

# Modelling the results of ethnographically informed analyses

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For a paper covering the detail of this presentation, see  
<ftp://ftp.comp.lancs.ac.uk/pub/reports/1997/CSEG.7.97.pdf>

SEBPC Modelling theme workshop, Manchester, 28/1/98

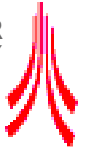


## Introduction

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- Overview of Coherence
- Notation
- Examples from case study
- Summary of SEBPC concerns

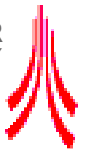




## Aims

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- Develop a methodical approach to analysing social interaction in the workplace
- Explore how this may be integrated with existing system development methods
- Improve integration between models of a system and the people using it



## Background

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- Ethnographic analysis
  - Various studies building up corpus of fieldwork and analysis relevant to the design of CSCW systems
- Data management for social analysis
  - Using viewpoints to present ethnographic information
- Presentation Framework
  - Presenting fieldwork in terms of *distributed coordination, plans and procedures, and, awareness of work*

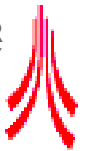




# The Coherence approach

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- Not 'Structured Ethnography'
- Distinctive approach, supplemental to traditional ethnography
  - usable by requirements engineers/systems analysts (after training)
  - results produced in relatively short period of time
  - results integrated with other system documentation



# Notation: UML

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- Convergence of three approaches to object oriented analysis
- Rapidly becoming industry standard—recently adopted by OMG
- Not a method but a notation, independent of process

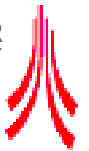




## Extending UML

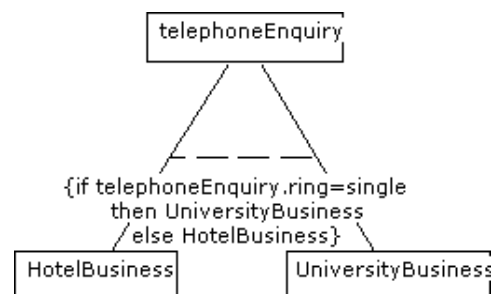
- 3 extension mechanisms built into UML's specification: constraints, tagged values, stereotypes
- Explored how UML extensions can be used in order to represent results of social analysis
- Case study of Training centre office returned to (Rouncefield *et al.*, 1995)

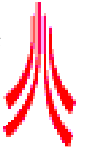
Rouncefield, M., Viller, S., Hughes, J. A., & Rodden, T. (1995). Working with 'constant interruption': CSCW and the small office. *The Information Society*, 11(3), 173-199.



## Peripheral awareness

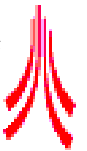
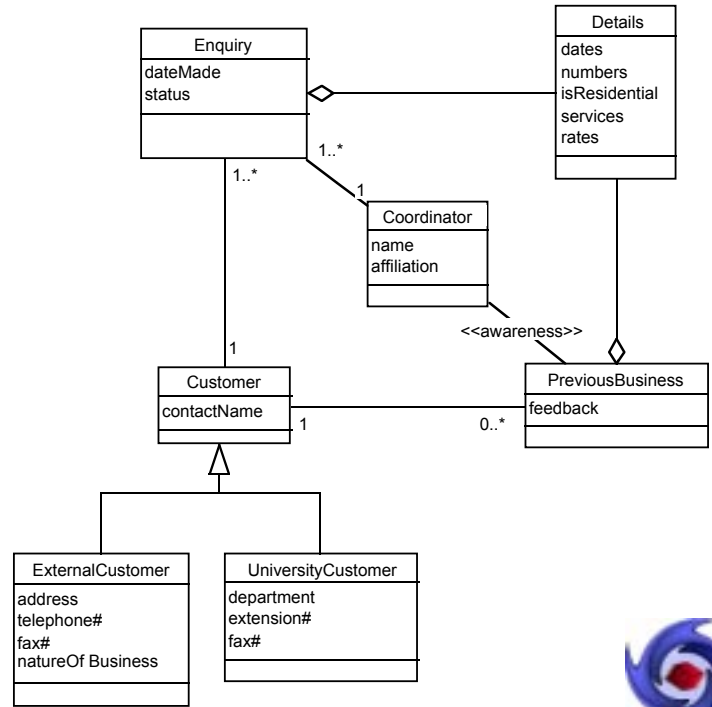
- Constraints used to express environmental information which can act as a resource for people in the workplace





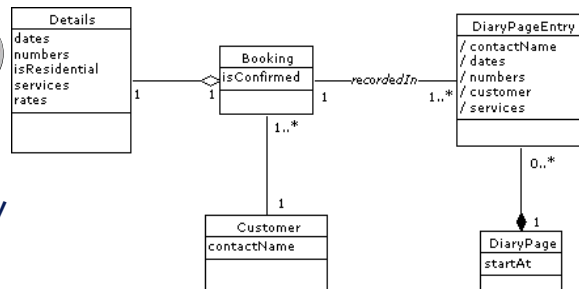
# Awareness of history

- ✿ A stereotyped association adds semantics to the model and can represent 'organizational memory' features such as knowledge of previous business



# Paperwork (i)

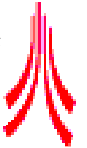
- ✿ Comments can be used to contain information in any format or media. This is useful for incorporating scanned images of forms, etc. in order to illustrate how they afford being annotated with comments and so on which may support the work in unanticipated ways.



Sample DiaryPage

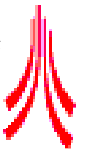
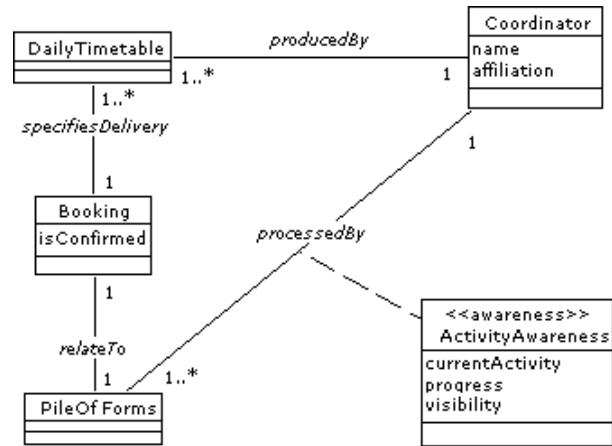
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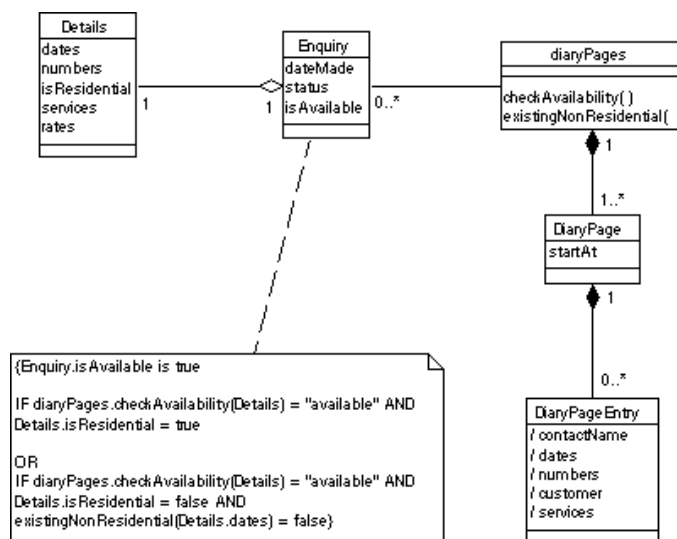
# Paperwork (ii)

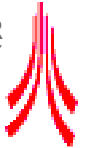
- ☀ Stereotypes present the opportunity to represent information pertaining to objects and relationships that results from ethnographic study



# Business rules

- ☀ Constraints can be used to express rules of thumb which may not be formally expressed elsewhere





## Current work: Process

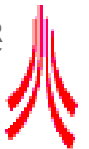
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### ⚙️ Objectory

- ⚙️ Recommended (although not mandated) for use with UML
- ⚙️ Use case driven
- ⚙️ Use cases potentially provide a bridge between ethnographic descriptions of work, and models oriented towards system development

### ⚙️ Process guidance

- ⚙️ To sensitise software requirements engineers to the issues arising from ethnographic studies of work



## Ethnography and Use cases

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- ⚙️ Workflow one of the dimensions in the presentation framework
- ⚙️ Use cases essentially described as a workflow
- ⚙️ Exploring how a description of workflow from an ethnographically informed perspective can act as a route into use case modelling





# Summary

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## ☀ Change Issues

- ☀ Models of organizations typically specify ideal processes, which are seldom enacted in practice exactly as they are defined, and which evolve over time as circumstances (personnel, marketplace, etc.) change. Ethnographic approaches to the study of work provide a means of informing models from a perspective of how the work is actually performed.

## ☀ Modelling Approach

- ☀ UML extended to support expression of social features of work

## ☀ Novelty

- ☀ A 'traditional' approach to requirements engineering that is directly informed by ethnography and sensitive towards the social nature of work
- ☀ Approaching use of ethnography in systems design from a software engineering perspective

## ☀ The future

- ☀ process guidance for applying Coherence approach
- ☀ Further trials in 'real world' settings

