



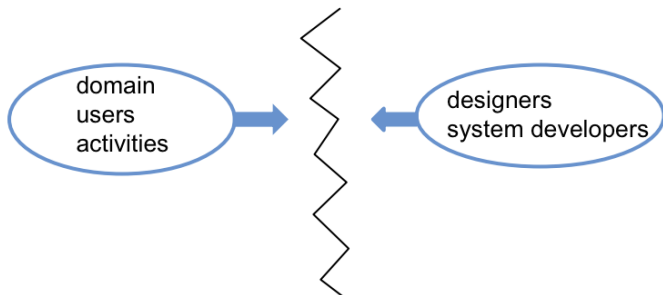
Participatory Design

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How are users viewed?



- ▶ flexible?
- ▶ lazy?
- ▶ ungrateful?
- ▶ stupid?

or are they:

- ▶ knowledgeable?
- ▶ experts?
- ▶ professionals?

- ▶ Designers and users narrowed
- ▶ Mutual learning
- ▶ Users highly involved in design process
- ▶ Handle conflicting goals between workers/users and management

- ▶ Emerged from strong labor movement in Scandinavia in the early 70s
 - ▶ political aspect, distribution of power
- ▶ From top-down, management-driven, to a bottom-up, democratic, humanistic perspective
- ▶ Articulating problems and co-creating solutions in cooperation with users
- ▶ Other names for PD include Cooperative Design and Collective Resource Approach

- ▶ UTOPIA - 1981
 - ▶ Nordic Graphic Workers Union (NGU)
 - ▶ Ehn, Kyng, Sundblad, Bødker
- ▶ Florence - 1983
 - ▶ Nurses
 - ▶ Nygaard, Bjerknes, Bratteteig

- ▶ Enhance workplace skills, rather than degrade them
- ▶ Applications should support work activities, not make them more rigid
- ▶ Organizational issues - a specific focus of the design
- ▶ In addition to improving productivity, improve the quality of work and results

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¹Source: Bødker, Grønbæk and Kyng; "Cooperative design: techniques and experiences from the Scandinavian scene"

Why involve users?



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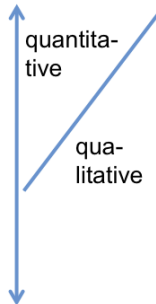
- ▶ Improve the knowledge upon which systems are built
- ▶ Enable workers to develop realistic expectations
- ▶ Reduce resistance to change
- ▶ Increase workplace democracy
 - ▶ members participate in decisions that affect their work

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²Source: Bjerknes & Bratteteig, 1991; Bjørn-Andersen & Hedberg, 1977

- documented studies
- source for data gathering
 - questionnaires
 - observations
 - interviews
- ethnography
- part of design team

All levels might be relevant



- ▶ Recognize conflict
- ▶ Guided by designers
- ▶ Situated within user's work
- ▶ Encourage creativity and draw out tacit knowledge
- ▶ Simulate the future to aid in prediction and evaluation of design

- ▶ Coordinate activities
- ▶ Facilitate discussion
- ▶ Prepare materials
- ▶ Advocate solutions Adapted from Patrick Williams

- ▶ Workplace visits
 - ▶ understand current situation and work practices
- ▶ Future workshop
 - ▶ compile current problems and brainstorm potential solutions
- ▶ Organizational game
 - ▶ Envision possibilities by presenting new scenarios using mock-ups and prototypes
- ▶ Embodying ideas
 - ▶ Continue development by co-creating mock- ups and prototypes and by trying out new / modified work situations

- ▶ shed light on a common problematic situation
- ▶ generate visions about the future
- ▶ discuss how visions can be realized
- ▶ Participants should share a set of problems, a desire to change the work situation, and the means to achieve that change
- ▶ Usually involves two facilitators, and no more than 20 participants

Stages of a Future Workshop



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- ▶ Preparation
- ▶ Critique
 - ▶ draw out specific issues and problems
- ▶ Fantasy
 - ▶ imagine how things could be different
- ▶ Implementation
 - ▶ figuring out how to make it happen
- ▶ Follow-up

- ▶ Structured brainstorming about current problems at work
- ▶ Everyone gets a chance to speak
 - ▶ Time can be restricted, for example, to 30 secs.
- ▶ Statements are recorded, and then grouped into a number of themes

- ▶ Problem themes are inverted to generate positive ideas for the future
- ▶ No statement about the future is considered too extreme
 - ▶ "if somebody wants it, it's OK"
- ▶ Positive visions are grouped under a number of themes
- ▶ Themes are selected to develop "utopian outlines"
 - ▶ idealistic visions of how things might work in the future

- ▶ Use utopian outlines as a starting point
- ▶ Envision the resources, systems and organizational changes required to make the vision a reality
- ▶ Plan how to access those resources, build the systems and gain consensus around the required organizational changes

- ▶ "Act out" alternate work organizations and confront problems that arise
- ▶ Use mock-ups and prototypes
- ▶ Metaphor of acting in a play
 - ▶ Playground - where the action occurs
 - ▶ Roles - that various actors play
 - ▶ Situation cards - introduce particular breakdowns
 - ▶ Commitments - actions taken by actors in response to specific situations
 - ▶ Conditions - requirements for taking these actions
 - ▶ Action plan - how to propose the idea to the rest of the organization and make it happen

- ▶ Learning for the designer, as well as for the user
- ▶ Users can understand the potential of technology to impact work, and envision realistic future scenarios
- ▶ Users and designers cooperatively envision new designs, and inform each other's perception of their practicality and utility
- ▶ The final result is not a surprise!

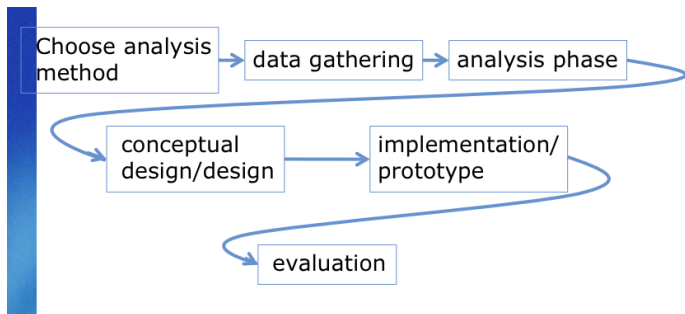
- ▶ Mock-ups and lo-fidelity prototypes provide hands-on experience with new situations
- ▶ Everyone has the knowledge and tools (pens, scissors, etc.) to make modifications
- ▶ Everyone understands their limitations
- ▶ They can be made cheaply
- ▶ They are fun to use and modify

- ▶ Close collaboration between users and developers
 - ▶ Physical proximity
 - ▶ Resources and time to support collaboration
 - ▶ Does not address Internet-based systems
- ▶ Strong organization of labour helps
 - ▶ Unions a possible support for involving users
 - ▶ To access the ?right? users
 - ▶ Users not comfortable with articulating desires
 - ▶ Users disappointed when visions are not realized
- ▶ Not all systems are workplace-based
 - ▶ What about consumer technologies?
 - ▶ What about systems for fun, or communication?
- ▶ PD ideology must be adapted for dealing with variations

The design process



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People

- ▶ Gro Bjerknes
- ▶ Jeanette Blomberg
- ▶ Tone Bratteteig
- ▶ Susanne Bødker
- ▶ Pelle Ehn
- ▶ Joan Greenbaum

- ▶ Users represented in design team
- ▶ No single set of methods and technologies
- ▶ Appropriate for workplace systems development
- ▶ Designers as coordinators and usability experts