UiO : Department of Informatics
University of Oslo

Participation in what?
On Participation in PD

Tone Bratteteig

Department of Informatics, University of Oslo

in5510 - 28. September 2021

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Ina Wagner

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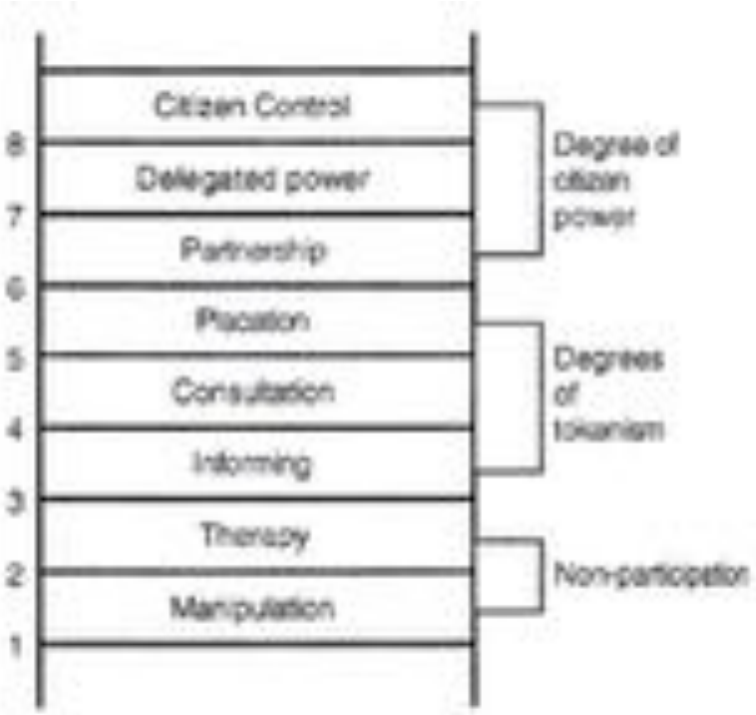
focus: understand & conceptualize PD

- what is it that users participate in when participating in PD?
- how do they know they had any influence?
- what is a PD result? Who and how is it evaluated?

levels of participation



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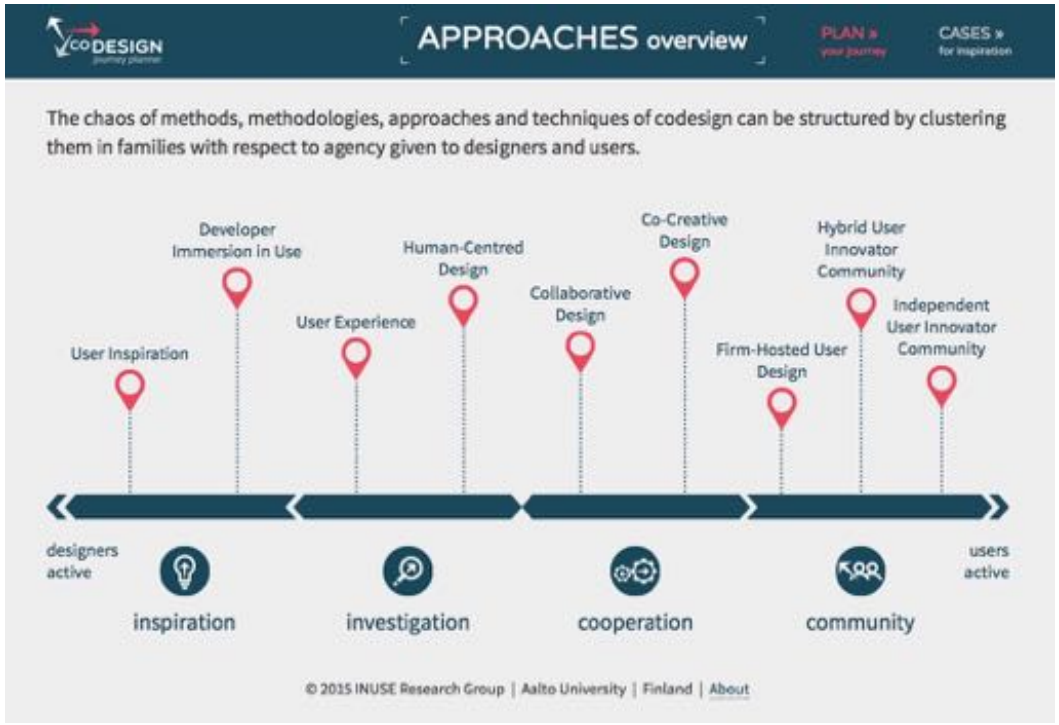

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focus: understand & conceptualize PD

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Bratteteig & Wagner

- Spaces for participatory creativity, *PDC 2010*
- Spaces for participatory creativity, *CoDesign Special Issue on PD*, 2012
- Disentangling power and decision-making in participatory design, *PDC 2012*
- Disentangling Participation. Power and Decision-making in Participatory Design, *Springer CSCW series*
- Design decisions and the sharing of power in PD, *PDC 2014*
- The life and death of design ideas, *COOP 2016* (w/ O-K Rolstad)
- Unpacking the notion of participation in Participatory Design, *Journal of CSCW 2016*
- What is a participatory design result? *PDC 2016*

focus: understand & conceptualize PD

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4 projects we knew well

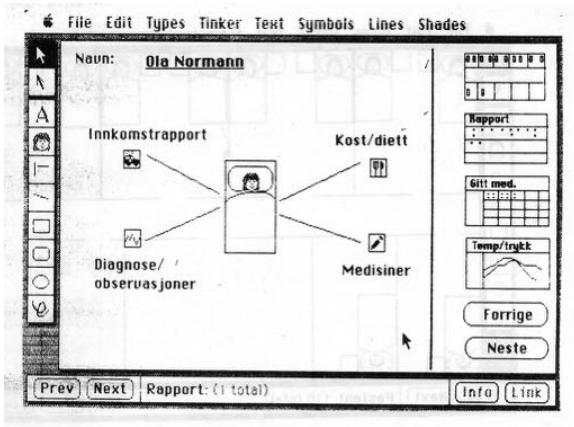
Table 1. Overview of analyzed PD projects.

Project	Florence Project (1983–87)	Sisom Project (2005–06)	Desarte Project (1999–2001)	IPCity Project (2006–10)
Intended end-users	Nurses in hospital ward	Children with cancer Hospital staff	Architects and landscape architects	Urban planners, different stakeholders in an urban project
Project team	IT designers, anthropologists, nurses, medical doctors, nursing assistants (anthropologist and one nurse employed 100 % by the project)	Project leader, child psychologist, systems developers, graphic designer, participatory designer, healthy children as substitutes for very ill children	Participatory designer, systems developers, (landscape) architects, graphic designer, 3D designer	Project leader, urban planners, designer team (IT specialists, product designer, visual artist, sound artist)
Design result	Work sheets with patient inform-ation overview	Mobile system for patient reporting of symptoms	Navigable 3D archive for inspirational material	Collaborative urban mixed-reality application
Context	Real use in hospital; later requirements for new nursing system	Real use in hospital	Research	Research

florence

PD with nurses in 2 hospitals 1983-1987

florence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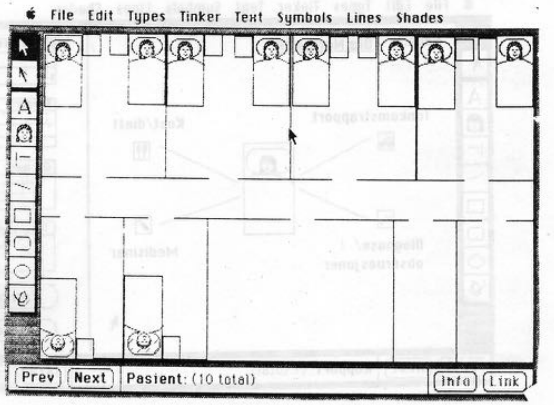
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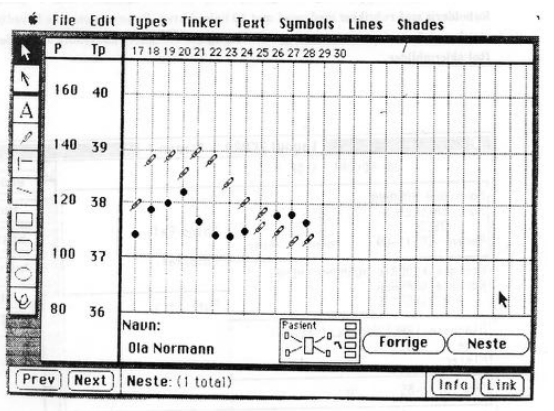
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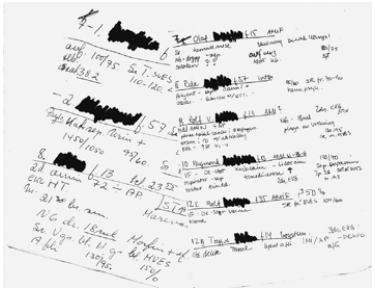
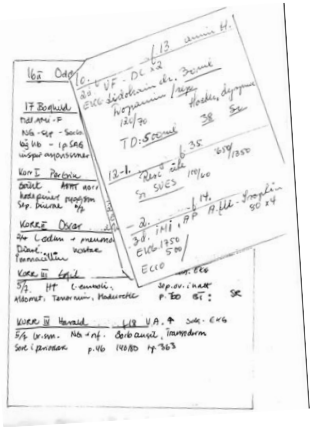
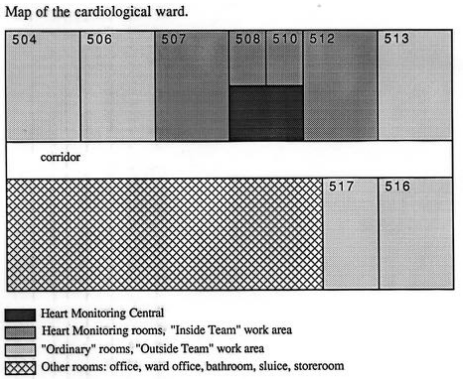
florence







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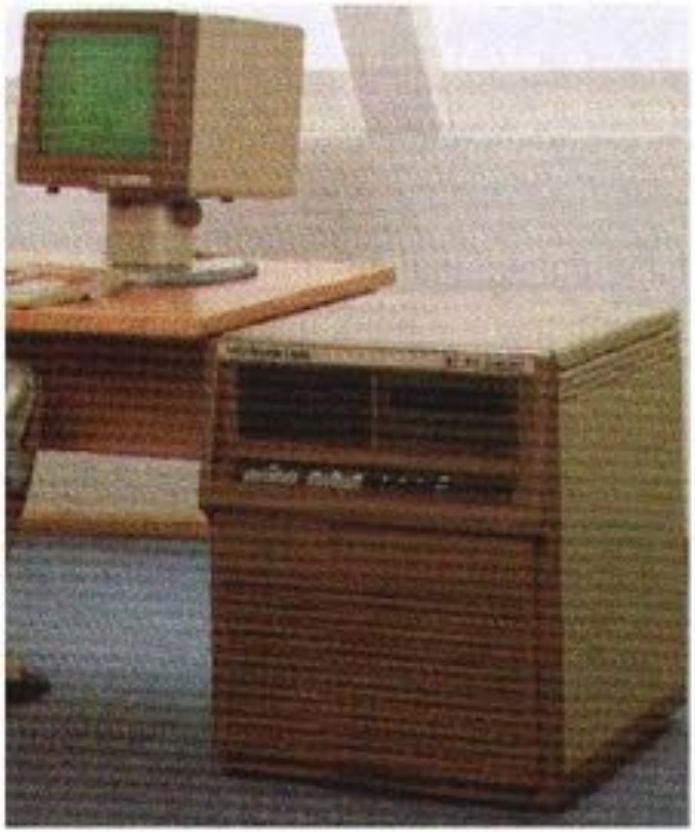
507-2 -43 <NAME>, Hans Diag: AMI-F Hosp.hist: Arr. 24.1. Earlier post-traumatical epilepsy, uses fenemal. Still bothered with some pain. Out of bed. Tries to stop smoking. IV: Inv:	508 -19 <NAME>, Kjell Diag: Arr. 25/1 dyspnoe Hosp.hist: AMI and insuff. earlier. Now acute dyspnoe.Improved cond from morphin ogdiural. Foleycat. Started on capoten. IV: Inv: 27/1: 3dayspr. Ecg	510 -27 <NAME>, Gunnar Diag: Arr. 25/1 AMI stop Hosp.hist: Hypertension earlier. To day br.pain. Pulse and resp.less in doctor's office. H.massage couple of min. Rubbing. Insuff. Tachycard IV: Inv: 27/1: 3dayspr. Ecg, stix	512-1 -24 <NAME>, Thorbjørn Diag: Arr. 22.01. AMI-L small Hosp.hist: Been trough uncomplicated small AMI now. Proved leukemi lately. ST-swel V2-V3. Proved Cronical lymfatical leukemi. 3 days. IV: Inv:
507-1 -10 <NAME>, Albert Diag: AMI-N Hosp.hist: Arr. 24.1. Earlier asthma bronciale. Felt br.pain since 21.1. Still br.p. arriving ward. ECG:AMI-N. Now bothered with insp.pain. To be activated IV: Inv:	WORK TEAM	WORK TASKS	512-2 -21 <NAME>, Torhild Diag: Arr. 26/1 88. AMI? H.insuff? Hosp.hist: AMI 77 and 81. Increasing AP since Nov.87. Insuff. lately. ACT: Br.pain since 5pm. Dyspnoe. IV: Nitrodr. Inv: 27/1: 2d. ECG.stix

florence

Kommando_ "ARBEIDSARK" versjon fra 21/10 -86

507-2 Navn: Fødselsår:-.. Diagnose:	508 Navn: Fødselsår:-.. Diagnose:	510 Navn: Fødselsår:-.. Diagnose:	512-2 Navn: Fødselsår:-.. Diagnose:
507-1 Navn: Fødselsår:-.. Diagnose:	Arbeidsgruppe: Sykepleier: Sykepleier: Sykepleier: Sykepleier: Sykepleier: Hjelpepleier: Lege:		512-1 Navn: Fødselsår:-.. Diagnose:

Kommandoer er: **F**lytt pas; **E**ndre arb.gruppe, **S**kriv ut, **P**asient-info og **A**vslutt



ND-100 and Tandberg terminal

507-2 -43 <NAME>, Hans Diag: AMI-F	508 -19 <NAME>, Kjell Diag: Arr. 25/1 dyspnoe	510 -27 <NAME>, Gunnar Diag: Arr. 25/1 AMI stop	512-1 -24 <NAME>, Thorbjørn Diag: Arr. 22.01. AMI-L small
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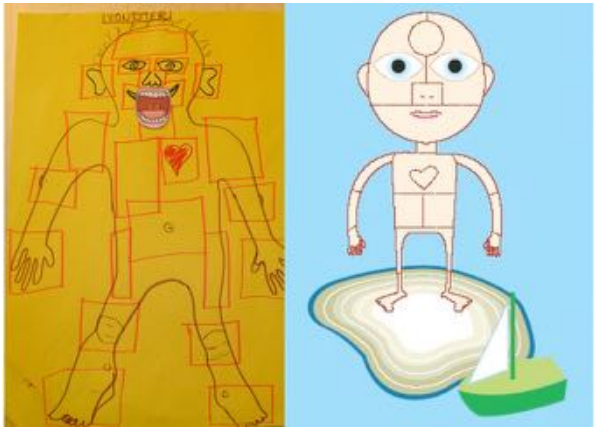
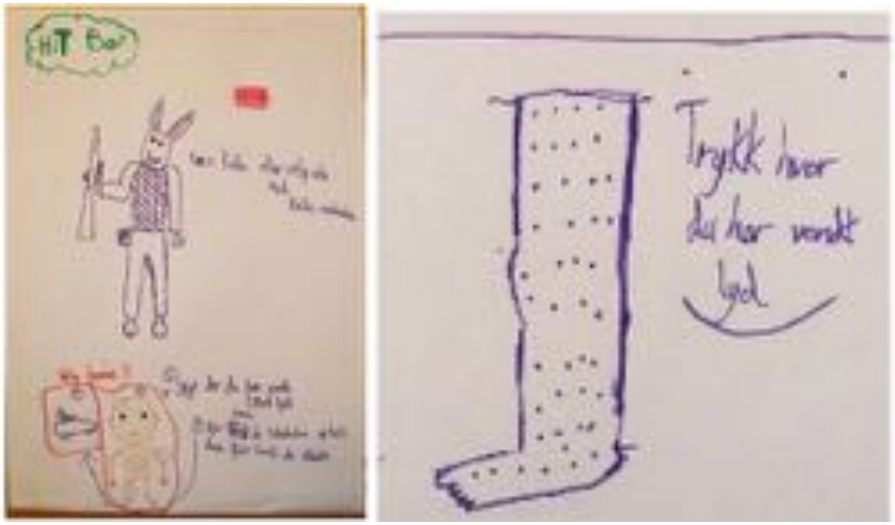
PD with children in a hospital (+ doctors)

the Sisom project 2005-2006


HVOR DAN HAR DU DET


Here are my problems




Trykk hvor du har vondt

Physical problem	Cry a lot (own suggestion)	Emotions	Afraid
	Bleed nose-blood		Nightmares
	Broken leg		Embarrassed
	Wounds on the skin		Angry
Head pain	Head ache		Miss family and friends
	Dizzy		Feel sorry
Vomiting	Pain in the belly		Cry a lot
	Vomit		Irritated
	Nausea	Social problems	Other children don't want to play with me
	Phlegm in my mouth		
	Things smell bad/unpleasant		Don't want to play with others
	Nose feels tight		Shivering hands
	Cough		Difficult to walk
	Warm or sweat	Unknownness	I think I don't get to decide anything
Mouth problems	Dry in the mouth		
	Pain in the mouth		I think it is my fault that I am sick
	Don't manage to eat		
Tired	Sleep during the day		I don't get to know things I want to know
	Easily tired		
	Don't manage anything	Medication problems	Can't take my medicine
	Cannot read		Disgusting to take med.

An example of the 'SISom' application

PD with urban planners and citizens 2006-2010

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Application scenarios
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CHI 2008 Workshop - Urban Mixed Realities: Technologies, Theories and Frontiers
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About IPCity

IPCity Final Event was held in Vienna, Austria. For more inf
event pages.

IPCity (FP-2004-IST-4-27571) is a EU funded Sixth Framework
Integrated project on Interaction and Presence in Urban Enviro

The research aim of the IPCity project is to investigate analy
approaches to presence in real life settings. Analytically, this
approaches to presence accounting for the participative and
presence, the multiplicity and distribution of events in time an

Technologically, this translates into developing portable en
configuration, mobile and light-weight mixed reality interface
weave them into "the fabric of everyday life". Methodologicall
"out of the lab" with field trials in real settings, applying a tria
and methods for evaluation. These range from interpretative-
experimental approaches and include cognitive science, so
cultural-anthropological disciplines.

The vision of the IPCity project is to provide citizens, visitors,
involved in city development or the organisation of events wit
that enable them to collaboratively envision, debate en
experience past and future views or happenings of their loc
discovering new aspects of their city. This includes:

- Extending analytical frameworks for presence, including the participative constitution of presence, the role of (shared) memory and mutual understanding, temporal fluctuations and interruptions (design for non-disruptiveness).

Turning the wooden wheel to rotate view or zoom while checking with gaze at projection.

Freeze scene, upload previous scene with barcode interface.

Selecting content, placing a content card on selected coloured RFID field, which associates content with colour blue, and placing blue triangle on physical map.

Manipulating content by placing a 'command card' (e.g. 'scale decrease') on colour zone of the single object to be manipulated.

Setting connections requires two rectangular tokens that define end points and angles defining curvature. Content card defines type of flow (e.g. pedestrian, high traffic) visible as moving dots on map.

Areas that are enclosed by connections can be filled with ground textures (grass, stone, water, etc.) by simply placing a circular token, the colour of which has been associated with a particular texture in the area on the map.

Figure 11. Map of the university campus, image of the station today and the architect's plan for a future station.

Figure 12. Current narrow bridge, design for better flow.

Figure 13. The station as a 'welcoming area'.

Figure 14. Architect explaining his solution.

Figure 15. Architect explaining solution with sketches.

Figure 19. Sketching content and showing recording.

DESARTE

The observation that lies at the heart of DESARTE and our vision for a useful electronic support environment for designers and architects is a tension between ways of seeing, using, and organising materials, the limitations of physical objects in physical space, and the potential of electronic visualisation, communication, and data storage technologies. We explore this under the metaphors of **Wunderkammer** and **Manufaktur**.

The prototype, based on the metaphor of **Wunderkammer** and **Manufaktur**, consist of components developed within the project. It also consists of the assembly (bricolage) of, and integration with, existing tools on the Windows NT platform. We also have re-designed and evaluated work practices around **Wunderkammer** and **Manufaktur**, based on the metaphor of **open planning**, and have assessed the appropriateness of the 'bricolage approach' for the co-evolution of technology and work practice.

The design rationale of the **Wunderkammer** is based on fieldwork revealing the relevance of and need for inspirational objects throughout the design process. Inspirational objects assist the designers in their effort to form, develop, and communicate design concepts. Most of them are images, but their nature and sources are varied and so are the ways of collecting them. It is our aim to support the archiving and discovering of inspirational objects and to facilitate their movement to and from the **Wunderkammer** to integrate with the flow of the work.

The **Wunderkammer** is an inhabitable multi-media archive, collection support, and view generator. Users can place inspirational objects – images, sketches, 2D or 3D scans of samples and objects, sound, and video – in a metaphorical space of cities and landscapes. They can navigate in this space and explore it, search and collect material, and generate different modes of viewing it.

The **Wunderkammer** is created interactively and used collectively. Users are supported in creating their own collection of inspirational objects as well as in sharing it with others, and in practicing different ways of traveling, collecting and displaying. The long-term development plan is to provide them with the tools for building their own version of the **Wunderkammer** world, using different representational techniques.

The Manufaktur is a collaborative 3D workspace which helps architects and landscape architects to evoke, create and maintain the context of a particular design task, a project, or the ensemble of ongoing work, and to act within that context.

The development of the **Manufaktur** is based on observed practices of (landscape) architects in which materials, many of them graphic and visual, are assembled, arranged and manipulated as an integral aspect of their work. Context, and appropriate visualisations of context, are crucial for the support of work which is highly complex (in terms of parameters and materials to hold present), cooperative, and distributed, with a fluent mix of tasks and people. This context is constantly changing with the project and tasks at hand, the people involved, the progressing of ideas and solutions, the multitude of documents that are activated, changed and created in this process. There therefore is a need for a workspace, which is easily customisable, affording the views of a project or task that are most relevant at a given moment.

The 3D **Manufaktur** workspace supports the configuring of multi-media documents to specific views of a project. It will contain a series of desktop applications, some of which are underlying services (exploring & navigating technologies, linking facilities, support for sharing and awareness, document management, etc.). Rather than attempting to structure the information field through the use of automised mechanisms, we are experimenting with the potential of providing an environment and some tools and techniques to organise and access different views onto the information. This approach takes into account the flexible and situated use of information resources.

DESARTE – Computer-Supported Design of Artefacts and Spaces in Architecture & Landscape Architecture, ESPRIT-LTR Project Nr. 31.870

1999-2001

what is participation & how to think about it

participation:

the action or fact of having or forming a part of something, the sharing of something

PD: sharing power with users

1) having a say (& having a voice)
2) mutual learning (2-way learning, over time)
3) co-construction (co-design)

first round of analysis: decisions

- values & concepts

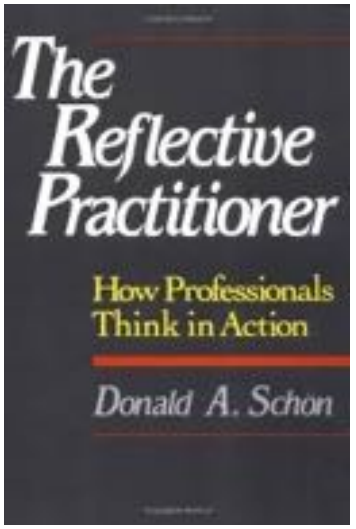
  openness, stakeholder participation, immediacy, urban concepts
- how to implement the vision

  haptic engagement with tokens, tracking framework, bringing Mixed Reality outdoors, panoramas as re-presentations of the site, working with sound
- negotiations with outside world
- decisions & non-decisions

Figure 1: Overview of key activities

Figure 3: Wall scenario (1) and mixed reality scene (2)

Figure 7: Different designs of colour selection



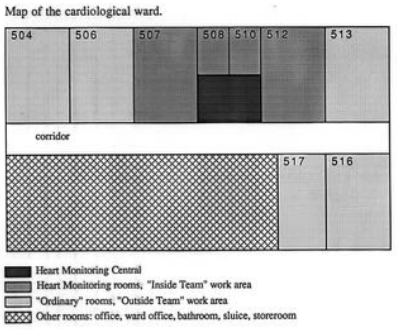
second round of analysis: design decisions

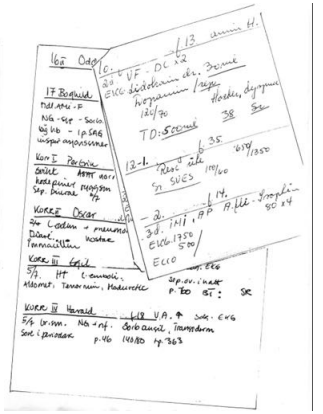
participation in <u>design</u> processes

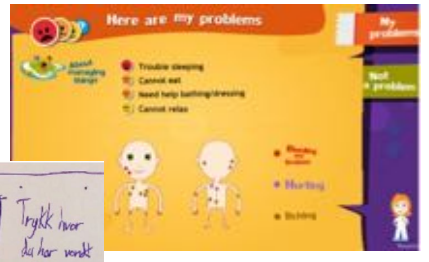
- design experiments / seeing – moving – seeing
  1) bring in choices (evaluate the situation)
  2) select a choice
  3) concretize a choice
  4) evaluate the choice (-> vision)

- decision-making: choosing between possibilities: space of design ideas
- evaluating the result in context + over time
  - understand how choices are interrelated:
    understand how small choices lead to which end results

bring in choices







- multi-disciplinary collaboration
- ethnographic studies as a basis for mutual learning
- learning throughout the PD process
- providing basis for technological imagination
  - BUT maintain their own perspective
- meeting the participants where they are
  - adjust process
  - adjust activities and techniques

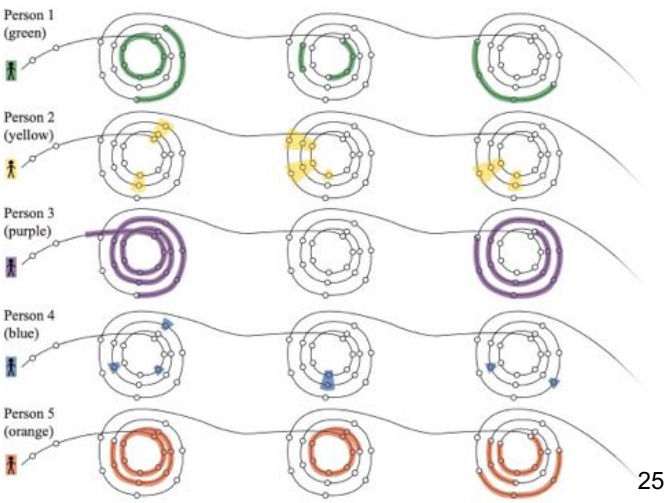
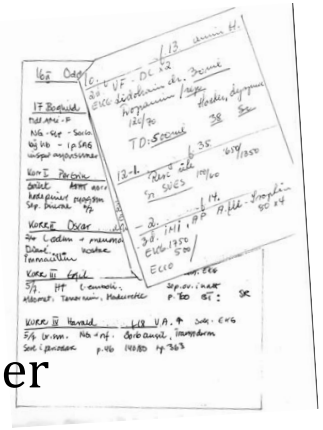


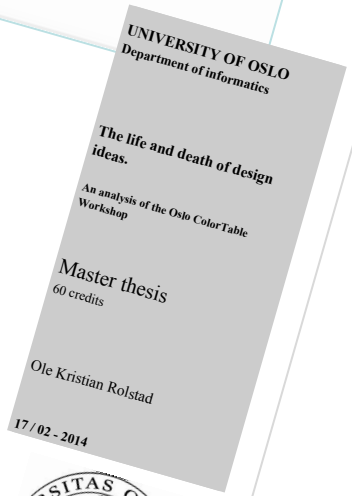
Figure 4. The participation activity for five of the participants throughout the project.

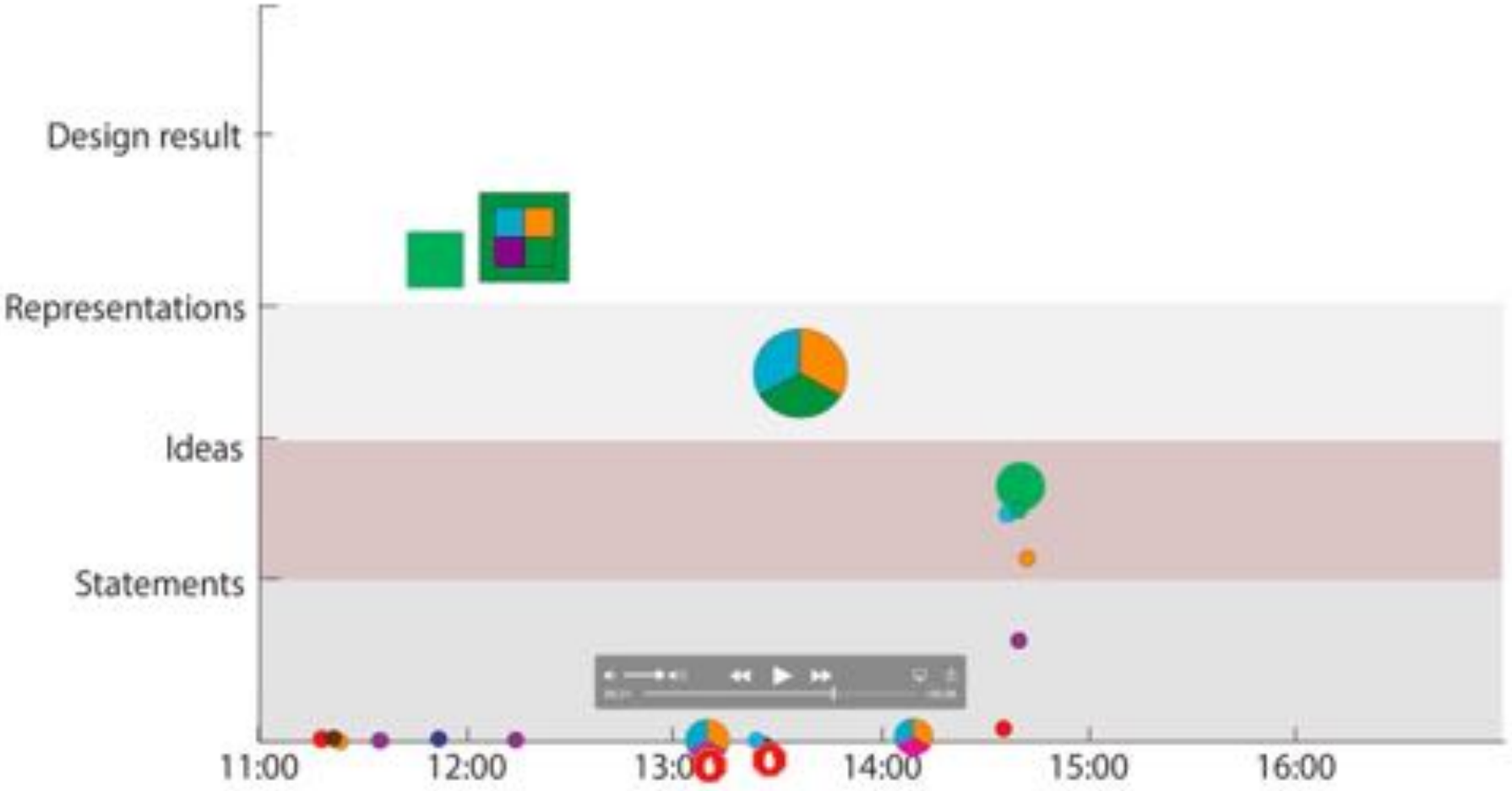
select a choice



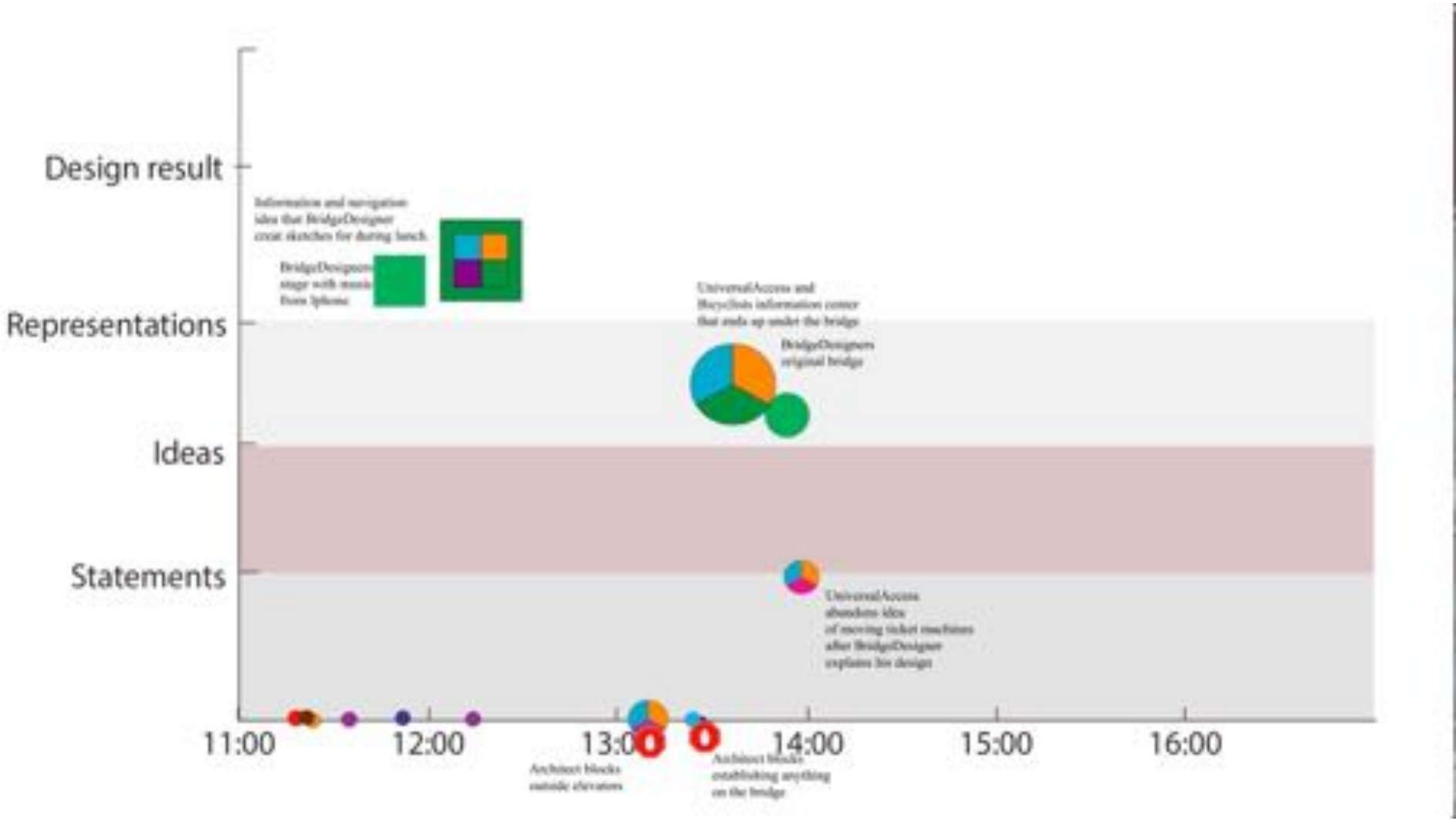
- problem setting and solving goes together
  - steps towards a vision
  - postponing decisions: "placeholders"
  - understanding the effects of a choice

- negotiations and power games



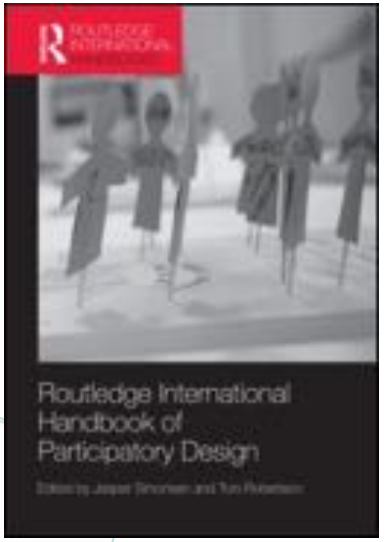


Ole Kristian Rolstad



Ole Kristian Rolstad

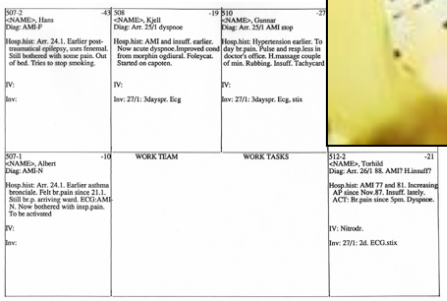
Simonsen & Robertson

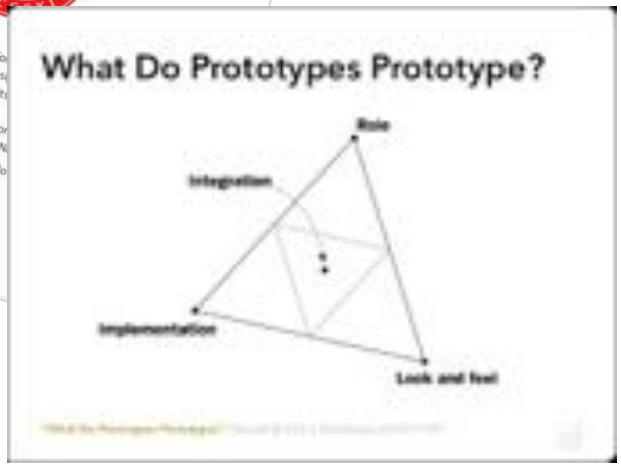


concretize a choice

- the power of the maker – in the making
  - technical choices

- mock-ups and demos
  - show, not tell
  - scenarios and simulations





Houde & Hill

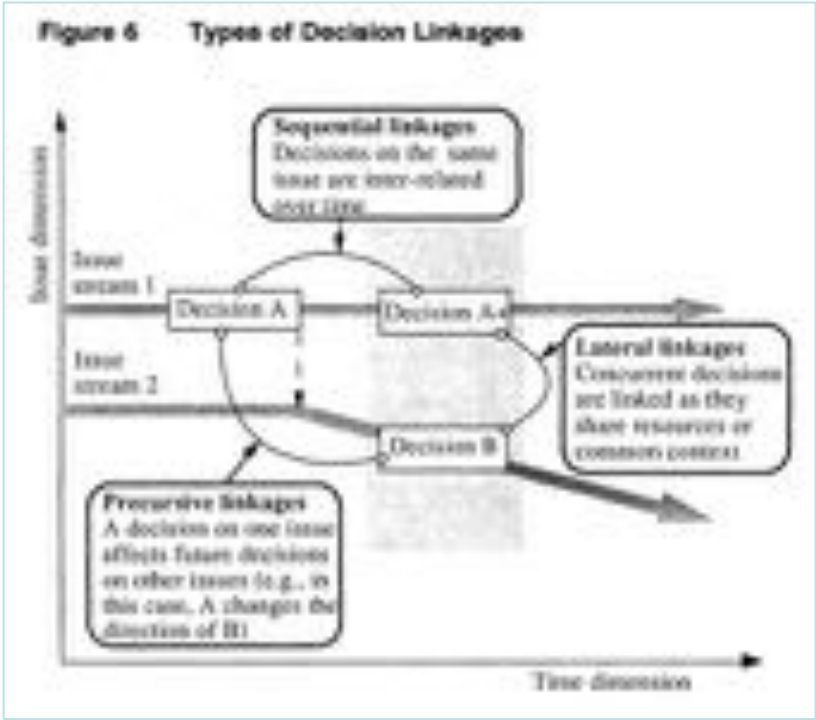
evaluate the choice

- seeing – moving – seeing
  - evaluation is an inseparable part of design

- seeing as explicit evaluation
  - the artefact
  - the artefact in its real use context
  - independent prototypes
  - long-term use

decisions interact & are interlinked

- big and small decisions: which decisions are important to be part of?
- unforeseen consequences of decisions
- decision linkages
  - sequential linkages: a decision leads to a other decisions, smaller ones (nesting), larger ones (snowballing), or same decision recurring
  - precursive linkages: a decision can affect premises for later decisions/ issues: enabling, evoking, pre-empting, cascading, merging, learning
  - lateral linkages: different issues share resources and compete (pooled) or share a context (contextual)
- non-decisions



Langley et al

plan for a sustainable design result

"*Results* are all action carried out by the MWU*, centrally and locally, which on the basis of activities and insight gained within the project are aiming at giving the MWU and its members increased influence on the planning, control and data processing of the firms." (Nygaard & Bergo 1975: 7)

Kristen Nygaard

** MWU = Iron and Metal Workers' Union*

"can we have good participatory processes that do not show evidence of more democratic ideals in the resulting artefacts?"
(Balka 2010: 3)

what is a participatory design result?

= the results that exist when a PD project ends

- "shows evidence of democratic ideals" by increasing the agency of its users and giving them a voice in matters they did not have before
- strengthen users' "power to" act (can strengthen their "power over")

- a critical perspective is needed to recognize power structures of the use situation and address them (does not require a conflict-oriented view)
- characterize the arenas of participation that the PD project aims at

- participatory design results can be achieved in many different ways
- and there are many ways in which a PD result can be participatory

what is participation & how to think about it

participation:

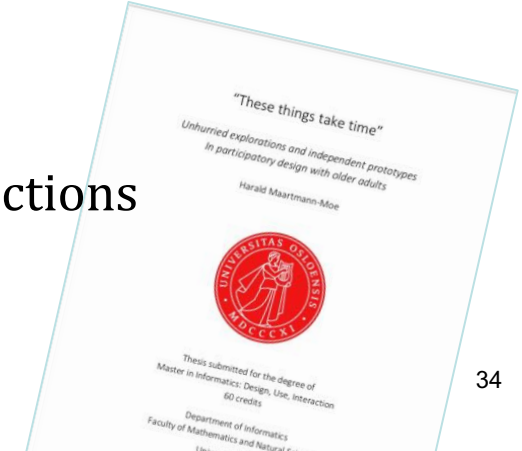
- the action or fact of having or forming a part of something, the sharing of something

  = the stakeholders influence & share control over development initiatives and the decisions and resources which will affect them

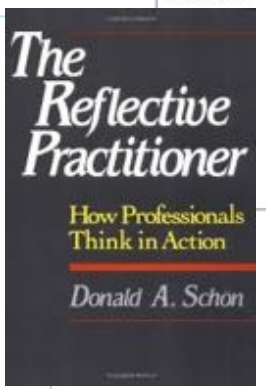
- have your voice heard & respected + have a say = make decisions (process/result)

- mutual learning -> develop knowledge, empathy, respect & trust
  => design decision competence

- co-design -> explore and select suitable forms and functions
  + experience the effects of design decisions



what & how to participate in PD



participation in decision-making in design

1. ***see***: evaluate the situation, bring in possibilities & choices
2. ***move***: select one choice
3. *& try it out: concretize, materialize*
4. ***see***: evaluate if it leads in the right direction (vision)

- frame a PD project
- bring in choices
- select a choice
- concretize a choices
- evaluate the choice
- understand how decisions interact
- plan for a sustainable design result