools
 - Affinity diagrams, co-occurrence tables, mind maps

Example: Affinity diagram



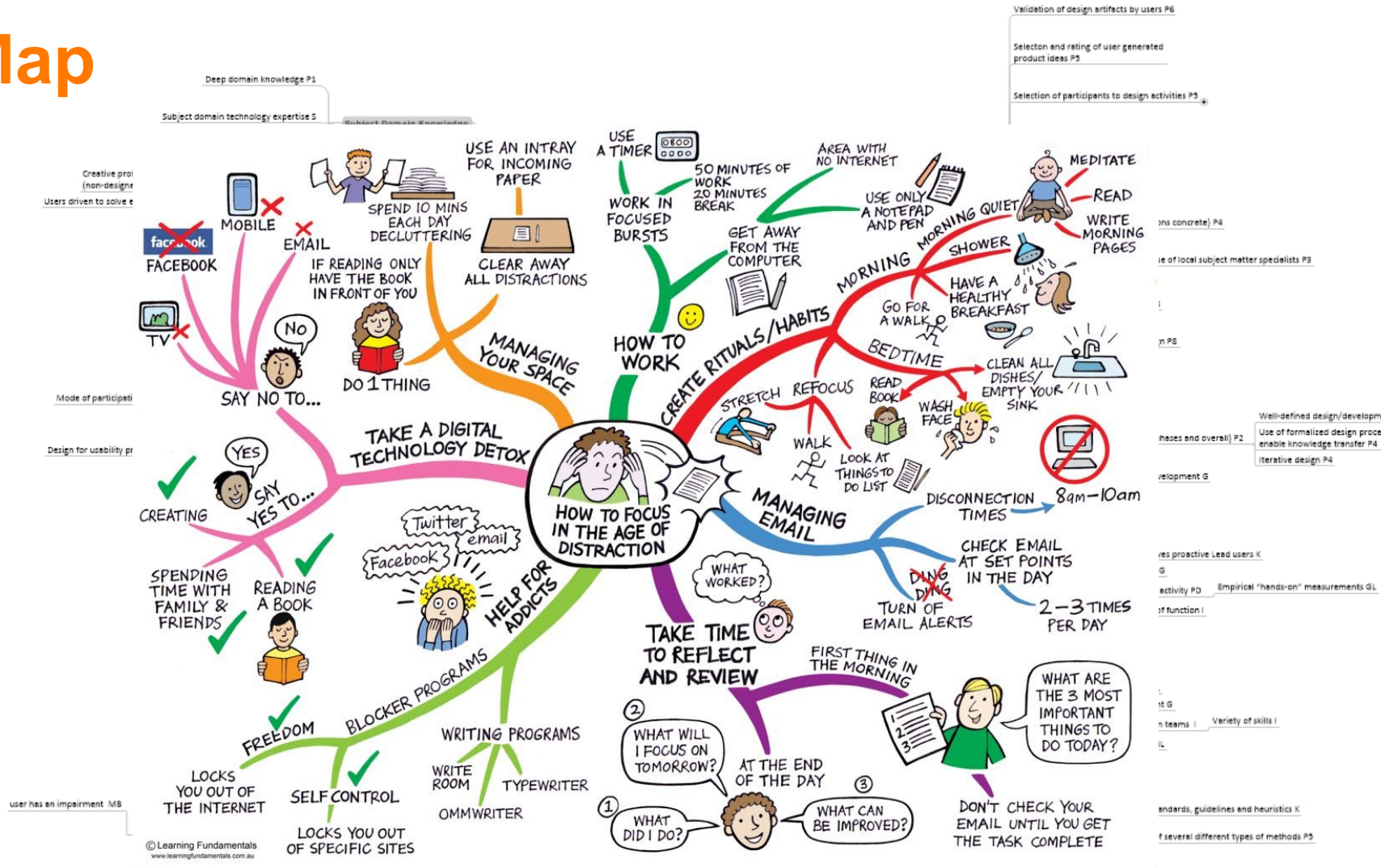
Example: Affinity diagram



Example: Affinity diagram



Mind Map



Source: Art based mind map <http://learningfundamentals.com.au/blog/developing-razor-sharp-focus-with-zen-habits-blogger-leo-babauta/>

Tools for Affinity Diagramming

- **Miro (miro.com)**
- **flinga.fi**
- **note.ly**

- **Mindjet MindManager** (available at <https://download.aalto.fi>)

4. Detailed Analysis

- Goal: transform data to user needs, requirements and limitations
- Phenomenon (pl. phenomena) = reoccurring event or activity, other interesting observation
- Need = enabler derived from phenomena
 - What users need to do better, be happier, work faster, ...
- Requirement = demand for a product feature based on users, their actions or context of use
- Limitation = most often restriction to use or users imposed by environment or context

4. Detailed Analysis

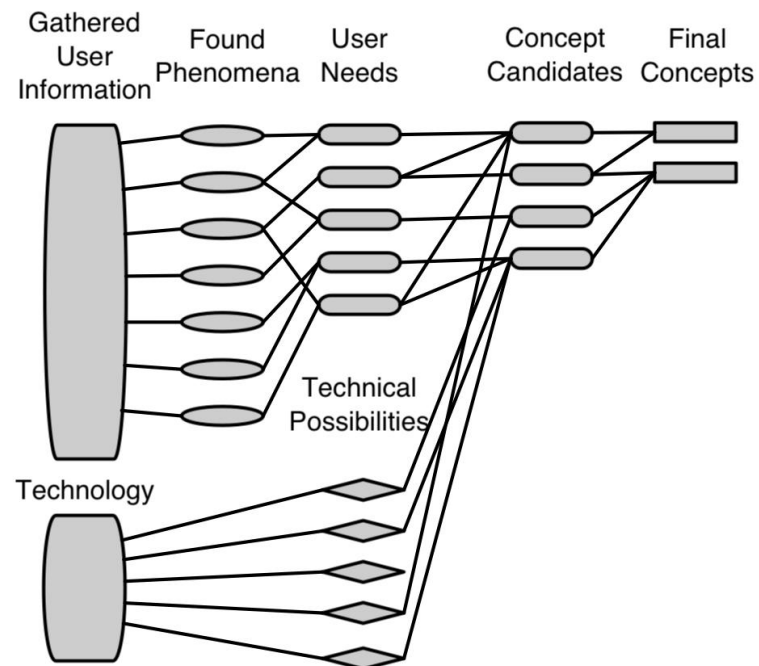
- You as a user researcher are the **lens!**
 - Use your body and mind
 - Be aware of your own assumptions
 - You do not have to agree, but to understand and emphasize
- Condense, condense and condense
- Seek alternative viewpoints



5. Reporting the results



- Goal: Describe the target in sufficient detail to inspire and justify your future design decisions
 - Outline in equal measure requirements (must-haves), limitations (cannot-haves) and opportunities (could-haves)
 - Maintain good traceability to backtrack a decision if necessary



5. Reporting the results

PREVIEW

- User profiles, personas
 - Context and environment descriptions
 - Task and sequence models
 - Stories, quotes, narratives and scenarios
 - Depictions of most interesting phenomena
-
- Both content and presentation of results always depend on the subject and used methodology

References

- ISO 9241-210
- Beyer, H. and Holtzblatt, K. Contextual Design
- Hackos, J., T. ja Redish, J., C. User and Task Analysis for Interface Design
- Kuniavsky, M. Observing the user experience
- Hyysalo, S. Käyttäjätieto (in Finnish)
- Benyon, D. Designing Interactive Systems

What Do You Do next

- Organize your data
- Create meaningful classifications and codings
- Make an affinity diagram and/or a mind map
- Deliverables (grading 0.5p each):
 - Affinity diagram or mindmap
 - At least three interview transcripts (~10pages)
 - Summary / description of your classification
 - Categorization strategy/process

Where Do You Do It

- **We all start at Learning Hub 12:15**
 - After which your group may work in LH, T5 and T6
 - **Tutors will buzz around, if you cannot see one send an S.O.S to TG**
- **Finish the assignment during next 9 days, and submit by next Wednesday by 10:00 (late submissions liable for point reduction)**

Did You Learn Today?

- About Qualitative Data Analysis
- A few QDA tools
- Who will tutor your group on our weekly workshops
- When and where to return your weekly deliverables

Questions and Discussion

- Ask now or ask cs-e4900@aalto.fi