Scenario design

Research Skills and Methods
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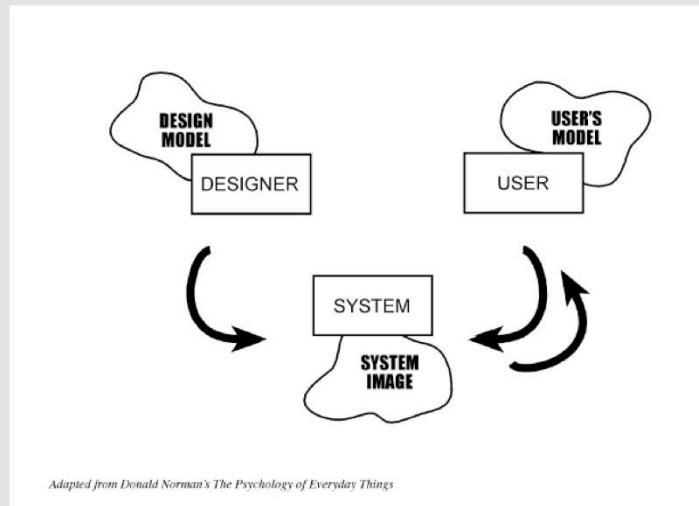
Scenario design

- …is a human-centered design method that can be used for research in order to visualize the domain area of the design.
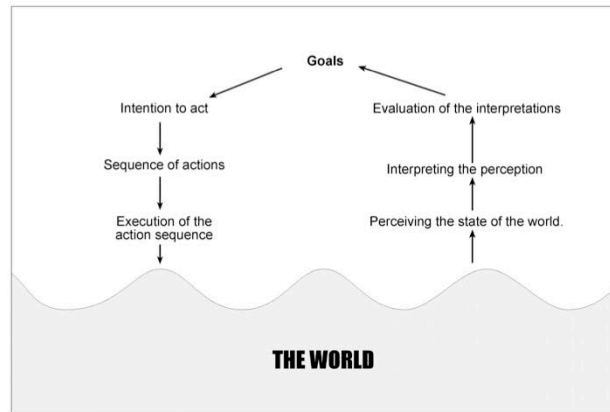
Scenario design is one way to bridge these gaps without having to engage in It is a creative, qualitative, method

Conceptual models

DESIGN MODEL
DESIGNER

USER'S MODEL
USER

SYSTEM

SYSTEM IMAGE

Adapted from Donald Norman's The Psychology of Everyday Things

There is a gap that exists between what is in the designers, mind and what is in the users mind…."The design model is the designer's conceptual model. The user's model is the mental model developed through interaction with a system. The system image results from the physical structure that has been built (including documentation, instructions, labels). The designer expects the user's model to be identical to the design model. But the designer does not talk directly with the user--all communication takes place through the system image. If the system image does not make the design model clear and consistent, then the user will end up with the wrong mental model." The Psychology of Everyday Things, p. 16.

7 stages of action

Goals

Intention to act Evaluation of the interpretations

Sequence of actions Interpreting the perception

Execution of the
action sequence Perceiving the state of the world.

THE WORLD

Adapted from Donald Norman's The Pyschology of Everyday Things

Let's review these stages of action. Note: There is a fundamental tension between thinking and doing: thinking impedes progress in doing, and doing obstructs thinking.

Sometimes this conflict is quite sharp, as when one must stop and think before taking another step.

Scenario design knowledge

- Is about seeing the 'usage' situation in many different ways, from multiple perspectives, and considering many purposes.
- Is about visualizing interaction with the concrete elements of the situation that in many cases does not even exist yet.

1. Scenarios can be created to show multiple levels and from many perspectives: Design moves have many effects!
2. Scenarios concretely fix an interpretation and solution but are open ended: design problem fluidity.

Scenario design and knowledge

- Scenarios anchor discussion in work, supporting participation among stakeholders and appropriate design outcomes.
- Impel the designer to integrate the consideration of system requirements while considering motivational and cognitive issues.

2. How external factors constraint design – identify communities and research the context properly

3. Action vs. reflection – What we already know, what we need to know…

Scenario design and knowledge

- A scenario can *concretely* embody a view, and thereby expose the design to critique.
- Allows designers to provisionally construct a space of user tasks despite the instability (changing nature) of requirements through the R & D cycle.
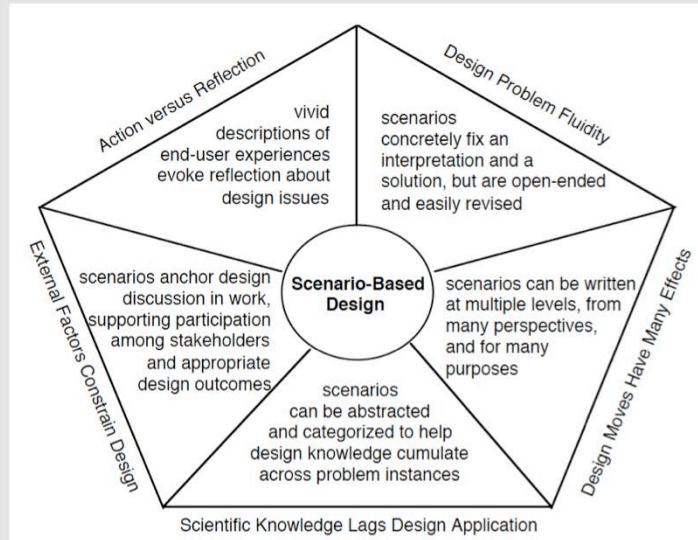
4. Critical practice (e.g is this a sustainable design?)

5. Scientific knowledge lags design application.

(Show CIPHER scenario. Pass around comic book scenario.)

Anchoring discussion = boundary object

Tools for representation

- Scenarios can potentially represent
  - Material aspects
  - Details of Form
  - Functional characteristics
  - Context of use.

Diaz-Kommonen, Art, fact and artifact production, 2002

Scenario design can potentially represent the dimensions of: material, or what is the item made of; form how it is made; function, what it is used for and context, in what settings it is used.

Material – The tangible aspects, what it is made of.

Form – How it is made

Function – What is the artifact used for.

Context – Why is it used?

Tools for representation in design

	Material	Form	Function	Context
Demos	✓	✓	✓	✓
Diagrams		✓	✓	
Drawings	✓	✓		
Flowcharts		✓	✓	
Models	✓	✓	✓	
Prototypes	✓	✓	✓	✓
Scenarios	✓	✓	✓	✓

Scenarios have the capability to portray interaction through time. Narrative itself can be used to depict emotion and affective states. This is why alongside Prototypes, I consider scenarios as one of the most complete methods that can be used to research design. Note that in design, research is always very close to the ideation stage.

Scenarios are...

- Narratives and stories…
- About people and their activities…

In scenario-based design, stories are used as a working representation, or description of how people accomplish tasks.

Scenarios as narratives: elements

- A setting: or context of activity, or **situation of use** that includes artifacts/ tools.
- Agent/actor/**personna** that engages in activities; has goals (sub-goals) and objectives as well as performs task (operations).

Particular actions and events can facilitate, obstruct, or be irrelevant to given goals.

See the work of Jacques Bertin on The Semiology of Graphics for more information about the importance of the title. For a good study on the influence that captions can have on artwork interpretation, see "Constructivism in Germany: Lizzitzky and Moholy-Nagy" in Victor Margolin's The Struggle for Utopia, University of Chicago Press.

Representing the use of a system or application with a set of user interaction scenarios makes that use explicit, and in doing so orients design and analysis toward a broader view of computers.

3 steps to scenario design

Inspired by Cathy Marshall's work on personnaes

Cathy Marshall: http://research.microsoft.com/en-us/people/cathymar/

3 steps to scenario design: Step 1

- Establish a goal, context, or activity
  - What is needed to describe the scenario's settings?
  - Why is the agent/actor using the system?
  - What will make this interaction successful?
  - As you create the scenario, try to focus on storytelling, and don't aim to represent complete task analysis.

3 steps to scenario design: Step 2

- Describe the interaction.
  - Stay at a high level or avoid too detailed descriptions of the interface
  - Imagine the new design and how it will help to solve specific problems.
  - If you have done user research, try to include highlights, in order to make a more compelling story.

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3 steps to scenario design: Step 3

- Illustrate and analyze the end results
  - What happens as a result of this interaction?
  - Was it a success or failure?
  - What factors might have contributed to the end result?

Scenarios

- Can be done using…
  - Written textual accounts
  - Illustrated storyboards
  - Video
  - Performance
  - Other ideas?