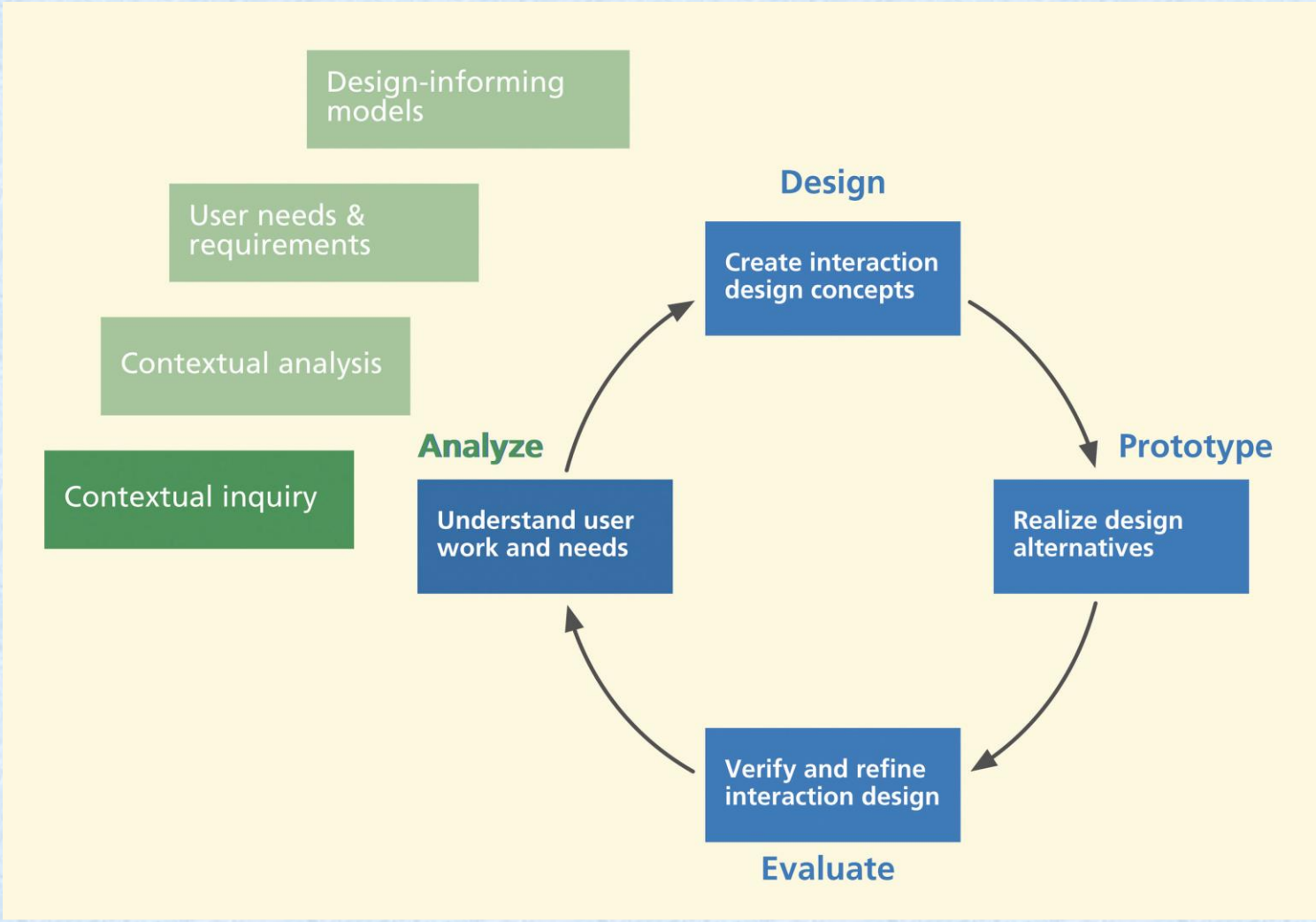
User experience design

Chapter 3. Contextual Inquiry: Eliciting Work Activity Data

Introduction



Introduction

- **Goal: To understand customer's work practice**
- **Getting your nose in customer's tent**
- **Roots in ethnography**
  - **Branch of anthropology focusing on study and systematic description of human cultures**

Introduction, definitions

- **Work**
  - **Set of activities people undertake to accomplish goals in work domain**
  - **Some activities entail system or product usage**
  - **Includes play, if play rather than work is goal of user**
  - **Example, using a CAD/CAM application to design an automobile**

Introduction, definitions

- **Work practice is "how people do their work"**
- **Involves learned skills, decision making, physical actions, and social interaction**
- **Can be based on tradition, ritualized, and habituated**

Introduction, definitions

- **Work practice is pattern of**
  - **Procedures**
  - **Established actions**
  - **Approaches**
  - **Routines**
  - **Conventions**
  - **Customs**
  - **Protocols**
  - **Physical actions**
  - **Manual activities**

Introduction, definitions

- **Work activity**
  - **A work activity is comprised of sensory, cognitive and physical actions made by users in the course of carrying out the work practice**

Introduction, definitions

- **Work domain**
  - **Entire context of work and work practice in target enterprise or other target usage environment**
  - **Context essential to understand the work**

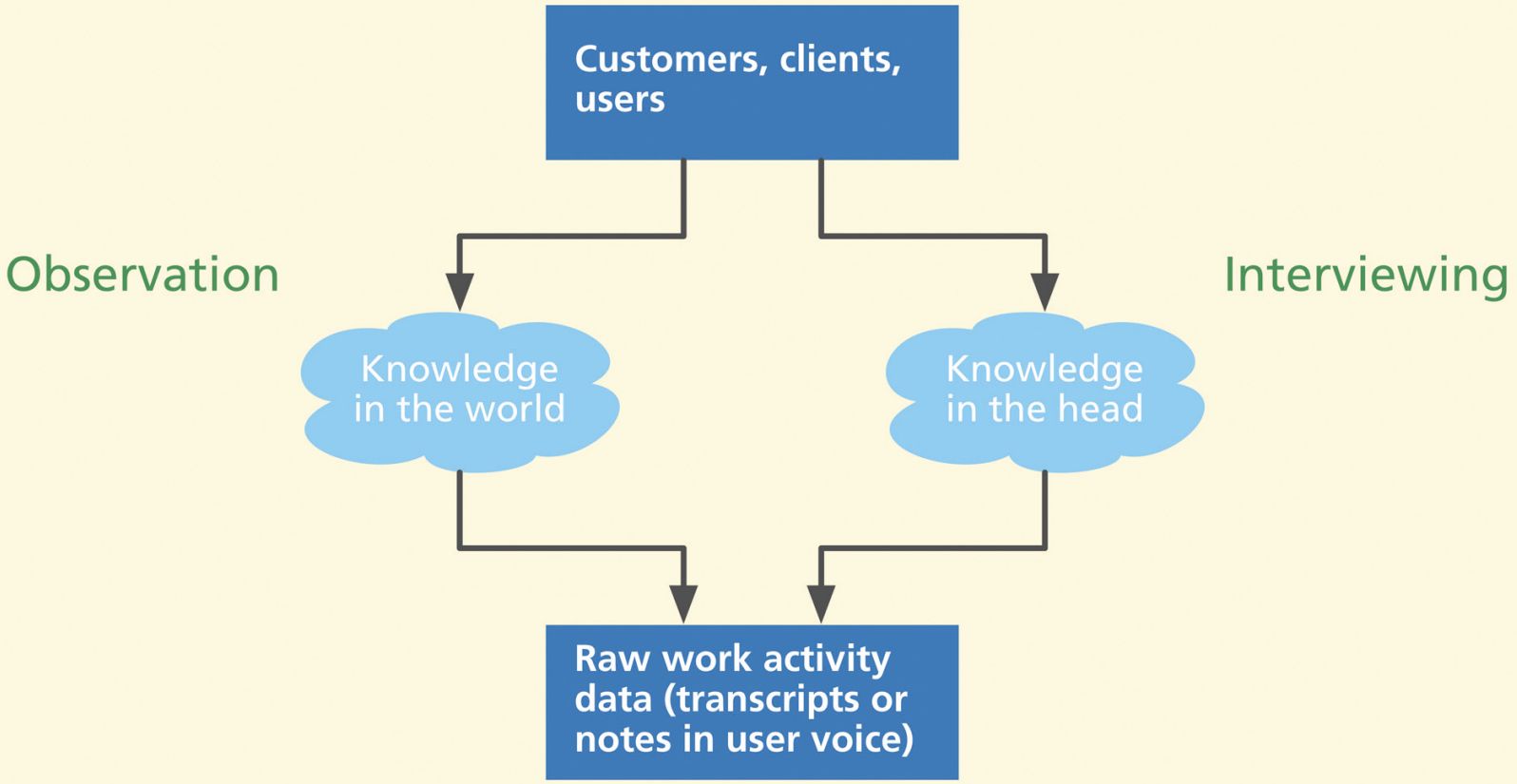
What is contextual inquiry?

- **Contextual inquiry**
  - **UX lifecycle activity to gather detailed descriptions of customer or user work practice**
  - **For purpose of understanding work activities and underlying rationale**
  - **Goal: To improve work practice and construct and/or improve system designs to support it**

What is contextual inquiry?

- **Includes**
  - **Interviews of customers and users (what they say)**
  - **Observations of work practice in real-world context (what they do)**
- **Not "requirements gathering" in traditional sense**

What is contextual inquiry?



Focus of contextual inquiry

- **Are we gathering data on an existing system or a new system?**
  - **Contextual inquiry is about the way things are done now**
  - **But, yes, you are thinking ahead about your new system, too**

Introducing a running example

- **Existing: The Middleburg University Ticket Transaction Service (MUTTS)**
  - **Central event ticket office, like the one on campus**
- **Target: The Ticket Kiosk System**
  - **Distributed self-serve kiosk system**
  - **Especially want kiosks at bus stops around town**

System concept statement

- **System (or product) concept statement**
  - **Typically 100 to 150 words in length**
  - **Mission statement for new system to be developed**
  - **Explains system to outsiders**
  - **Helps set focus and scope for system development internally**

System concept statement

- **Writing a good system concept statement is not easy**
- **Amount of attention given per word is high**
- **A system concept statement is not just written**
  - **It is iterated and refined to make as clear and specific as possible**

System concept statement

- **An effective system concept statement answers at least the following questions:**
  - **What is the system name?**
  - **Who are the system users?**
  - **What will the system do?**
  - **What problem(s) will the system solve? (Be broad to include business objectives)**

System concept statement

- **Answers these questions:**
  - **What is design vision and what are the emotional impact goals?**
  - **In other words, what experience will system provide to user?**
    - **Especially important if target is commercial product**

System concept statement

- **Audience broader than that of most other deliverables, including**
  - **High-level management**
  - **Marketing**
  - **Board of directors**
  - **Stockholders**
  - **Even general public**

Example: For Ticket Kiosk System

The Ticket Kiosk System will replace the old ticket retail system, the Middleburg University Ticket Transaction Service, by providing 24-hour-a-day distributed kiosk service to the general public. This service includes access to comprehensive event information and the capability to purchase tickets rapidly for local events such as concerts, movies, and the performing arts. The new system includes a significant expansion of scope to include ticket distribution for the entire MU athletic program. Transportation tickets will also be available, along with directions and parking information for specific venues. Compared to conventional ticket outlets, the Ticket Kiosk System will reduce waiting time and offer far more extensive information about events. A focus on innovative design will enhance the MU public profile while "Fostering" the spirit of being part of the MU community and offering the customer a "Beaming" interaction experience. (139 words)

Contextual inquiry – How to do it

- **User work activity data gathering**
  - **Core of Chapter 3**
- **Essence**
  - **Prepare and conduct field visits to customer/user work environment**
    - **Where system being designed will be used**
  - **Observe and interview users while they work**

Essence of contextual inquiry

- Inquire into structure of users' own work practice
- Learn about how people do work your system is to be designed to support
- Take copious, detailed notes
  - Raw user work activity data

Essence of contextual inquiry

- **Most general case, domain-complex systems**
  - **High technical content**
  - **Elaborate work flow and inter-role communication**
  - **Need to avoid risk**
- **Other kinds of projects might require less formal approach**

Before visit: Preparation

- For system with complex work domain
  - Get feel for customer's organizational policies and ethos
  - Look at their online presence
    - Website
    - Participation in social networks
  - Understand vocabulary and technical terms of work domain

Before visit: Preparation

- Learn about competition
- Learn about culture of work domain in general
  - Example, conservative financial domain vs. laid-back art domain
- Recognize differences in perspectives between managers and users

Before visit: Preparation

- **Investigate current system, practices, and history**
  - **Look at company's existing and previous products**
  - **If software, download trial versions to get familiar with design history and themes**

Issues about your team

- Decide how many people to send on visits
- UX people and other team members
- Set own limits on number of visits and number of team members
  - Depending on your budget and schedule
- Plan interview and observation strategy (who in team does what)

Contact management people

- **Explain purpose of visit**
  - **To learn about their work activities**
- **Explain approach: for them actually to do the work while you are there to observe**
  - **Get permission to do these observations of real work activities**

Contact management people

- **Build rapport and trust**
  - **Promise personal and corporate confidentiality**
- **Identify areas of activity and users for observation and interviews**

Contact management people

- **Ask about which kinds of users are doing what and when**
  - **Set scope**
  - **Explain that you want to see broadest representation of users and work**
- **Identify work activities**
  - **Focus on most important and most representative tasks**

Contact management people

- **Establish or negotiate various parameters, such as how long you will/can be there**
  - **It can be up to several intense weeks for data gathering**
- **How often to visit**
  - **It can be up to every other day**

Contact management people

- How long for average interview
  - A couple of hours maximum
- Maximum number of interviews per visit
  - Example, four to six

Contact management people

- **Identify appropriate support people**
  - **Determined by management people**
  - **Arrange logistics for visits**

Contact management people

- **Select appropriate users and others to meet, observe, and interview**
  - **Especially frequent users, managers, customer representatives**
  - **Cover as many usage roles as possible**
  - **What if you cannot find real users?**
  - **Plan visits to multiple sites if they exist**
  - **Set up right conditions (real work context)**

During visit: Collecting user work activity data

- **Remember goal**
  - **Do not ask users what they want or need**

> If I had asked people what they wanted, they would have said, faster horses" — Henry Ford

  - **Observe and interview users**
    - **In own work context**
    - **About how they do their work**

During visit: Collecting user work activity data

- **Form partnerships with users**
- **User is “expert”, not you, the person from outside**

During visit: Collecting user work activity data

- **Get task data**
  - **One of most important kinds of contextual data**
  - **Notice triggers for tasks and steps**
    - **What happens to cause them to initiate each task or step?**
    - **Example, incoming phone call leads to filling out order form**
  - **Learn about your users' task barriers**
    - **Notice hesitations, problems, errors**

During visit: Collecting user work activity data

- **Recording video**
  - **Effective way to capture comprehensive data**
  - **Use only where conditions and resources permit**
  - **Can help you capture nonverbal communication cues**

During visit: Collecting user work activity data

- **Note taking**
  - **Pen and paper**
  - **Laptop**
  - **Small digital recorder**
    - **For notes, not for recording interview**

During visit: Collecting user work activity data

- **Use numbering system to identify source of each data point**
  - **To document data for validity**
  - **So can go back to answer questions**

During visit: Collecting user work activity data

- **Be a listener**
  - **Usually do not offer your opinions about what users might need**
  - **Do not lead user or introduce your own perspectives**

During visit: Collecting user work activity data

- Do not expect every user to have same view of work domain and work
  - Ask questions about differences and find ways to combine to get “truth”

During visit: Collecting user work activity data

- **Capture details as they occur**
  - **Do not wait and try to remember it later**
  - **Follow leads, collect "clues"**
  - **Be ready to adapt, modify, explore, branch out**

During visit: Collecting user work activity data

- **Be an effective data ferret or detective**
  - **Discover, extract, "tease out"**
- **Pay attention to information needs of users**

During visit: Collecting user work activity data

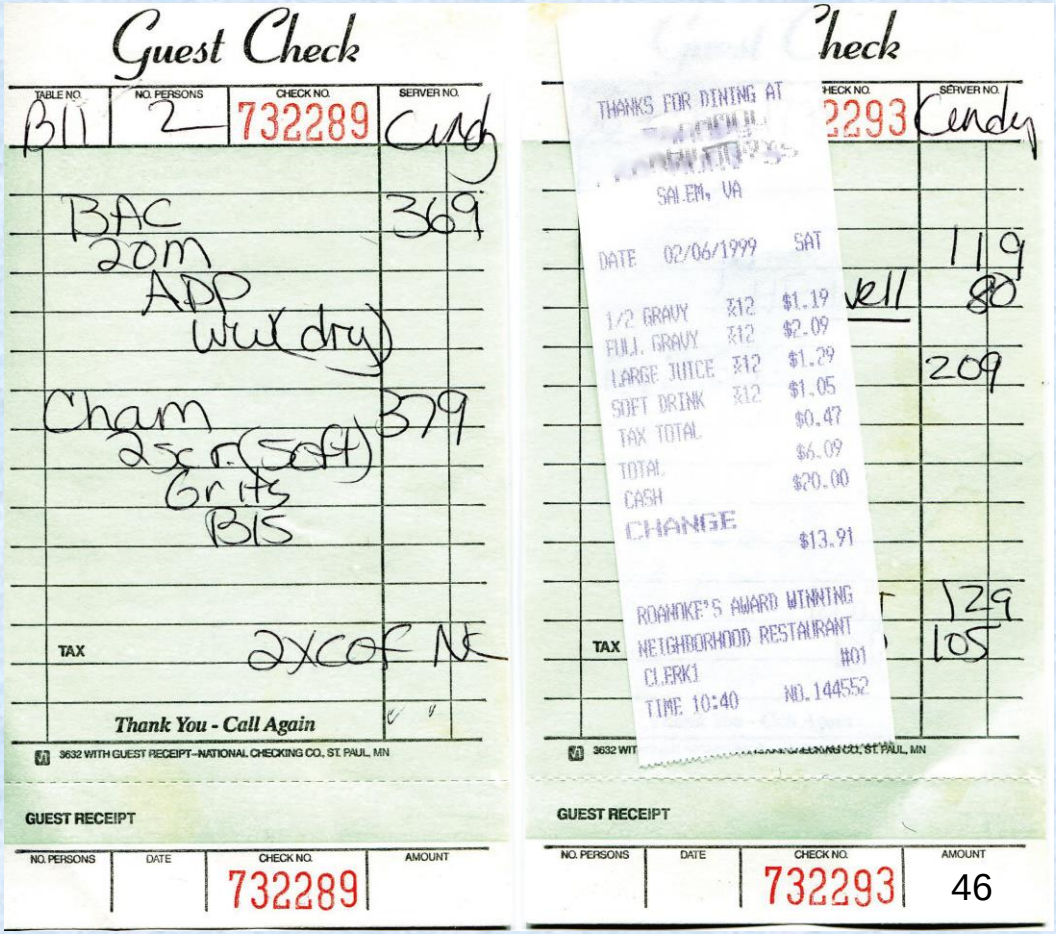
- **What about design ideas that crop up with users?**
- **What about analyst and designer ideas that crop up?**

During visit: Collecting user work activity data

- **Questions not to ask**
  - **Do not ask about the future; do not ask users what they would do in a given circumstance.**
  - **Do not ask for design advice**
  - **Do not ask leading questions that just put ideas into their heads**

During visit: Collecting user work activity data

- **Collect work artifacts**
  - **Tangible talking points for analysis and design**
  - **Example: Work artifacts from local restaurant**



During visit: Collecting user work activity data

- Other forms of data collection
  - Digital photos
  - On-the-fly diagrams of workflow, roles, and relationships
  - On-the-fly sketches of physical layout, floor plans
  - Quantitative data
    - Example, how many people do this job?

Between visits anticipate modeling needs

- Create contextual data "bins"
  - Key problems, ideas
  - Temporary repositories to hold categories of raw contextual data
  - Example, labeled piles of notes on table
  - To start organizing data right from start

Wrap it up

- **Do not overstay your welcome**
- **Be efficient, get what you need, and get out of their way**
- **Limit interviews to no more than two hours**