Freie Universität Berlin

User Research

«UCD: User-Centered Software Development»

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April 13, 2015

Context for today

Last week

- User-Centered Design
- Terms & Definitions
- Goal: understand and support the user‘s mental model, behavior and goals

This week

How to gain information to find out:

- Who the intended users are?
- What the intended users are like?
- What they already do?
- What they wish to do?

Understand users via qualitative research techniques.

Outline

1. Why is user research useful?
2. Data gathering methods
    1. Interviews
    2. User Observation
    3. Contextual Inquiry

Learning goals for today

- Understand the **benefits of qualitative user research**
- Know the central aspects of **interviews** and **user observation**

User Research

Introduction

Why user research?

„The real art of interface design lies in solving the right problem."
Jenifer Tidwell, Designing Interfaces

To adequately adjust decisions in the design process, it is necessary to

- know who the users are,
- know their skills, tasks, believes, values, goals and problems,
- understand the constraints of the problem, and
- the business or organizational goals.

Quantitative vs. qualitative research

Quantitative Research

How much, How many

- Numbers, Statistics
- With scales and standardized instruments
- Users don‘t get a chance to express themselves
- Human behavior is reduced to defined categories

Qualitative Research

What, How, Why

- Users: vocabulary, skills, behaviors, attitudes, aptitudes, social context
- Product: usage context, problems

Qualitative research is holistic

Interaction design is not guesswork.

Overall Context
ow does the product fit into the oader context of people's lives?

Root cause
What goals motivate people to use the product, and what basic tasks help people accomplish these goals?

Emotional aspects
What experiences do people find compelling? How do these relate to the product being designed?

Issues
What problems do people encounter with their current ways of doing things?

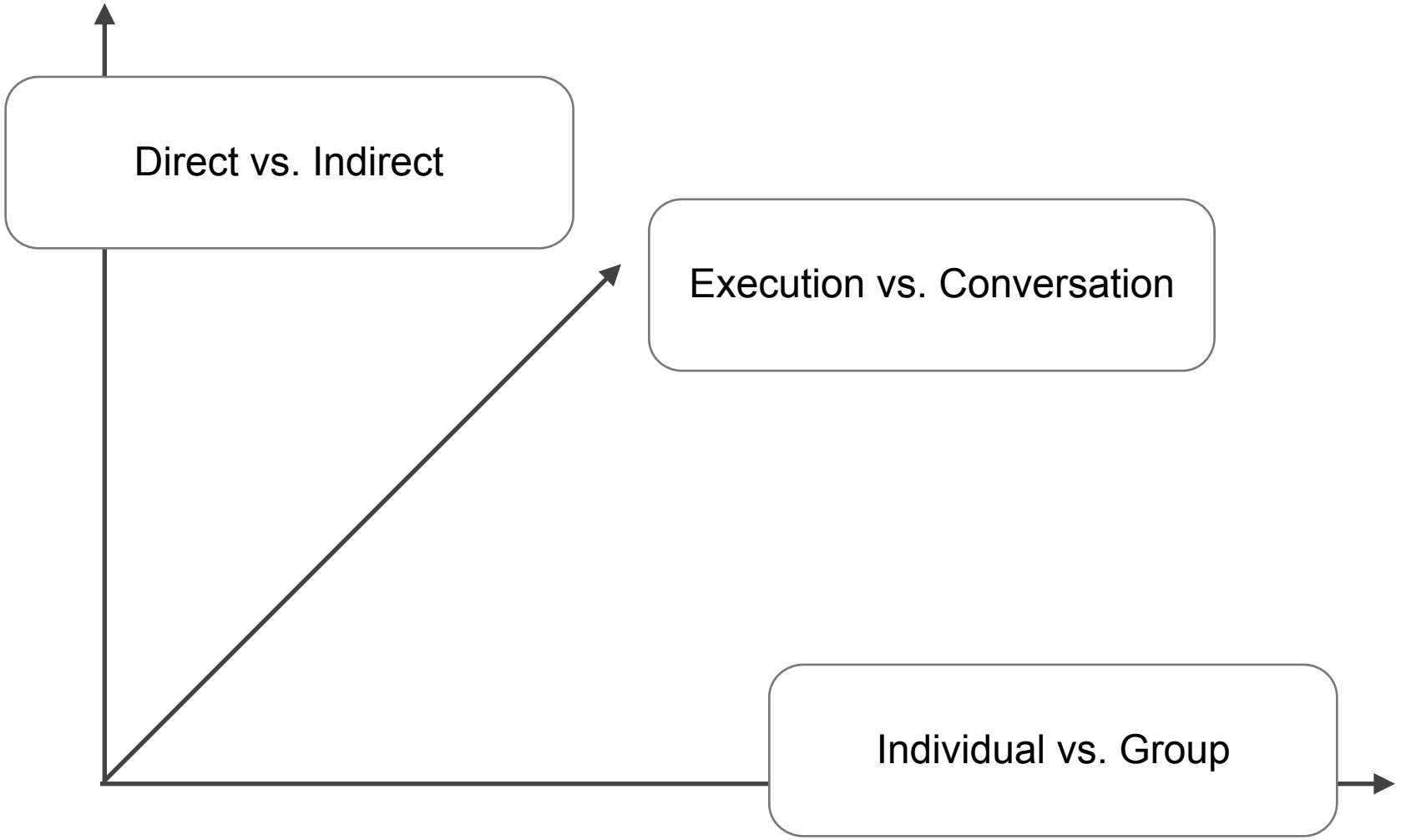
User Research

Data Gathering Methods

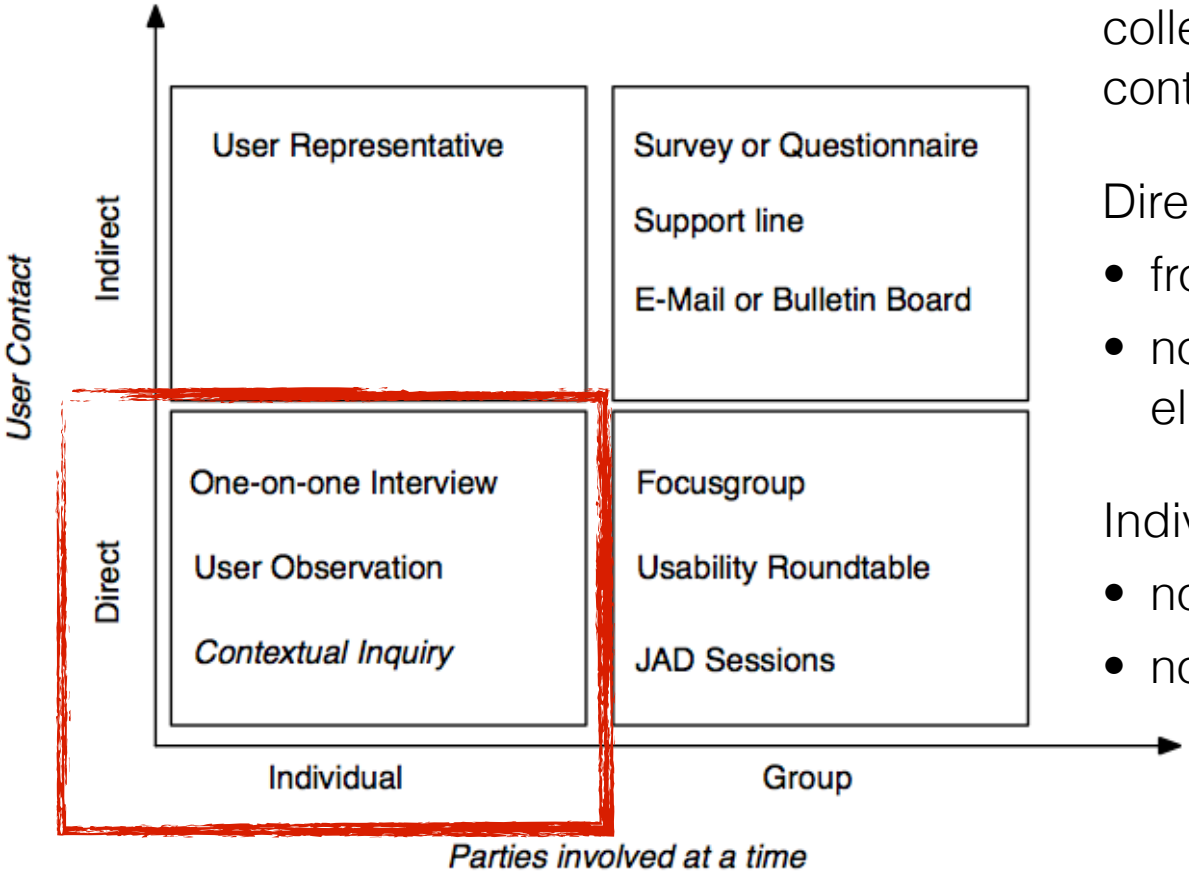
Outline

- Why user research?
- **Data gathering methods**
  - Interviews
  - User Observation
  - Contextual Inquiry

Dimensions of data gathering methods



Data generation methods



The most insightful data can be collected with direct user contact and individual contact

Direct:

- from the users themselves
- no filtering through someone else

Individual:

- no summarizing across users
- no „average user“

User Research

Interviews

Outline

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Interviews - advantages

Detailed, in-depth data

- follow-up questioning
- uncover unconsidered topics

Data about complex facts

- complex task flows
- focus on complex topics

Can be combined with other methods of data-collection

One-on-one Interviews

When to use

If users are difficult to observe while performing a task.

Complete own overall image after observing situative excerpts.

Relevant Information

User

- Mental model: users‘ expectations and way of thinking
- Goals and motivations for using a product
- Uncover and understand the user‘s implicit assumptions
- Precise information concerning the user‘s tasks
- User-relevant domain knowledge: What do users need to know to do their jobs?

Product

- Usage context: when, why, and how the product is or will be used
- Current tasks and activities: how they are or could be supported by a product
- Problems and frustrations with current products

Interview - what went wrong?

Interview - Dos and Don‘ts

Part 1

Work in groups of two (10 minutes)

1. Watch the negative example of the interview: http://www.youtube.com/watch?v=OIMGPlH4XPo (you can find it in the Blackboard -> Kursmaterial -> Class 2 – User Research)
2. Discuss and note down what went wrong and why
   - Concentrate on the kind and quality of the interview questions
   - Concentrate on the atmosphere during the interview

Interview - Dos and Don‘ts

Part 2

Work in groups of six (15 minutes)

1. Discuss and consolidate your findings
2. Transform your findings in positive rules for
   - good interview questions
   - conducting an interview in general
3. Last 5 minutes: note down each positive rule as one post-it note

Interview - Dos and Don‘ts

Part 3

Discussion in the plenum (10 minutes)

1. Dos and don‘ts for interviews
2. Put notes on the wall
3. Discuss clustered cards

Open-Ended Questions

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Deep insights

- Provoke responses in participant's language & terminology
- Useful when the complete answer set is unknown
- Address recalling things
- Response
  - can provide an overview of the topic
  - can expose issues for follow-up

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More difficult to conduct and analyze

- Demanding for the interviewee (interpretation of question, complexity of answer)
- More challenging for the interviewer
- Produce complex, diverse answers that are difficult to compare
- Analysis is time-consuming
- Possibly deviating answers from same interviewee on different days

Closed-ended Questions

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Answers unambiguous and comparable

- Limit the possibilities of answers
- helpful for clarifying issues
- simple, quantitatively analyzable responses
- less variability of answers
- address recognition

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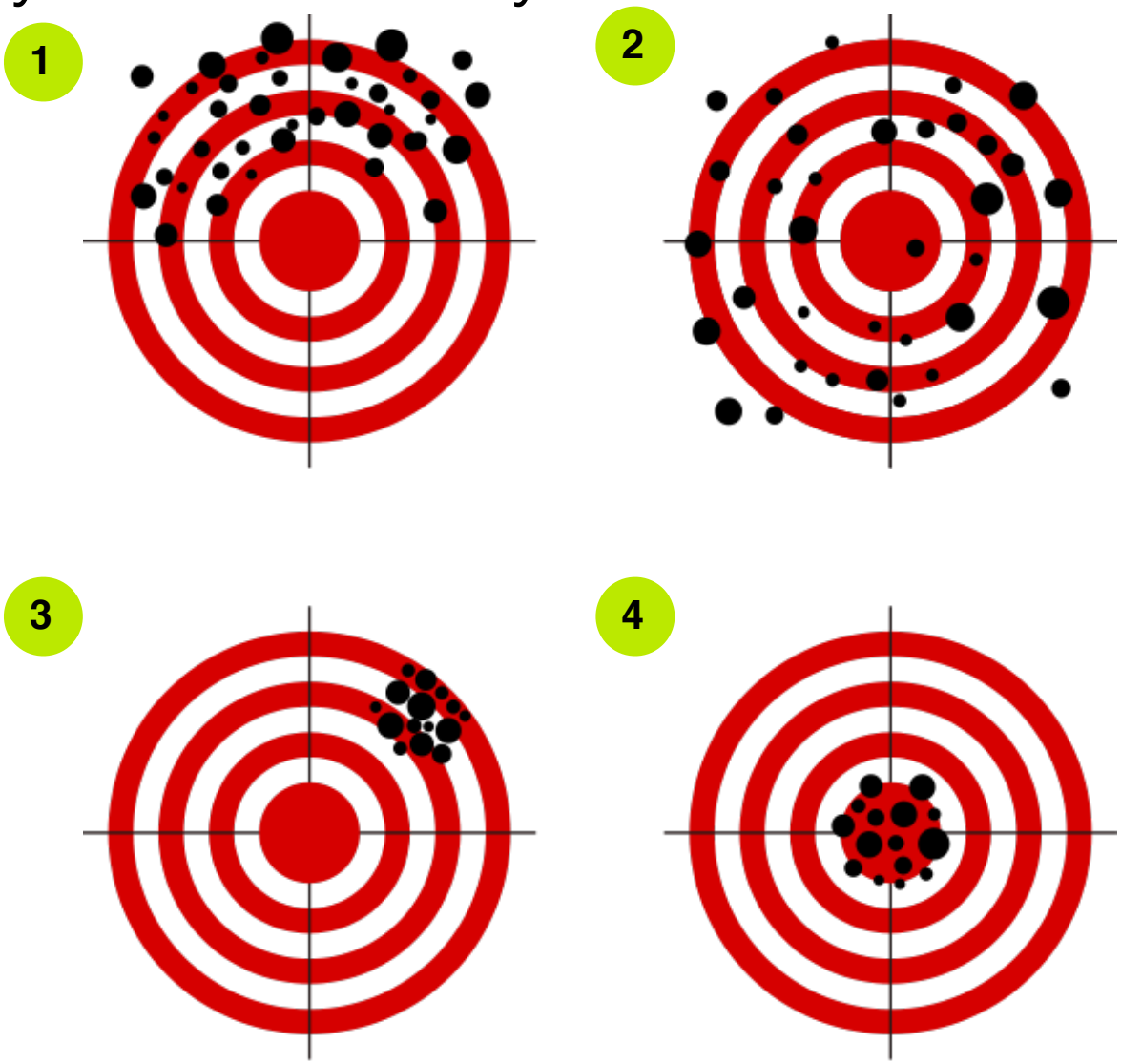
Force the interviewee to choose from predefined answer-set

- Response options may not cover the realities
- Hard to define unambiguous and complete categories for answers
- Order of response options can bias selection of answer

Validity and Reliability



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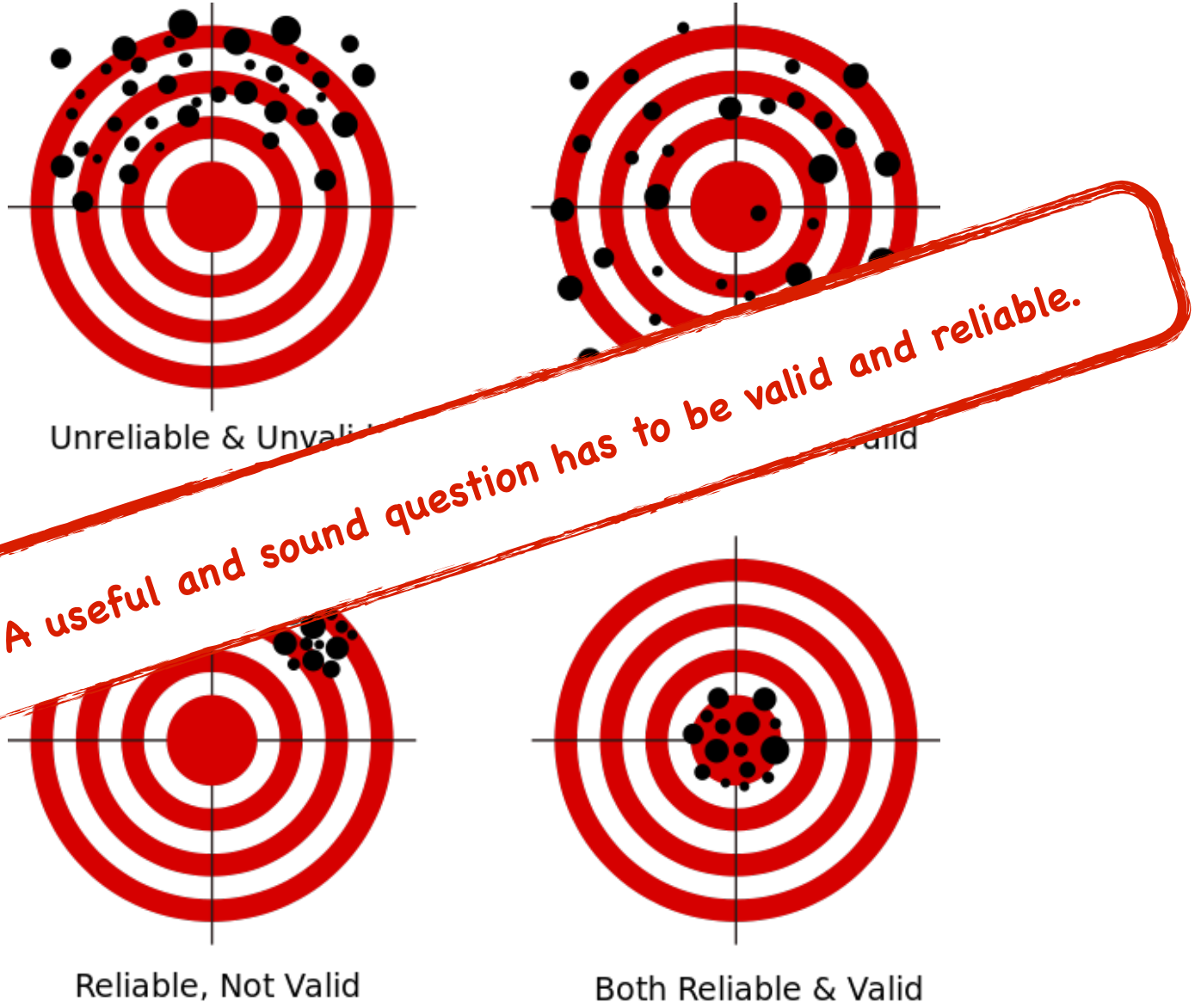
Validity and Reliability



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Interview Focus – Content Site vs. Application

Content Site

- user‘s expectations concerning
  - available information
  - relationships of contents
  - linking of content
  - organization of content
- used language and words

Application

- user goals
- tasks to accomplish
  - flows
  - dependencies
  - interruptions
  - bottlenecks
- potential for optimization
- used language and words

Hands-on: Conducting Interview

Part 1

Each project team (20 minutes)

1. Read Handout: Personal Interview
2. Design interview questions for your project for one of your target groups at most 10 questions
3. Document your questions

Hands-on: Conducting Interview

Part 2

One member (M_A) of project A acts as interviewee for project B (20 min)

1. A member of group B needs to explain M_A the target group (expected mind set)
2. One member of group B interviews M_A
3. Other team members make notes:
   - interview contents
   - active listening, atmosphere
   - questions / wording

If possible, record the interview (mobile phone, laptop)

Hands-on: Conducting Interview

Part 3

Stay in interview groups (10 min)

1. Reflect on the interview - what went well/not so well - from the following three angles:
   - the interviewee
   - the interviewer
   - other project members

User Research

User Observation

Outline

- Why user research?
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User observation

Gain insight into the user's world.

Self-observation (introspection) is especially hard for

- describing complex or abstract things
  - contexts, workflows, or dependencies
- uncovering and explaining problems
  - unquestioned
  - accepted as normal
  - self-incrimination
- objective reality (due to how our brain works)
  - selective perception
  - error-prone, ideosyncratic, retroactively alterable, and impressionistic memory

User observation focuses on what users actually do instead of what users tell they do

- observation instead of introspection

Not depending on Skills of interviewer to get

- detailed but relevant information
- unbiased information

User observation – whom and when

Representative Sample

Current and potential users
from the target audience

- demographic variables
- behavioral variables
- domain expertise
- computer expertise
- education

Find users corresponding to target audience but also appropriately diverse

Promising Time Slots

Certain tasks occur
on certain months / days
at a specific time of day

-> choose diverse, promising time slots for observation

User observation – where and what

Physical Context

Aspects of product‘s (expected) usage context

- Location
  - User‘s usual working area: office, field service, warehouse
- Workspace
  - spaciousness, comfort
- Hardware
  - monitor, soundcard, ...
- Software
  - technology constraints

Phenotypical Observation

Behavior: no interpretation, no conclusions

- Usage of actual product(s)
- Relationships, interconnections and dependencies of
  - existing products, colleagues, departments
- Input and output from
  - applications, colleagues, third-parties

User observation – important aspects

Don‘t rest on your laurels of user observation – maybe important phenomena / tasks did not occur during your user observation!

Observing users and record the corresponding data is challenging: concentrate on this an do not interpret the data in parallel

When you observe phenomena

- you don‘t understand or
- are unable to integrate in your understanding of the context

interrupt the user and ask for explanation.

Otherwise you are very likely to draw wrong conclusions.

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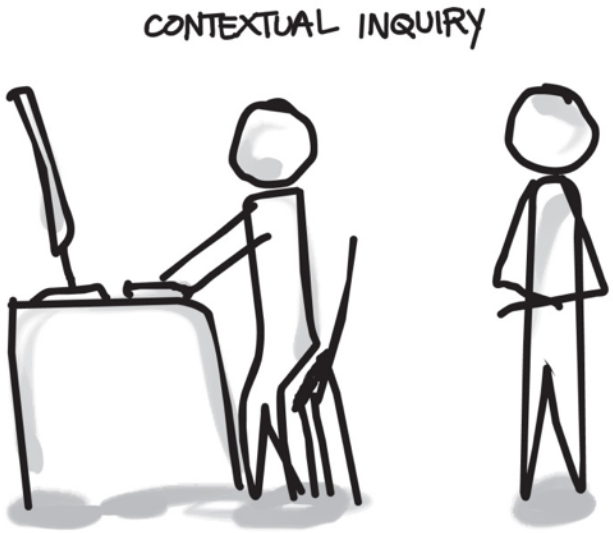
  - **Contextual Inquiry**

Contextual Inquiry

Combine the strengths of each, interviews and user observation, to get findings that are more complete and convincing

Master-Apprentice-Model of Learning by Beyer and Holzblatt

- observing and asking questions of the user as if she is the master craftsman,
- and the interviewer the new apprentice



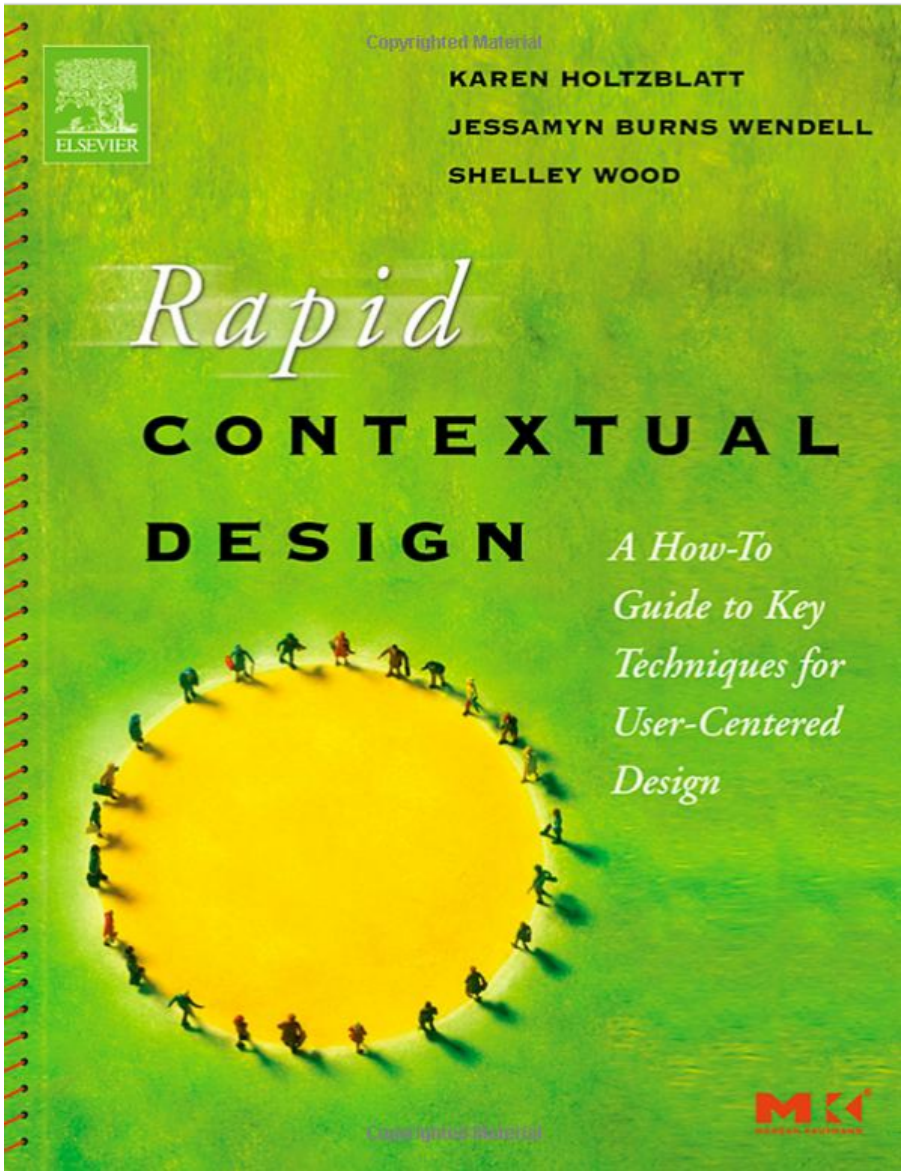
Four Principles of Contextual Inquiry

Context
real environment

Partnership
collaborative exploration
Alternating between observation and its (detailed) explication

Focus
lead interviews to relevant issues

Interpretation
Verify assumptions and impressions with user



The Contextual Design methodology, developed by Karen Holtzblatt and Hugh Beyer, is a customer-centered design process which uses extensive field data as the foundation for understanding users' needs, tasks, intents, and processes in order to design products and systems that meet both users' and business' needs.

Questions

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