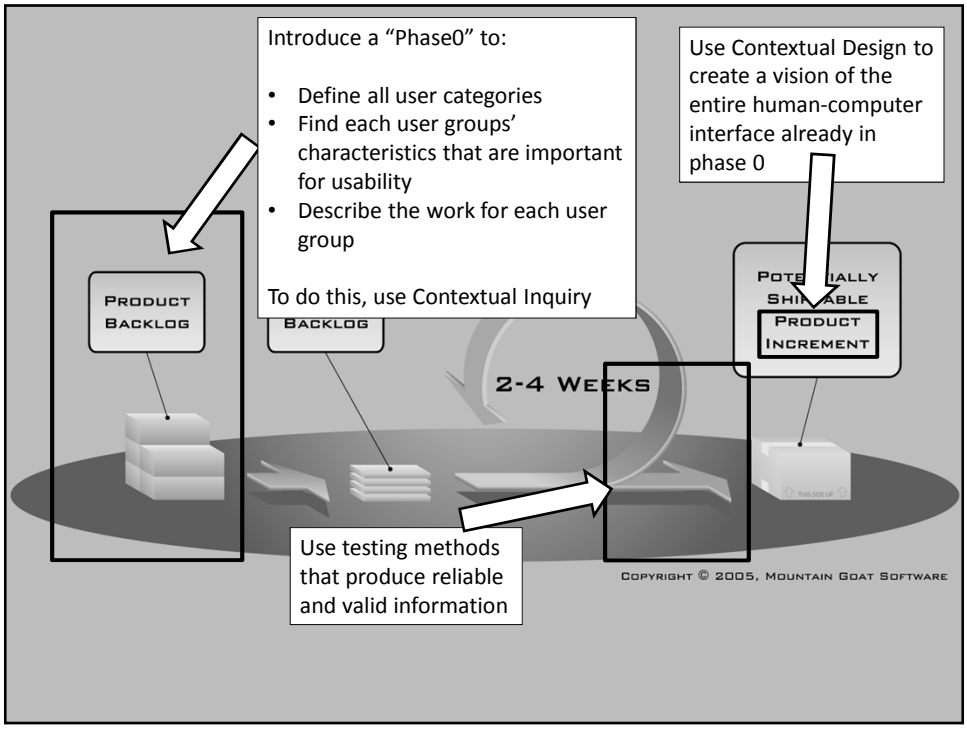


Contextual inquiry

"Contextual Design makes data gathering from the customer the base criterion for deciding what the system should do…"

"The core premise of Contextual Inquiry is very simple: go where the customer works, observe the customer as he or she works, and talk to the customer about the work. Do that, and you can't help but gain a better understanding of your customer."

Beyer & Holzblatt: Contextual design

Data driven design (1)

- You and other people's life and work experiences make all of us different
  - more different than you think!
- We need **data** to understand the users and their work!

Data driven design (2)

- Make the team agree on what to design for
- A successful design supports work without a need for workarounds.
  - You must understand the details of the work often hidden in the user's implicit understanding

First, identify core user groups

- No agreed upon optimal way
- Best practice:
  - A simplified context of use seminar:
    - Gather key stake holders and some interested intended end users
    - Go through the CoU form and process
  - Result:
    - User groups in the form of personas and related info

Documenting user group info

- Personas
  - Describing user population in terms of 'prototypical' users that are deemed important for product success
  - Serve as:
    - Communication vehicles
    - Repository for design relevant info for each core user group

Contextual inquiry

- Core principles
  - Context
    - Observer the work as and where it unfolds
  - Partnership
    - The user and you need to collaborate in order for you to understand the work
  - Interpretation
    - The team together assigns meaning to the observations and reach a common understanding
  - Focus
    - The team and the work needs a common goal
      - Relevant users, questions, interpretations, designs etc

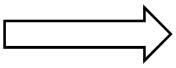
Contextual inquiry

- Retrospective accounts are usually summaries
  - ”I came into the office and then went into the meeting”
- Versus:
  - ”I arrived at the parking lot, looked at my phone for the latest emails, answered a couple of them as I paid for the parking, took the elevator up four floors, said hi to Charles in the reception, decided to have some coffee, met Joan in the common room who informed about the new sales policy, saw that I had got two replies to my emails, read them, decided to let them wait, took my coffee and then went into the meeting room”.

Contextual inquiry

- Memories can be more or less based on schemas
- We tend to be abstract to save time when communicating
  - Relying on common understandings
- This reduce the amount and quality of the data you need!

Contextual inquiry

- Memories can be more or less based on schemas
- We tend to be abstract to save time when communicating
  - Relying on common understandings
- This reduce the amount and quality of the data you need!
- What to do? – 3 basic things 

Contextual inquiry

1. Focus on concrete tasks
   - The nitty gritty details of it

Contextual inquiry

1. Focus on concrete tasks
   - The nitty gritty details of it
2. Focus on artifacts
   - Software and how to run them in different cases
     - Concrete and detailed!
   - Physical objects
     - Notebooks, folders, forms, anything that might be used to get the job done, including memory aids

Contextual inquiry

1. Focus on concrete tasks
   - The nitty gritty details of it
2. Focus on artifacts
   - Software and how to run them in different cases
     - Concrete and detailed!
   - Physical objects
     - Notebooks, folders, forms, anything that might be used to get the job done, including memory aids
3. Observe the person you are talking to
   - Leaning back, staring at the ceiling etc
     - Clues to the user providing abstractions
   - Leaning forward, pointing to artifacts
     - Clues to users being concrete

Contextual inquiry

Master / apprentice idea

- You are the apprentice, the customer is the master
  - Keeps the customer in charge and you humble
    - » Remember who knows about the work and who doesn't!
- An newbie/apprentice can ask any stupid question!
- Letting the user "teach while doing"
  - Doesn't have to decide in advance what to convey
- Increases the chance the you will discover the subtle details
- Reduces the need for a formal set of interview questions
  - How would you know what ask in the first place?

Contextual inquiry

How do you become a good apprentice?

- Be a keen observer
- Don't be afraid to ask questions
- Maintain an attitude of inquiry and learning
- Admire the master as an expert in his/her work
- Aspire to see the world as he/she does

Contextual inquiry

Especially interesting things to look for

– Workarounds

– Differences between what people say and do

Adapted from Jake Wobbrock

Contextual inquiry

When you think you have understood or noticed something

- Remember to (immediately if possible!) make sure your observation/understanding is correct
- Phrase the question such that you start with the observation and then the interpretation
  - "You just stopped for a moment before you clicked the save button. Was that because you…..?"
  - *Not always the best! Alternative: "…Why did you do that", first.*

Work models

A way of representing the result of a contextual interview

- Generated by a group session
- Use data gathered through the CI
- The group session tries to find the essential aspects of work and present them in a graphical and systematic way

Work models

Start: Team interpretation session

- Max 48 hours after an interview
- Focus on one interview at a time
- Team members asks/discuss findings with the interviewer
- Produces:
  - A sequence of short notes of different kinds:
    - » Observations
      - Go to the modelling session
    - » Breakdowns
      - Go to the modelling session
    - » Questions that still needs to be asked
      - Need to be resolved by follow-up session
    - » Design ideas
      - Go to the parking lot for now

Work models

(Potential) roles during modelling sessions

- Interviewer
  - the person who conducted the interview
- Modelers
- Recorder
- Moderator
- Participant

Five types of models

- Physical
  - Layout of the work environment
- Flow
  - Direction of communication and coordination
- Culture
  - External influences
- Artifact
  - Objects that support work
- Sequence
  - Detailed sequences of work
    - » Beware!!!

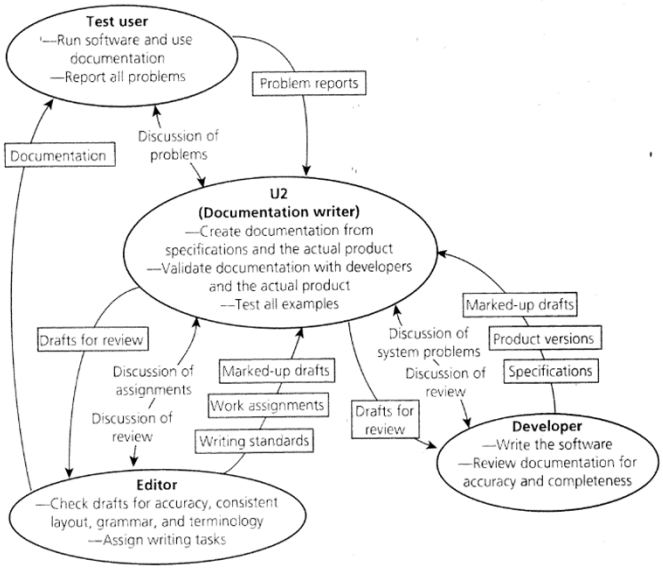
Physical model

- Shows the physical environment where work is taking place
- Important:
  - Organization of the available space
  - How people group during work
  - How people move during work
  - How artifacts are placed and moved
- Does not have to be a metric map unless exact distances are important

Flow model

- Focuses on how users communicate and coordinate to get the work done
- Each flow model is generated from the perspective of a specific individual
- Includes:
  - Where the communication happens
  - The artifacts used
  - Any breakdowns that negatively impact work

Example of flow model

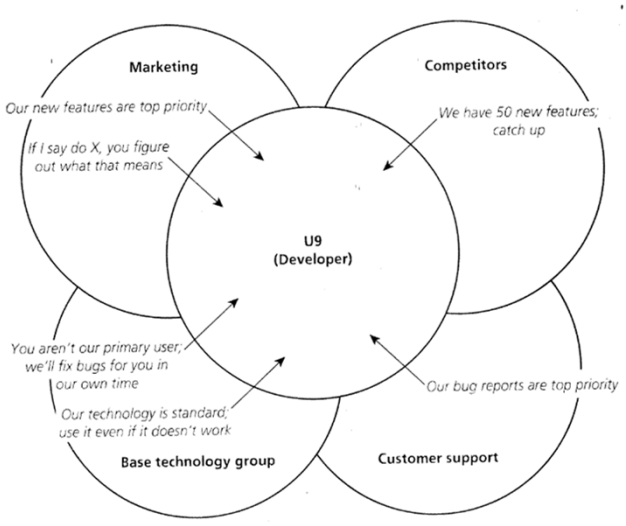


Beyer and Holtzblatt, *Contextual Design*

Cultural model

- "Work takes place in a culture, which defines expectations, desires, policies, values, and the whole approach people take to work"
- Culture can be revealed through:
  - Type of language used
  - Policies
  - Organization of work and workplace
- Created and maintained by "influencers"

Example: Cultural model

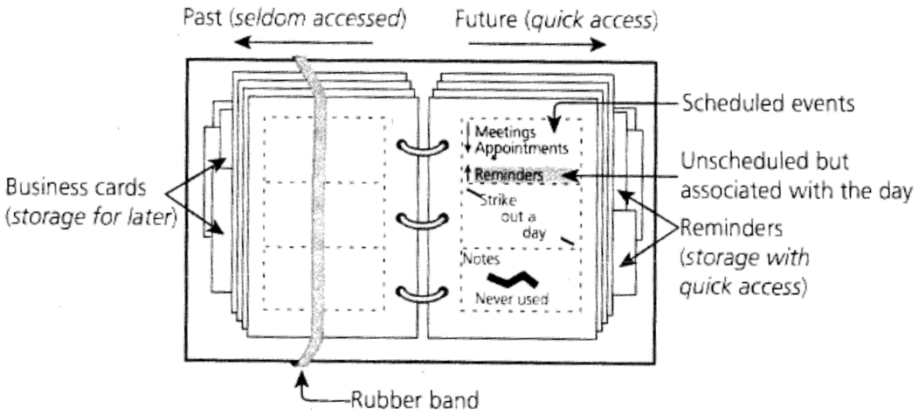


Beyer and Holtzblatt, *Contextual Design*

Artifact model

- A drawing or image of the artifact complete with notes
- Describes
  - Structure
  - Content
  - Presentation
  - Usage
  - Possible breakdowns associated wit the artifact

Example: Artifact model: Personal calender

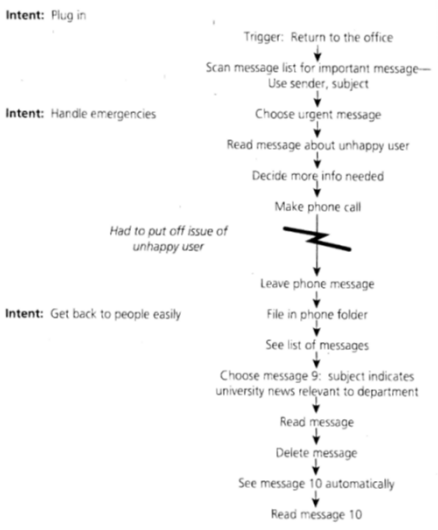


Beyer and Holtzblatt, *Contextual Design*

Sequence model

- Includes
  - The intent behind the actions taken
  - The trigger(s) for the sequence
  - The breakdowns that create problems
- If appropriate (my view):
  - Step-by-step info on how the work is done
- Otherwise:
  - Data and operations needed to fulfil the intent

Example: Sequence model



Beyer and Holtzblatt, *Contextual Design*

Notes on observing and interviewing

- Before
  - Get permission!
  - Explain what will happen!
  - Remember purpose:
    - What people are involved?
      - Characteristics!
    - What do they do?
    - Why do they do it?
  - *Prepare!*
  - *Be prepared for the unexpected!*

Notes on observing and interviewing

- During
  - Don't talk, listen!
  - Don't make claims, observe!
  - Do not explain, try to understand!
  - Do not record, take notes!
  - Remember, you are the ignorant, new apprentice!

Notes on observing and interviewing

- After
  - Document quickly!
  - What wasn't done is just as important!
  - Separate observations/facts and ideas
    - Feed-forward bin
    - Feed-back bin
    - 'Parking lot'
  - Go back and ask for clarification!
  - Validate!

Tools: Affinity diagram

- Affinity Diagrams are generated during group sessions
- Each observation/idea/note is copied to a post-it
  - "Work activity note": a single point about a single concept, topic or issue. They should be declarative an in the user's perspective.
  - Should use work role instead of "he" "she" "they" etc
- Notes are hierarchically organized into themes, based on the focus of the project

Example: Affinity diagram

http://wiki.fluidproject.org/display/fluid/Affinity+Diagrams

Some typical categories

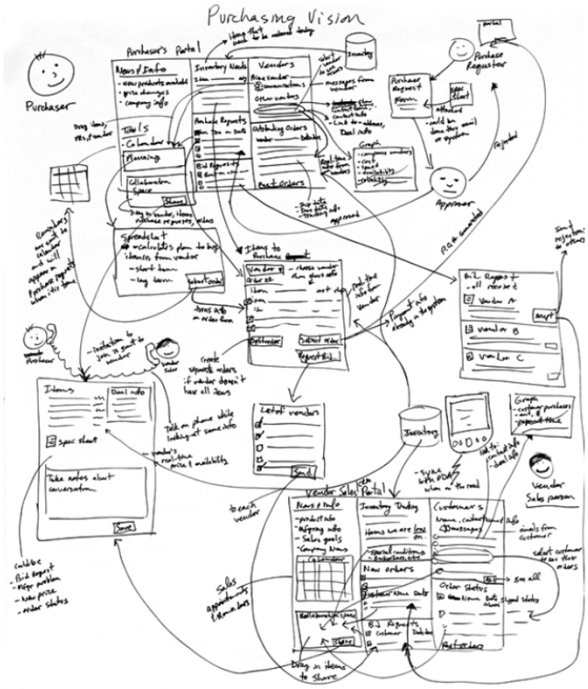
- User and role data
- Social aspects of work (how people interact)
- Emotional impact and other personal reactions
- Task-specific data
- Physical work environment data
- Design ideas

Tools: Consolidating models

- Consolidating models across different users and interviews allows the team to see patterns
- Some observations may be missed - by consolidating several interviews, we can achieve better coverage
- Reduces likelihood of bias by one idiosyncratic user or interview
- Only done for important and/or relevant models

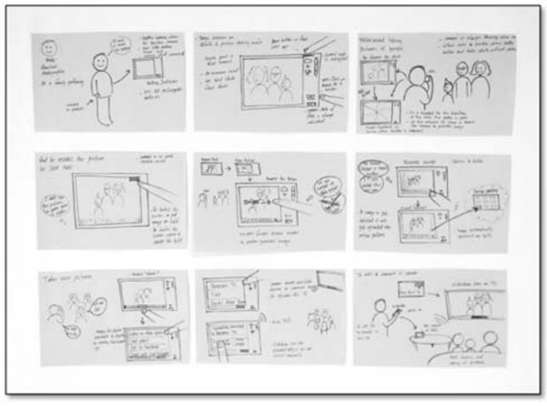
From models to design

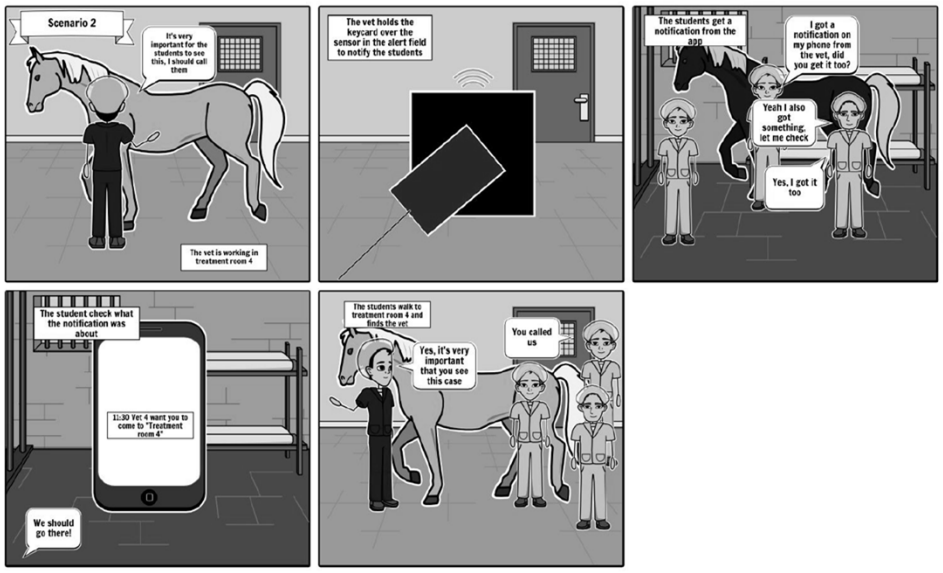
- Visioning
  - the team uses the consolidated data to drive conversations about how to improve users' work by using technology to transform the work practice. This focuses the conversation on how to improve people's lives with technology, rather than on what could be done with technology without considering the impact on peoples' real lives.
  - The vision captures a story of how customers will do their work in the new world the team invents.
  - A vision includes the system, its delivery, and support structures to make the new work practice successful. It is intentionally rough and high-level - a vision sets a possible design direction, without fleshing out every detail. This enables the team to see the overall structure of the solution and ensure its coherence.



From models to design

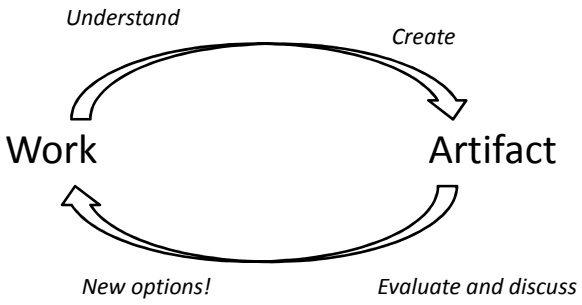
- Story boards
  - Purpose:
    - To test ideas with users





From data to design

- User stories to go with the story boards

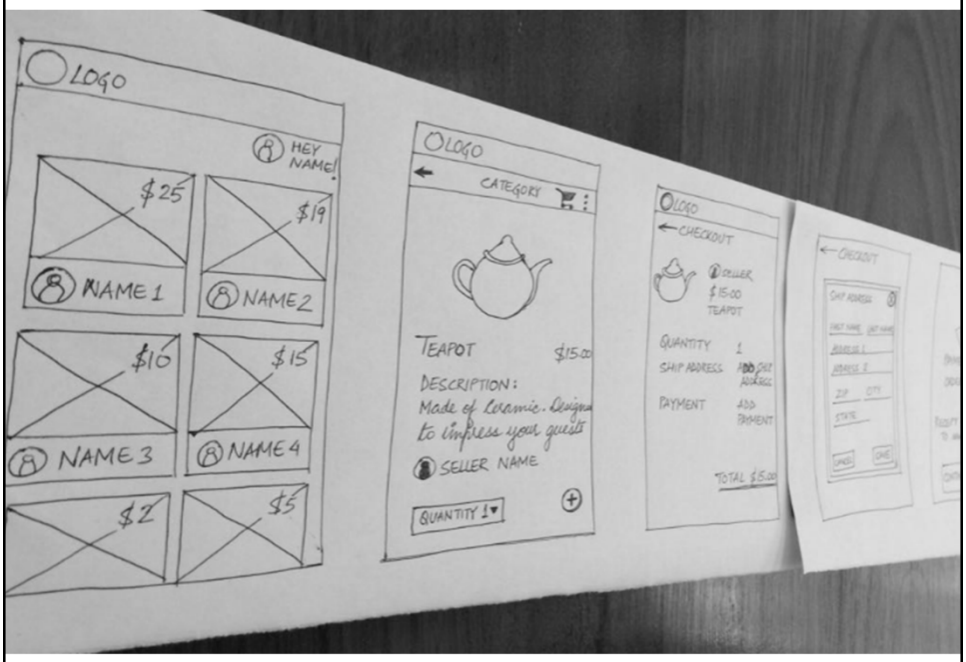


Notes on ideation

- Separate ideation from critiquing!
- Identify goals, not processes!
- Feed-forward bin and feed-back bin is a good idea!
  - and remember the parking lot!

From data to design

- 'Paper' prototyping
  - Purpose:
    - To concretely illustrate the proposed solution/design from a user's point of view
  - The basis for refining the set of user stories



Wide and shallow
vs
narrow and deep prototypes