



**COMP3503/  
IENV7933**

**Interaction Design**

Week 5: Ethnographically  
informed design

# Overview

- Recap ethnography
- Ethnographically informed design
  - **Coherence**
  - **Contextual Inquiry**

# **Ethnography revisited**

- Strengths?
- Weaknesses?

Discuss in pairs

# Addressing weaknesses

- Time
- Unstructured
- Social science background
- Communicating results

# ethnographically informed design

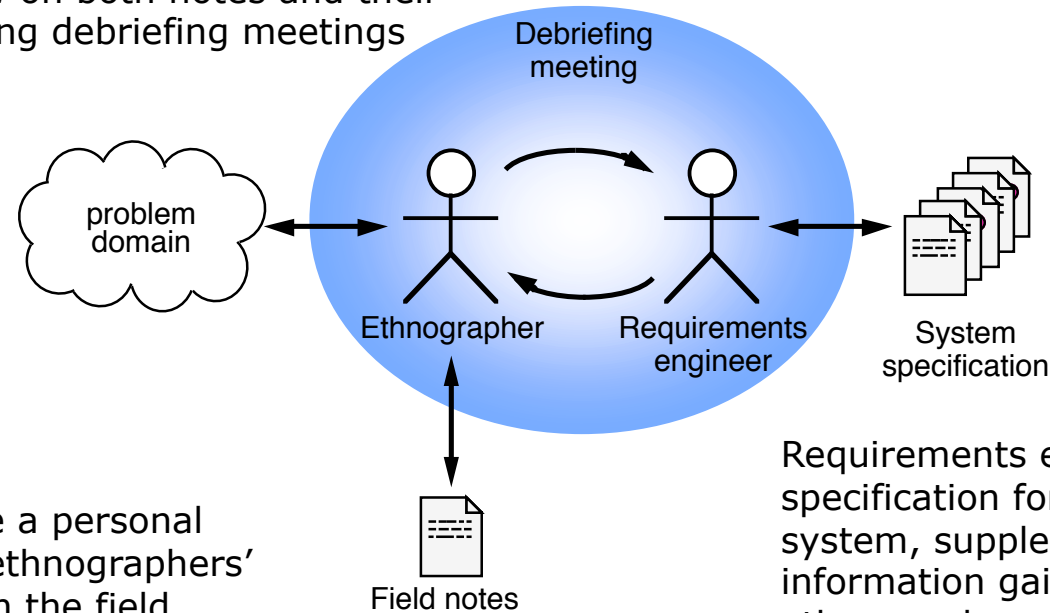
- Systematic approaches
  - **to addressing weaknesses**
  - **while maintaining strengths**
- Coherence
  - **research project**
  - **builds on Lancaster experience**
    - from sociologists conducting ethnography
    - to method for software engineers
- Contextual Inquiry
  - **commercial method**
  - **ethnography + participatory design**

# Coherence Project

- Building on 10 years experience of using ethnography to inform design
  - **Concurrent/Quick & Dirty Ethnography**
  - **CSCW Framework**
- Aims of project:
  - **Develop a systematic approach to analysing social interaction in the workplace**
  - **Explore how this may be integrated with existing system development methods and practice**
  - **Improve integration of results of social analysis into systems requirements**

# Ethnographers with designers

Ethnographers observe the problem domain, record their observations in field notes, and draw on both notes and their experience during debriefing meetings



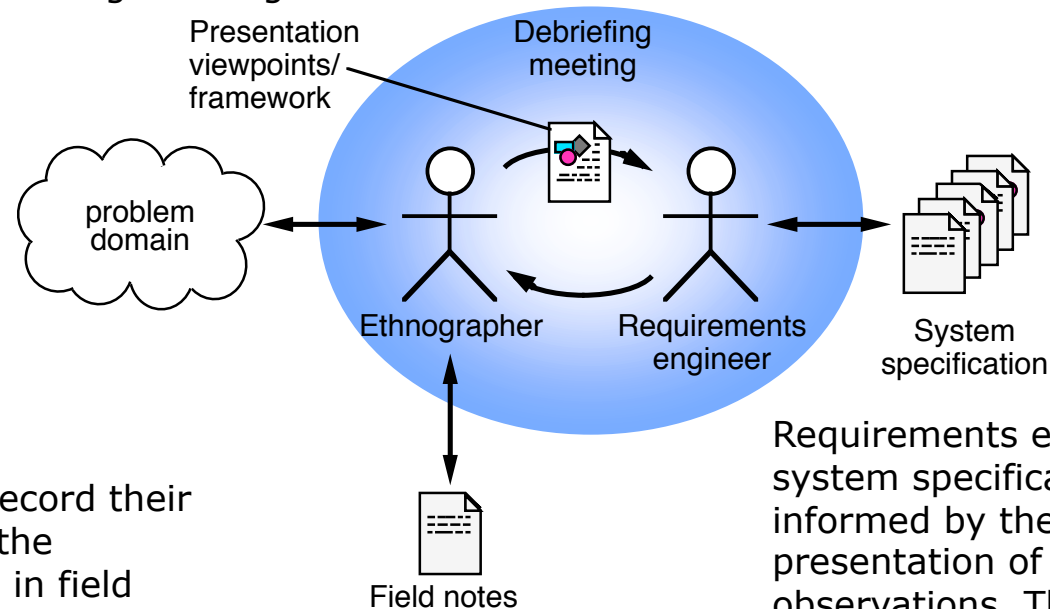
Field notes are a personal record of the ethnographers' observations in the field

Requirements engineers build a specification for the proposed system, supplemented by the information gained from ethnographers in debriefing meetings

“Concurrent ethnography”

## Modifying the record

Ethnographers produce a structured presentation of their observations in terms of the presentation framework or using a tool which supports the presentation viewpoints. This is delivered to the requirements engineers in debriefing meetings

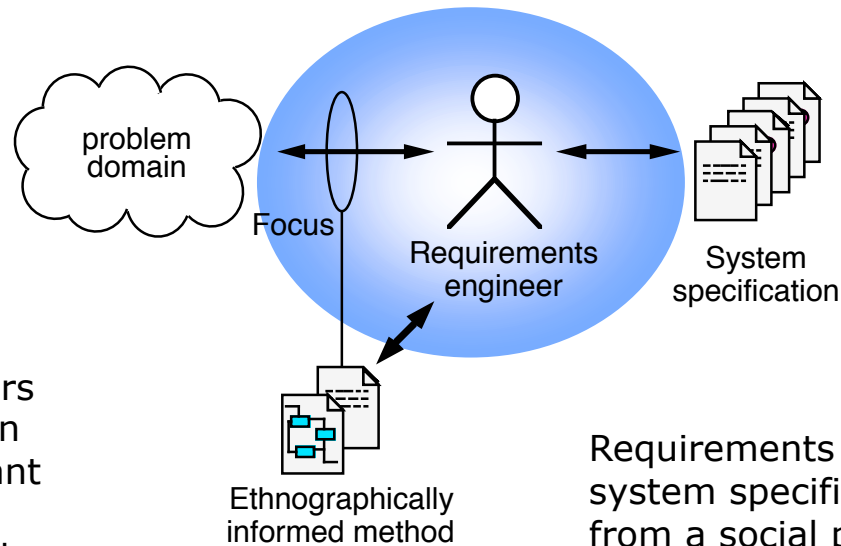


Ethnographers record their observations of the problem domain in field notes as before

Requirements engineers build a system specification that is informed by the structured presentation of the ethnographers' observations. The presentation framework/viewpoints form part of the specification

“CSCW Framework”

# Ethnographically informed method



The method contains guidance for the requirements engineers to focus their attention on potentially important social aspects of the problem domain. Field study becomes another part of the requirements engineers' repertoire of elicitation techniques.

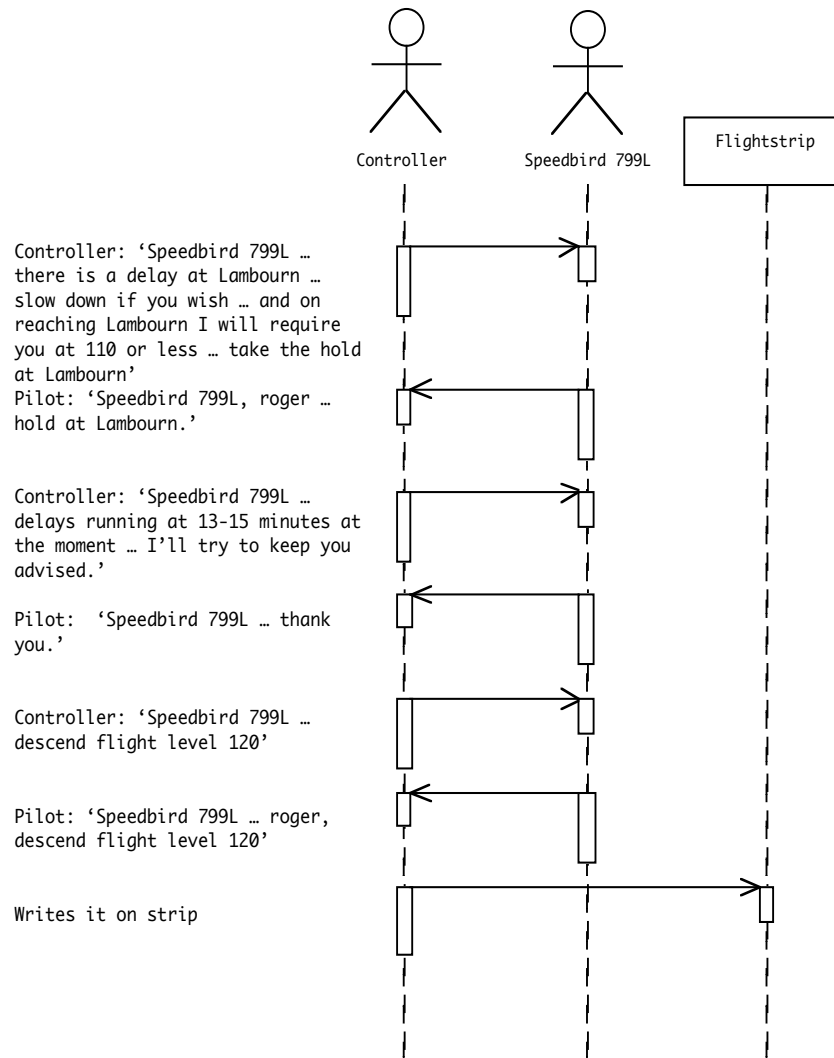
Requirements engineers build a system specification that is informed from a social perspective, as guided by the method

“Coherence”

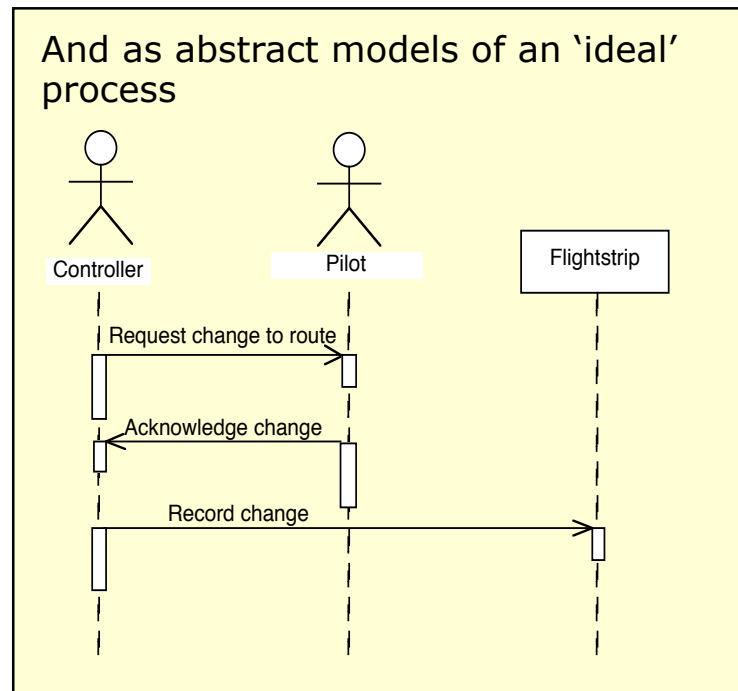
# Coherence: 'ethno inside'

- Not ethnography (-lite or -by-numbers), but a method informed by our experience of using ethnography in design
- Incorporated into broader multiperspective, viewpoint-oriented approach to requirements
  - **Social viewpoints and concerns**
  - **Allows analysis of social features of work to be considered directly alongside requirements from other sources**
  - **Provides route into standard requirements analysis and modelling approaches**

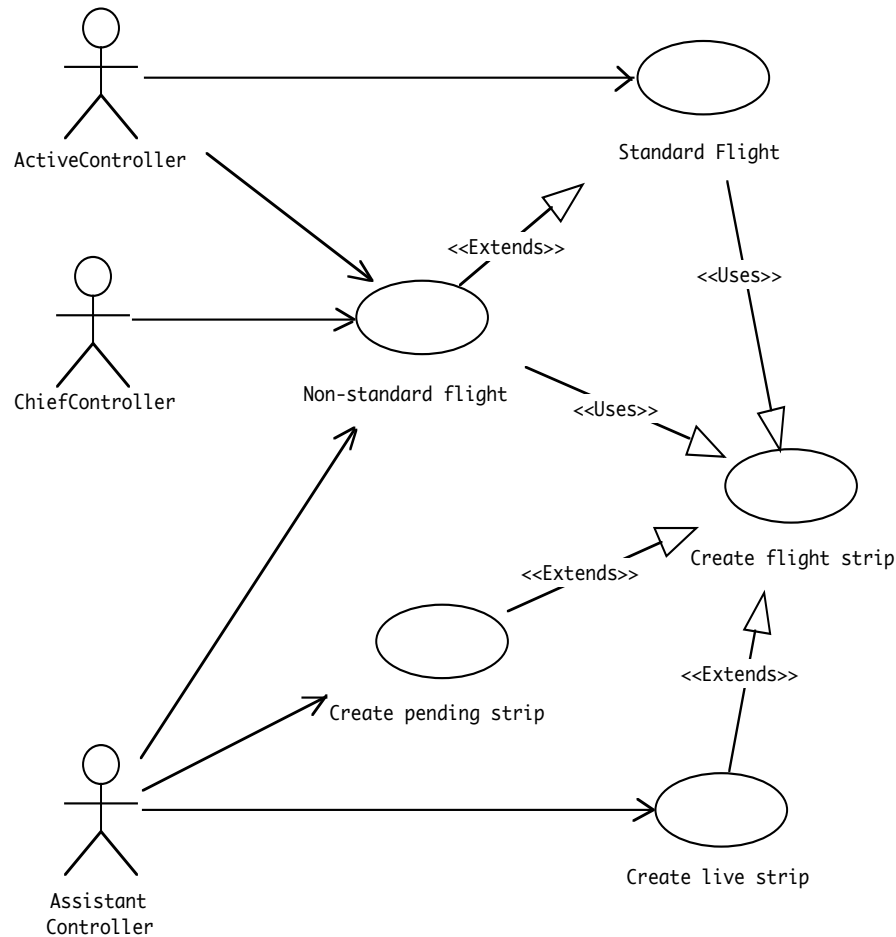
## e.g. Transcripts as scenarios



Interaction diagrams can be used as a bridge between transcripts of interaction in the workplace, and scenarios, both as concrete representations of actual workplace interaction



## e.g. Leading into use cases



Initial use cases emerge out of *plans and procedures* viewpoint.

Actors correspond to interactor viewpoints in PREview

A focus on how work is actually performed, and how this differs from documented processes leads naturally to consideration of exceptions and alternative paths.

## **Coherence summary**

- Builds on experience of using ethnography in a variety of settings and projects
- Bridges gap between social analysis and software design
- Combines requirements arising from ethnographically-informed analysis directly alongside other system requirements in multi-viewpoint framework

# Contextual Inquiry

- First stage of Contextual Design  
(Beyer & Holtzblatt, 1998).
- Based on ethnographic and participatory design techniques
- Addresses some of the problems associated with 'traditional' ethnography
- Very structured

## Issues addressed by CI

- How to get data about the structure of work practice, rather than a market characterization
- How to make unarticulated knowledge about work explicit, so designers who do not do the work can understand it
- How to get at low-level details of work that have become habitual and invisible
  - (Beyer & Holtzblatt, 1998: p.37)

## Principles of CI

- *Context*: watch customers doing their own work in their workplace
- *Partnership*: talk with them about their work and engage them in uncovering unarticulated aspects of their work
- *Interpretation*: develop a shared understanding with the customer about the aspects of work that matter
- *Focus*: direct the inquiry from a clear understanding of your own purpose

(Beyer & Holtzblatt, 1998: p.38)

## **Core premise of CI**

- Go where the customer works
- Observe them as they work
- Talk to them about the work



**The contextual interview**

# The contextual interview

- 2-3 hours
- Member of design team observes customer in their place of work
  - **Watches the type of work the designers are interested in**
  - **Occasional interruptions to discuss aspect of the work just performed**
  - **Use of artifacts as conversational props leads to uncovering events which occur over a longer time scale**

## Interview follow-up

- Whole design team interpret results of interview
- Interviewer could have been from any background
  - **Working as a team creates a shared view**
  - **Other team members share their own perspectives on the results**
  - **Collaboratively develop work models to characterise the customer's work**

## **Interpreting results**

- 10-20 interviews with customers of diverse roles and approaches to work
- Work models reveal commonalities amongst diverse collection of people
- Very small return on effort beyond 10-20 interviews
- Conversation focused on customers' work rather than system design leads to development of shared understanding between customers and designers

# Conducting the interview

- Build on natural ways of working
  - **No list of rules or instructions**
  - **Requires concentration on list rather than on what the customer is doing**
- “Be like this”
  - **Not “do all these things”**
  - **more likely to act ‘naturally’ and focus on the work.**

## **Master/Apprentice model**

- Designer learns from customer in the same way that apprentice learns from master.
- Inexperienced interviewers make faster progress with the design when following this model rather than set of instructions

# Customer as Master

- They are the experts
- Talk through what they are doing
  - **Real work context provides detail**
- Don't think about how they are working
  - **But can talk about the work as it unfolds**
- Some actions are the result of years of (maybe collective) experience, with subtle reasons for being done a particular way
  - **Others are just habit**
    - The best time to find out about these distinctions is while the work is actually happening

# Interviewer as apprentice

- They are there to learn from the customer
- Apprentice role provides opportunity to interrupt and ask questions
- Apprentice builds up picture of the whole task through observation of many instances
  - **Develops a richer notion of the task and how it deals with different circumstances**
- Apprentice role naturally leads to humility, inquisitiveness and attention to detail required for collecting good data.

## Other relationship models

- To be avoided
  - **Interviewer/interviewee**
    - Not there to get a list of questions answered
  - **Expert/novice**
    - You aren't there to answer questions either
  - **Guest/host**
    - A goal is to be nosy

## **Where to from here?**

- Contextual Design
- Various models generated from experience
- Ultimately links into use cases and object-oriented design

# Summary

- Coherence & Contextual Inquiry
  - **ethnographically-informed methods for building system requirements**
  - **address some of ethnography's weaknesses as a method**
    - focus, time taken, structured communication of results
- Current/future research
  - **Patterns**
  - **Combination with other approaches**
    - cultural probes (OzCHI2003)

## Further reading

1. Beyer, H. and Holtzblatt, K. (1998), *Contextual Design: Defining Customer-Centered Systems*. Morgan Kaufmann, San Francisco, CA. (chs. 2 & 3)
2. Preece, J., Rogers, Y, and Sharpe, H. (2001), *Interaction Design*. John Wiley, New York. (ch. 9)
3. Viller, S & Sommerville, I (1999), 'Social analysis in the requirements engineering process: from ethnography to method', in WN Robinson & K Ryan (eds), *Proceedings of the IEEE International Symposium on Requirements Engineering: RE 99*, IEEE Computer Society Press, Limerick, Eire, pp. 6-13.