1

Praktisk

- Instruktorerne og deres arbejde
- Genaflevering

2

Det får I med i dag

- En særlig måde at lave interviews på
- Teknikker til at repræsentere resultater

3

Contextual Design

4

Contextual Design

- Contextual Inquiry
- Work modeling (interpretation of data)
- Consolidation

Users' present work

- Work redesign (visioning, storyboards)
- User Environment Design
- Mock-up (paper prototypes) and evaluation

New system

5

Contextual Inquiry

- Metode til at få konkret indsigt i brugernes arbejdspraksis
- Mester-lærling lader brugere lære os hvordan de arbejder
  - Mester gør arbejdet og fortæller om det imens
  - Lærling stiller spørgsmål

6

Contextual Inquiry-principper

- Kontekst
  - “go where the work is and watch it happen”
- Partnerskab
  - “talk about the work while it happens”
- Fortolkning
  - “find the meaning behind the customer’s words and actions”
- Fokus
  - “challenge your entering assumptions”

7

Kontekst

8

Kontekst

- Se arbejdet det hvor det sker.
  - *"Use your users well. Let their own context strengthen them."*
- Folk sammenfatter, men vi vil have detaljer.
- Svært at være konkret uden påmindelser fra arbejdsomgivelser.
- Hold det konkret når folk generaliserer:
  - "Vi får typisk rapporter med email"
  - "Kan jeg se en?"

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Partnerskab

- "Talk about the work while it happens"
  - "Alternate between watching and probing"
- Undgå at falde ind i andre roller:
  - Interviewer - interviewee: hvor brugeren venter på dine spørgsmål og stopper med at arbejde.
  - Expert - novice: hvor du hjælper med ekspertviden om systemet.
  - Guest - host: hvor høflighed står i vejen for nysgerrighed.
- God model: apprentrice-master

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Fortolkning

- “Find the meaning behind the customer’s words and actions”
- Validering og omformulering
- Del dine tolkninger for at få bekræftet dine forestillinger
  Interviewer: “It’s like a traveling office”
  Interviewee: “Well—like a traveling desk”

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Fokus

- Interviewer søger data om bestemte aspekter i arbejdet
  - Styrer samtalen for at koncentrere på bestemte aspekter

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"Take the attitude that nothing any person does is done for no reason; if you think it's for no reason, you don't yet understand the point of view from which it makes sense. Take the attitude that nothing any person does is unique to them, it always represents an important class of customers whose needs will not be met if you don't figure out what's going on."

(p. 63, *Contextual Design*)

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Tips and tricks for CI

Dos and don'ts for staying connected to concrete data and grounded in the work

Don't	Do
Let the user talk in the air or talk in abstractions.	Make talk concrete: Follow the actual work and specific cases from the recent past. Get or draw artifacts; annotate with intent and structure.
Allow the user to summarize a story.	Reconstruct a situation: Back the user up when he skips a step. Hypothesize steps to prompt the user.
Take on the expert role: Do not teach or tell users how to do their jobs. Do not give tool tips.	When asked for tool tips, ask how would she have done it without you. Give tips at the end.
Discuss feature requests out of the context of usage.	Probe to understand what actual work situation prompted the request. Follow the real work example.
Ask, "what would you have done next" when the user did not actually do it in this case.	Avoid predictions of future scenarios. Only care about what has happened or is happening now. Do a retrospective account of past work.

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Tips and tricks for CI

- Let the interviewee speak 90% of the time
  - Remember to be silent
- Prepare questions, but be ready to hear something new and be changed by it
- Have an apprentice
- Go from “what” to “why”

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Tips and tricks for CI

- Use open questions
  - Background — “Tell me about what you do here.”
  - Sequence — “Walk me through your day yesterday…then what do you do next?”
  - Physical tour — “Take me on a tour of how you build the panels…”
  - Virtual tour — “Walk me through your sales process from the beginning...”
  - Participation — “Can you show me exactly how you prepare a customer bid?”
  - Exhaustive List — “What are all the different municipalities where you sell?”

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Tips and tricks for CI

- Connect with people
  - Naïve Outsider Perspective — "I'm not from LA, how does the housing market work here?"
  - Changes Over Time — "How are things different than they were last year?"
  - Reflecting Back — "So, what I hear you saying is….. is that right?"
  - Quantity — "How many of your competitors fall into that category?"
  - Tasks and organizational structures — "Can you draw me a diagram of your org. chart?"
  - Native Language — "Why do you call your office 'the command post'?

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Ethical considerations

- Obtain permissions
- Be sensitive to issues of power

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Modeling Activities

FIVE TYPICAL MODELS:
Contextual Design (Beyer & Holtzblatt, 2015)

(1) Flow Model
(2) Sequence Model
(3) Artifacts Model
(4) Cultural Model
(5) Physical Model

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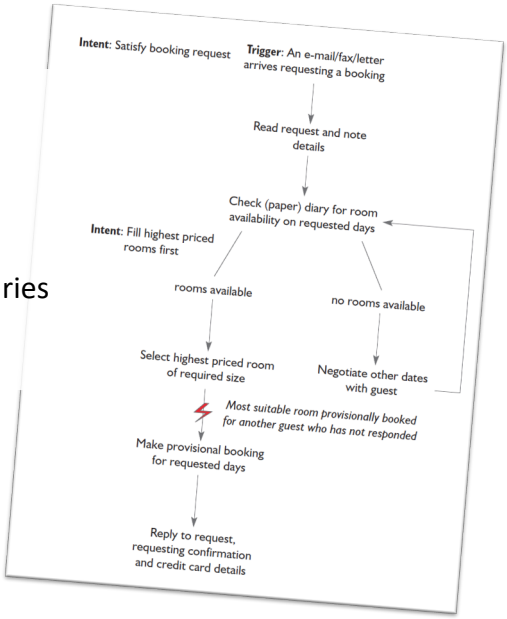
Sequence Model

- STEPS:

(1) Identify main task
(2) Identify the trigger
(3) Add steps
(4) Review steps, add subsidiaries
(5) Add breakdowns



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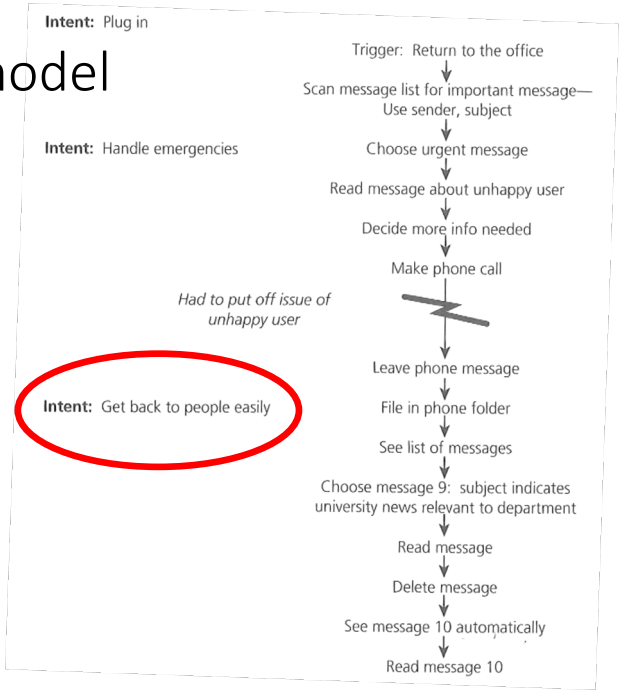
Sekvens model



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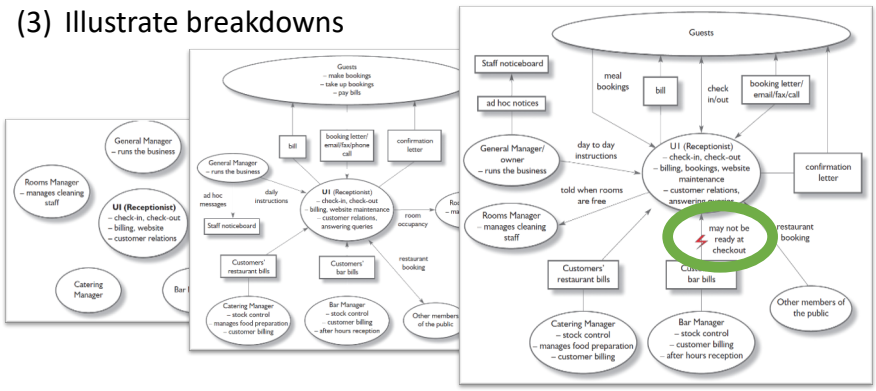
Flow Model

- STEPS:

(1) Illustrate individuals participating in the activity

(2) Illustrate communication between individuals

(3) Illustrate breakdowns



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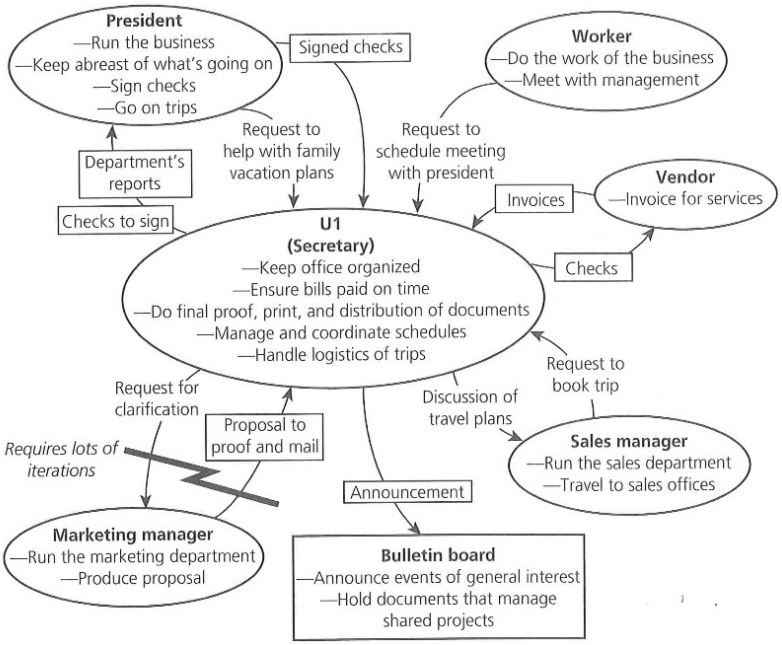
Flow



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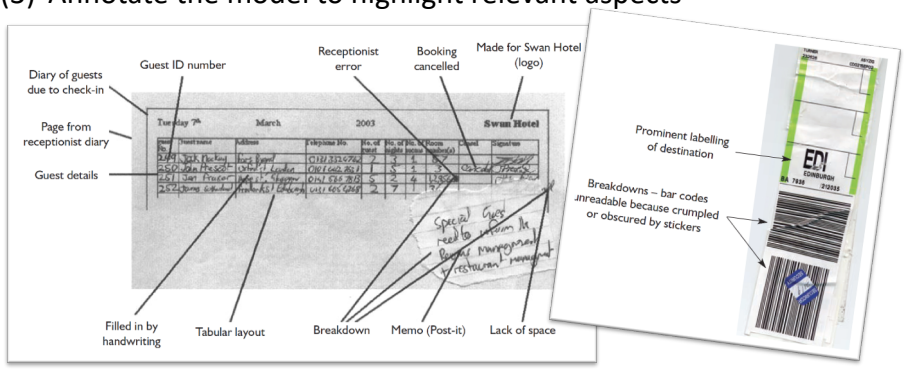
Artifact Model

- STEPS:

(1) Collect artifacts, identify significant/typical examples

(2) Confirm that you understood the artifact's role

(3) Annotate the model to highlight relevant aspects



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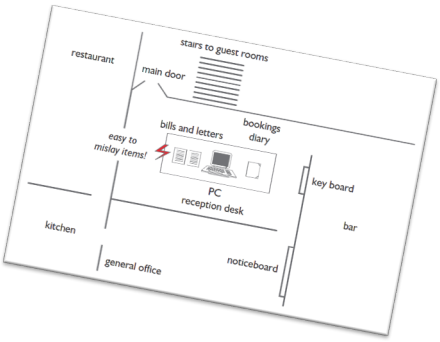
Physical Model



- FORMAL:

(1) "where the work takes place"

(2) Key features of the work place

- COMPONENTS:
- **Physical Structures** affect how work is carried out
- **Movement** in workplace and **location** of key artifacts
- **Communications**, **technologies**, **networks** present
- The **Layout** of the workplace
- **Breakdowns** (as usual)

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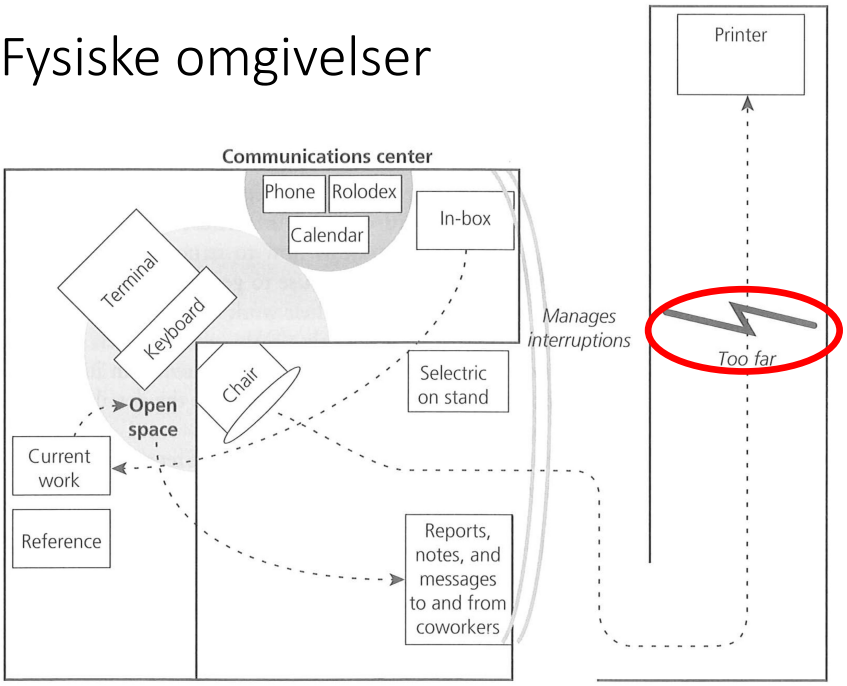
Fysiske omgivelser



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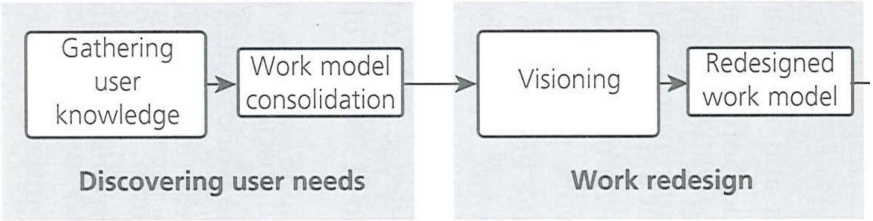
Analyse og konsolidering af data



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Fortolkning af data i CD

- *"Interpret customer data together, as a team"*
- The Interviewer fortæller og bliver udspurgt
- Notetaker skriver noter:
  - Sekventiel protokol over samtalen
  - Noter konsolideres senere under affinitetsdiagrammering
- Work Modelers tegner arbejdsmodeller

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Konsolidering af data

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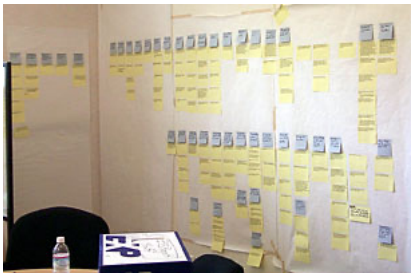
Konsolidering af data

- Syntese af data fra flere brugere
  - Reveal the customer's story by seeing the pattern behind the instance
- Affinitetsdiagrammering
  - Noter fra fortolkning af interviewdata



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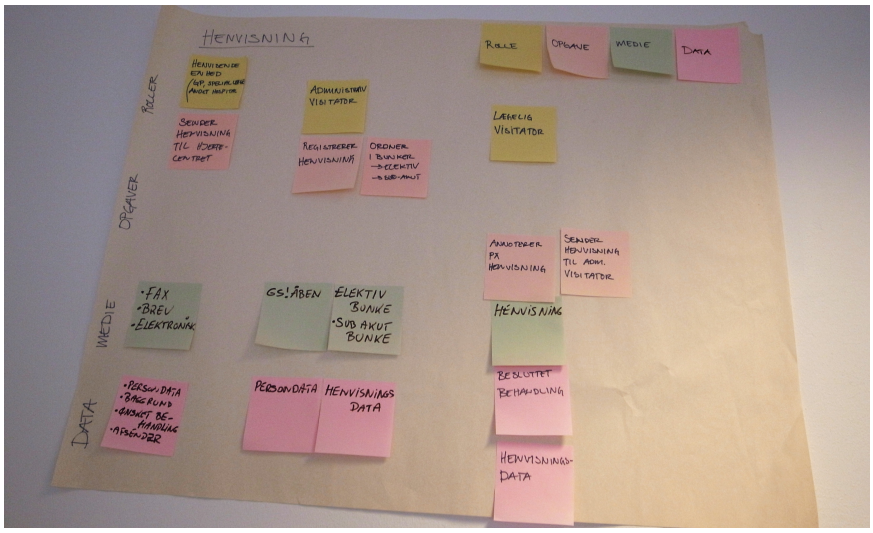
Affinity Diagrams



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Constructing Affinity Diagrams

(1) Separation
note down each requirement, wish, need, etc.
do so on post-it notes (only a word or two)

(2) Repetition
do this iteratively (you will end up with hundreds of post-its)

(3) Bottom-Up Approach
identify common themes and a structure
let participants define their own → **do not** provide themes

(4) Grouping
group post-its according to those themes
here you can discard duplicates (or near-duplicates)

(5) Recording
record groups and headings for later use

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Affinity diagrams

- Essentially about induction
- Can be done by
  - https://da.padlet.com/
  - Trello
  - Miro
  - draw.io
  - PAPER

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Metode: kortsortering

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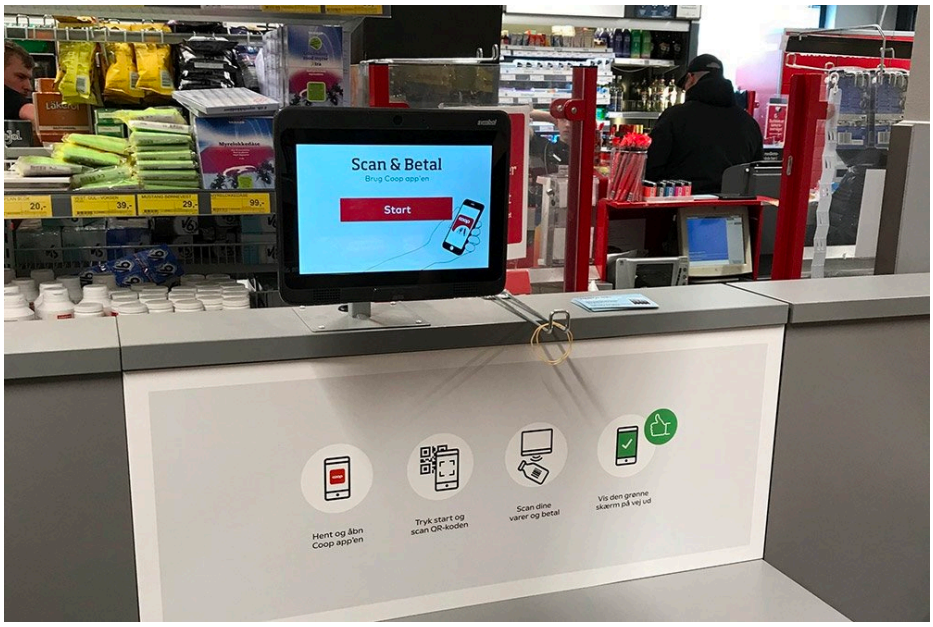

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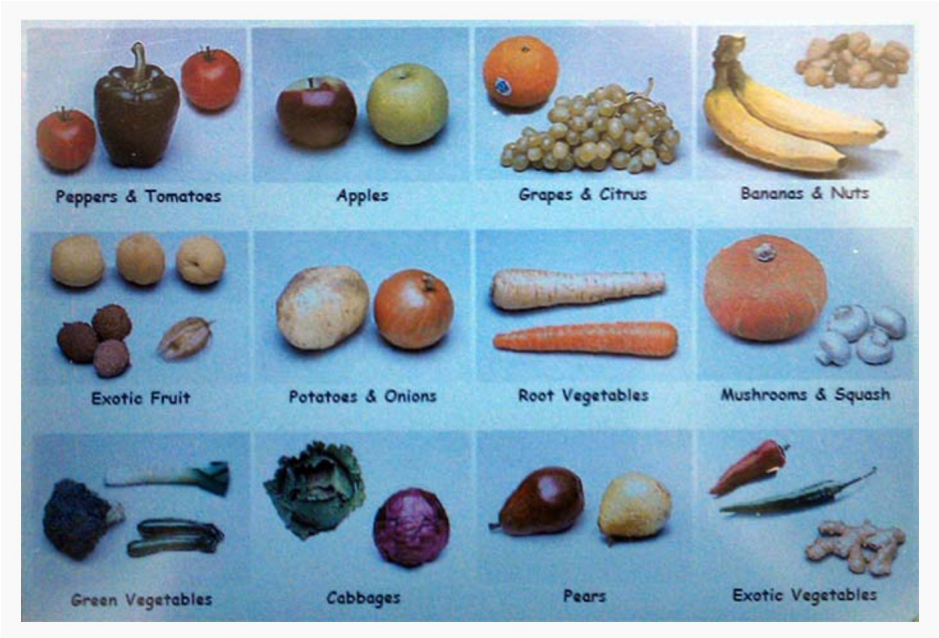
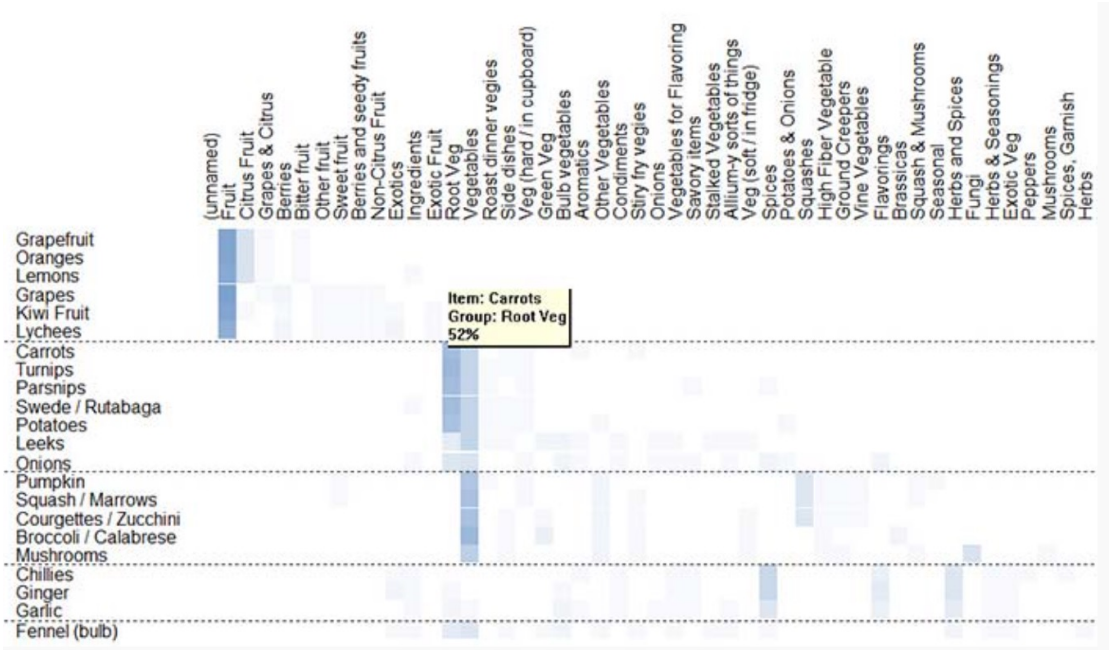


https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/card-sorting

40

Courgettes / Zucchini
Broccoli / Calabrese
Leeks
GROUP
Green Veg
Potatoes
Onions
GROUP
Potatoes & Onions
9
Carrots
Turnips
Parsnips
Swede / Rutabaga
GROUP
Root Veg
Kiwi Fruit
Lychees
GROUP
Exotic Fruit
Garlic
Chillies
Ginger
Fennel (bulb)
GROUP
Exotic Veg
5
Grapefruit
Lemons
Oranges
Grapes
GROUP
Grapes & Citrus
Mushrooms
Squash / Marrows
Pumpkin
GROUP
Squash & Mushrooms
7

41


(unnamed)
Fruit
Citrus Fruit
Grapes & Citrus
Berries
Bitter fruit
Other fruit
Sweet fruit
Berries and seedy fruits
Non-Citrus Fruit
Exotics
Ingredients
Exotic Fruit
Root Veg
Vegetables
Roast dinner vegies
Side dishes
Veg (hard / in cupboard)
Green Veg
Bulb vegetables
Aromatics
Other Vegetables
Condiments
Stir fry vegies
Onions
Vegetables for Flavoring
Savory items
Stalked Vegetables
Allium-y sorts of things
Veg (soft / in fridge)
Spices
Potatoes & Onions
Squashes
High Fiber Vegetable
Ground Creepers
Vine Vegetables
Flavorings
Brassicas
Squash & Mushrooms
Seasonal
Herbs and Spices
Fungi
Herbs & Seasonings
Exotic Veg
Peppers
Mushrooms
Spices, Garnish
Herbs
Grapefruit
Oranges
Lemons
Grapes
Kiwi Fruit
Lychees
Carrots
Turnips
Parsnips
Swede / Rutabaga
Potatoes
Leeks
Onions
Pumpkin
Squash / Marrows
Courgettes / Zucchini
Broccoli / Calabrese
Mushrooms
Chillies
Ginger
Garlic
Fennel (bulb)
Item: Carrots
Group: Root Veg
52%

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Hvad gør vi efter at have forstået brugere?

- User research and representations are the basis of design

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Spørgsmål om Afleveringsopgave 3

- Hvordan stiller man gode spørgsmål?

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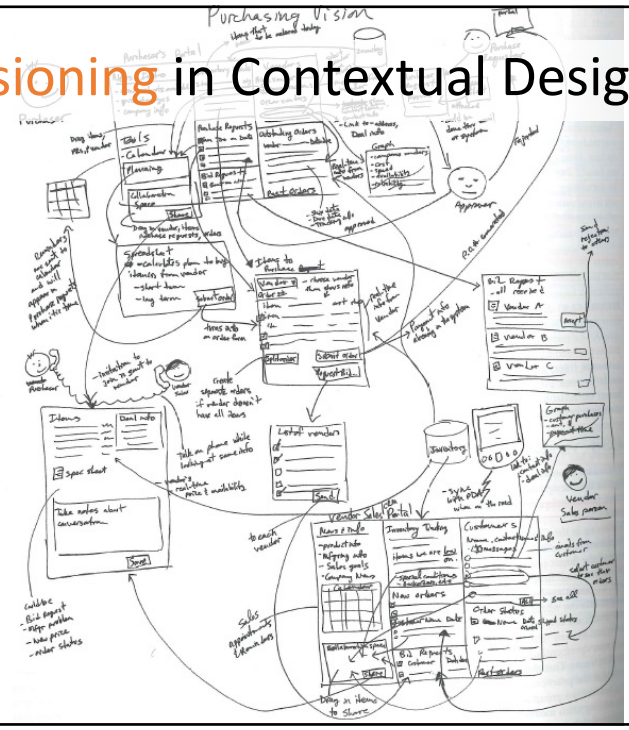
Visioning in Contextual Design



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Design

- Is about inferring from the present to future work and technology
- This is a leap of faith accomplished through ideas of the future

- Separate generation of ideas from evaluation of ideas
- Get many ideas

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Techniques for idea-generation

- Many techniques for idea-generation, including
  - Brainstorming
  - 10+10 method
  - Acting out, bodystorming
  - Heuristics for idea generation (e.g., McGuire 1997)
  - And many others
- Sometimes these techniques are entangled with representation
  - Sketching
  - Storyboarding
  - Prototyping

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Brainstorming

- Osborn (1963)'s rules
  - Focus on quantity (100 per hour, Kelley & Littman, 2001)
  - Withhold criticism (can make everything stop)
  - Welcome unusual ideas (blue sky, break assumptions)
  - Combine and improve
- Appoint a moderator, write down and number ideas (e.g., post its), restrict time, consider nominal groups
- I have put an additional reading on Absalon on this (Kelley 2001, The Perfect Brainstorm)

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10 plus 10 method (Greenberg et al. 2012)

(1) State the design challenge
(2) Generate 10 different designs (creative/diverse)
(3) Reduce number of design concepts
(4) Choose most promising designs as starting point
(5) Sketch 10 details/variations of design concepts
(6) Present ideas to a group
(7) Sketch ideas as they change

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Good questions

- Driving question such as:
  - How might we …
- Another set of questions:
  - We met …
  - We were amazed to learn that …
  - It would be game changing if …

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Visioning i Contextual Design

- Udvikling af idéer om en ny arbejdspraksis
  - (Rapid Contextual Design)
  - 20-30 minutter per vision – dvs. skitser
  - Forudsætter forståelse for eksisterende praksis og væsentlige problemområder
  - Efterfølgende evaluering af visioner
    - Plusser, minusser
    - Konsolidering af visioner

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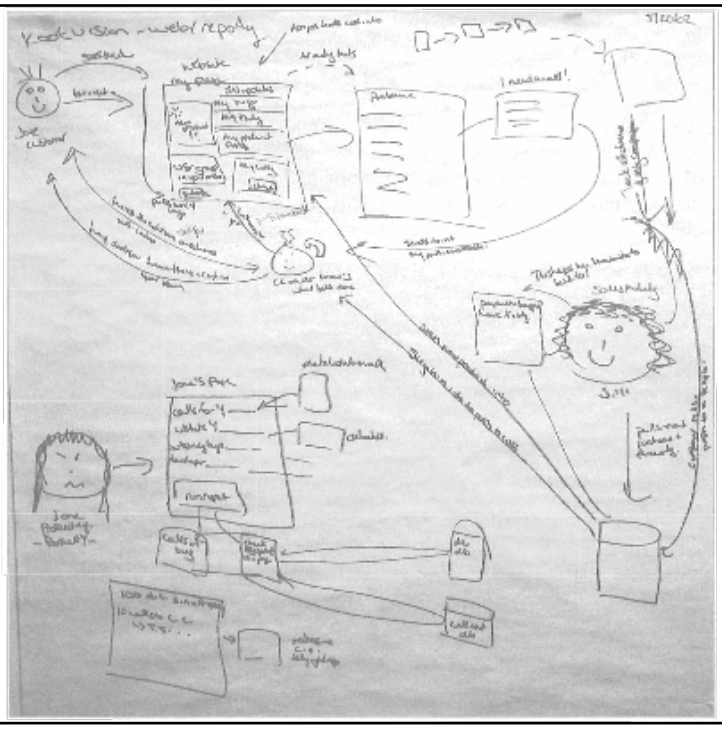

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Dos and don'ts for the visioning process	
Don't	Do
Use multiple pages for one vision.	Keep the vision to a single flipchart page. Running over multiple pages usually indicates you are trying to address more than one coherent task or perspective in a vision. Start fresh on a new page with a focused topic.
Talk in generalities.	Say specifically who the users are and what they are doing, saying, thinking, and seeing.
Over focus on the system or the UI.	Acknowledge databases, processors, web servers, and so on that are working in the background, but don't work out the implementation. Roughly sketch out UI screens or devices to represent what the user might do there. Don't worry about buttons and navigation.
Feel constrained that this will be your final design.	Create multiple visions and evaluate them. Imagine possibilities that may be too difficult to implement. Remember that the evaluation step comes next and the vision can be scaled back once you have it.
Be prematurely constrained or narrow in visioning.	Vision as broadly as you can within the constraints of your project focus. You can then pull back once you see the possibilities and evaluate them against resources, schedules, and technical constraints.
Try to work out all the details.	Wait for storyboarding to work out the details.
Talk to each other and not to the Pen or have side conversations.	Share your ideas with everyone. Side conversations are disruptive to concentration and then your ideas aren't captured. You aren't discussing the vision with each other and asking questions about how it works, you are telling the story to the Pen.
Worry about being neat or perfect when drawing.	Don't worry too much about neatness. Visions are rough brainstorms that are done quickly because that tells a more integrated story. Trying to make it neat will slow down the storytelling and destructure the story.

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Spørgsmål om Afleveringsopgave 3

- Hvordan stiller man gode spørgsmål?

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Spørgsmål om Afleveringsopgave 3

- Hvordan stiller man gode spørgsmål?
- Husk at fokusere på aktiviteter, ikke teknologi

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Det fik I med i dag

- En særlig måde at lave interviews på
  - Kontekstuelle undersøgelser, affinitetsdiagrammering til at analysere
- Teknikker til at repræsentere resultater
  - Flow model, artefact model, osv.

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