

Storing, Presenting and Accessing Ethnographic Data

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Overview

- Benefits of ethnographic information
- Problems associated with access
- Possible solutions
- Work at Lancaster

Importance of Ethno. Data

- Ethnographic data is an important part of social science research.
- Provides context detail and “lived” reality
- Can be very useful to other disciplines involved in social science research.
- Has been demonstrated to be very useful to system engineers

Benefits of Ethno. Data

- Ethno. data has traditionally only been accessible by a small number of people.
- Much potential if access were made easier and more generic.
- Potential uses of data:
 - Informing system design
 - Informing decision making
 - Process improvement
 - Aid to comprehension and communication

Beneficiaries of ethnography

- Managers
- Users/workers
- System developers
- Policy makers
- Analysts (from many disciplines)

Accessing Raw Ethno. data

- Usually only used by Ethnographers
- Verbose, complex and extensive
- Minimal document structure
- Supports only basic query and search
- Requires expert knowledge for access

Problems

- How to store and present large amounts of predominantly qualitative data
- Reach a balance between distillation and retaining context
- Reach a balance between being able to answer detailed questions yet supporting wide access

Improving access

- Natural language approaches:
(Reports, papers, summaries)
- Browsing based approaches:
(hypertext documents)
- Qualitative analysis approaches:
(Ethnograph, Nudist, Atlas etc)
- Model based approaches:
(SitMod, Strider, UML)

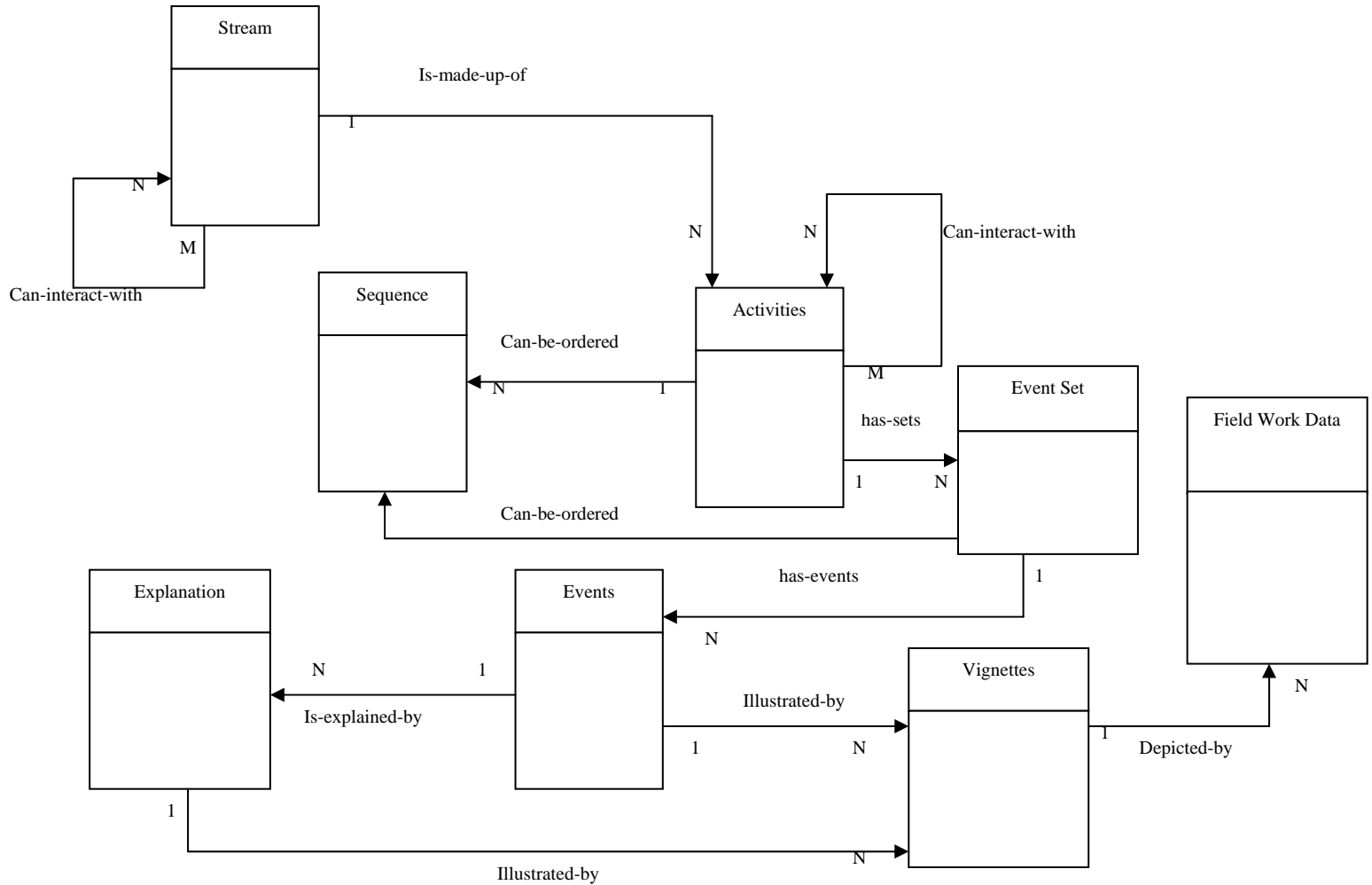
Situation Modelling

- Uses raw data to illustrate situations.
- Can be used as a resource by any stakeholder.
- Can be used at initial design, or at redesign.
- Uses models to loosely structure ethnographic data.
- Provides windows into situations using different viewpoints.

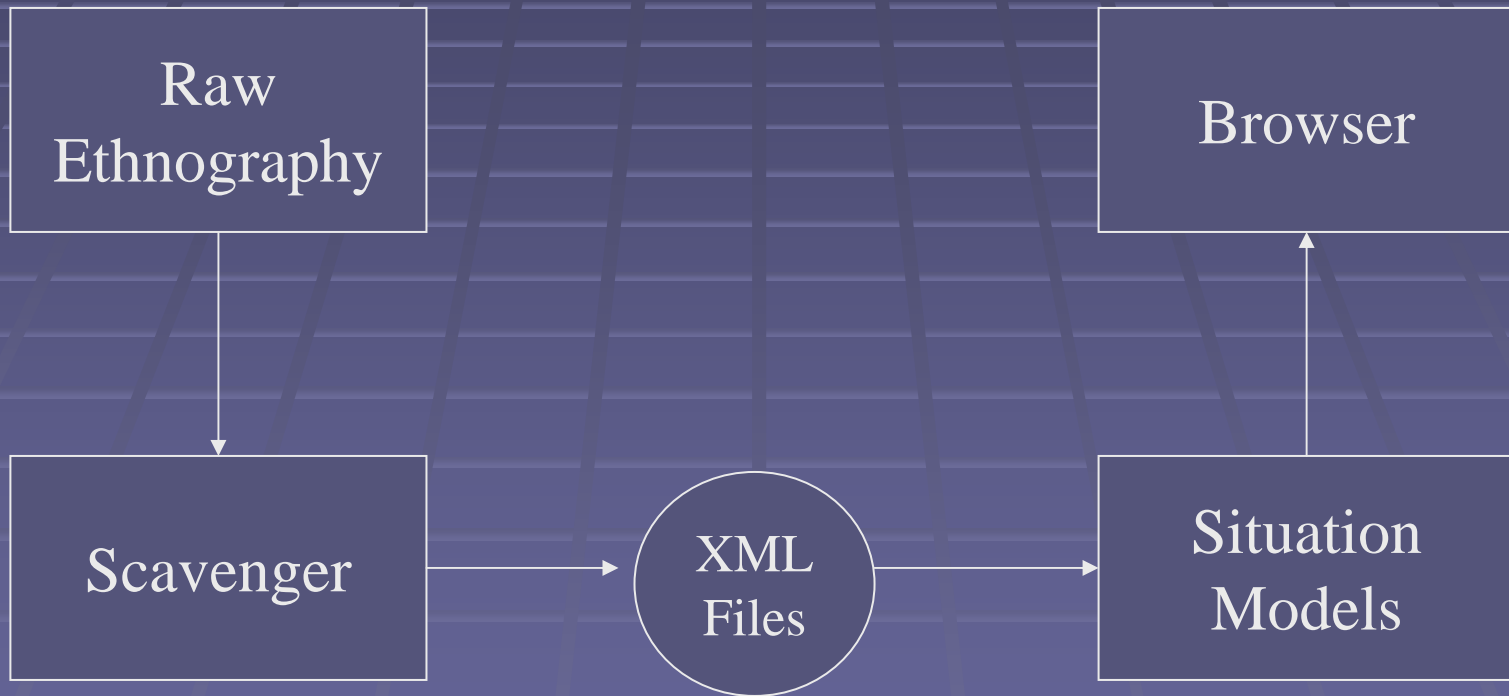
Situation Modelling Models

- There are three main models:
 - Stream aspect model,
 - Role aspect model,
 - Artifact aspect model.
- Can use Scavenger to input raw ethnography into models.

Stream Situation Model



Situation Modelling Process



Situation Modelling Example

The screenshot shows a web browser window with the following content:

- Browser Title:** C:\Documents and Settings\lock\My Documents\work\dirc\documents\SitMod - with ...
- Browser Address Bar:** C:\Documents and Settings\lock\My Documents\work\dirc\documents\SitMod -
- Page Title:** London Ambulance Dispatching System
- Entity Name:** Ambulance Management
- Entity Type:** Stream
- Description:** This is the overall stream of tasks which deals with the various aspects of handling a fleet of ambulances
- Activity entities which this can-interact-with:**
 - Respond to 999 call
 - Recall Ambulance
- Event Set entities which this has-sets:**
 - Get to patient
- Event entities which this has-events:**
 - Start up ambulance
 - Travel on road
 - Reach patient

Benefits of Situation Modelling

- Bridges the content and structure gap and the ethnography and design gap.
- Produces rich reference resource.
- Provides loosely but consistently structured data.
- Browseable models using 'windows'.
- Informed judgements and decisions

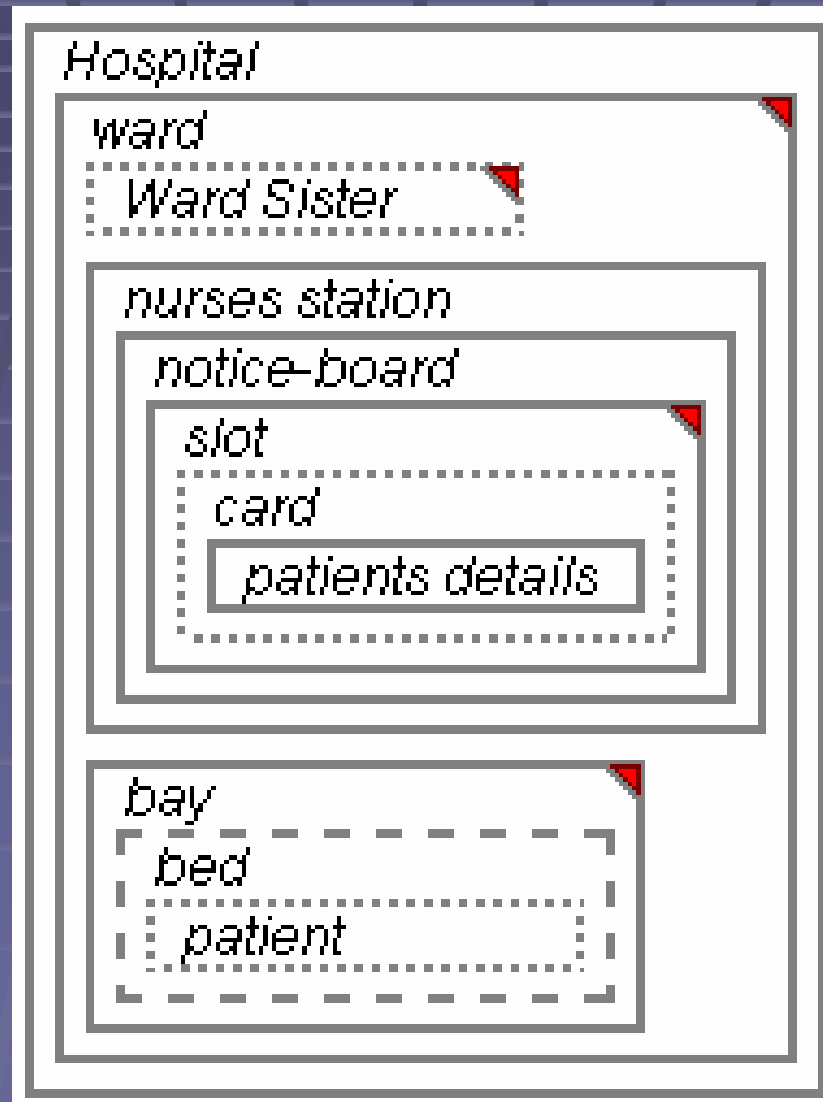
Strider

- “Skin deep” modelling of configuration
- Direct utilisation of ethnography
- Provides structured access to ethno.
- Assistive data reclamation (scavengers)
- Structured investigation/exploration
- Automated analysis possible

Configuration items

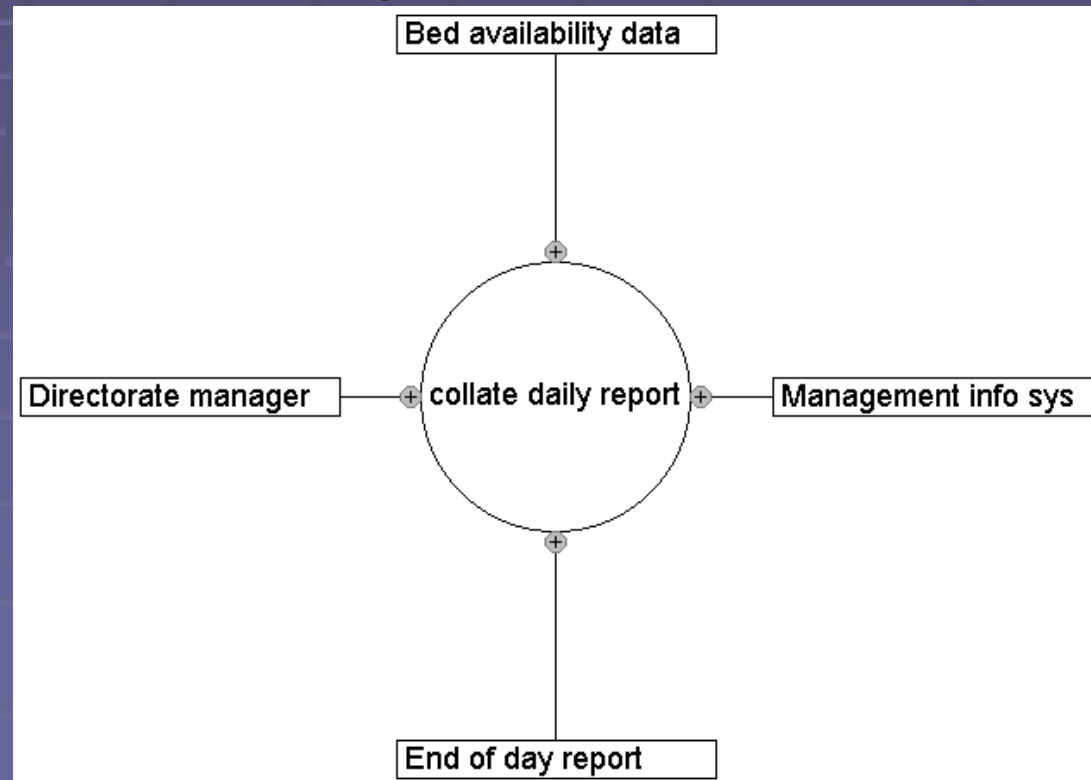
- Hardware
- Software
- Documents
- Buildings
- People
- Artifacts
- Organisations
- Etc...

Structural model



Process model

- Models atomic activities
- Internals of processes not described
- Fragments of inter-relationships
- Processes have:
 - Initiators
 - Targets
 - Inputs
 - Outputs



Analysing Strider models

- Based on control and data flow analysis
- Identify “ways of getting things done”
- Analyse pattern of paths
- Factor in effects of weaknesses

Analysis allows us to...

- Determine if an objective is achievable
- Check for redundancy
- Identify possible alternatives
- Consider the impact of weaknesses
- Identify possible paths to undesirable situations
- Check for model completeness
- Use patterns to identify:
 - Single points of failure (SPF)
 - Areas of high utilisation (AHU)
 - Bottlenecks
 - High workloads

Entity type: Configuration Item

Name: Manager

Description:

The manager is in charge of running the hospital including all aspects of administration, staffing and resources



Configuration Item entities which this is-part-of:

- [\(Hospital\)](#)

Process entities which this is-initiator-of:

- [\(discussed\)](#)
- [\(chivvyng\)](#)
- [\(telephone\)](#)
- [\(circulated by email\)](#)
- [\(collation\)](#)
- [\(go and count\)](#)

Process entities which this is-target-of:

- [\(go to red\)](#)

Process entities which this is-input-to:

Process entities which this is-output-from:

Benefits of Strider

- Provide structure to ethnography
- Gain insight into system
- Aid to comprehension
- Aid in decision making
- Potential stepping stone to other models

SitMod and Strider compared

SitMod

- In-depth org. structure
- Detailed information
- Situations for new
- General readership
- Emphasis on access
- Multi-point access

Strider

- Top level configuration
- Simple and fast modelling
- Existing and future
- Technically readership
- Emphasis on analysis
- Single point access

Scavenging

Scavengers

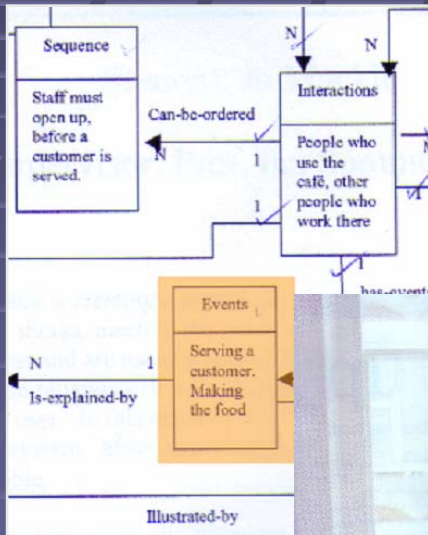
- Bridge gap between ethno and models
- Ease the process of building models
- Automated support for data reclamation
- Require user interaction
(not auto extraction)

Textual scavenger

The second failure scenario also comes from fieldwork with the DMO. Observations of the **management** of waiting lists and bed **management** illustrate the value of IT in coordinating work across different sites and different organisational units and illuminate the complexity of managerial work with the figures produced by the technology needing to mesh with more local, changeable and situated information. The 'bed availability' data is available on the Management Information System (MIS) but is inaccurate for a number of reasons outlined below. Bed **management** was associated with a system of alerts that instigated various managerial responses: " to go to red (alert) the **Directorate Manager** has to go and count.. if the position is that we (the **Hospital**) are ..closed to admissions the **Directorate Manager** has to come in and physically count the beds. Ward Sisters can be naughty .. if they know they have five admissions coming in tomorrow you can understand where they're coming from ..". The managerial focus on bed **management** was supported by the collation of a weekly site report circulated by email and a daily 'end of day report'

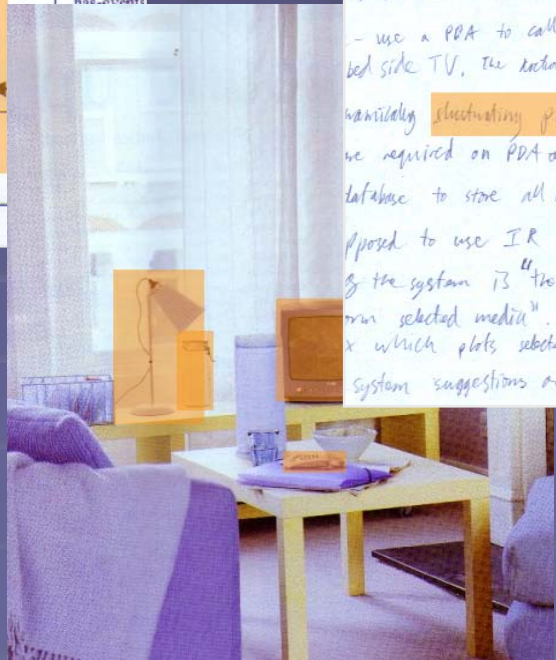
- Manuals
- E-mails
- Web pages
- Transcripts
- Reports

Graphical scavenger



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 system suggestions or alternatively se

- Handwriting
- Photos
- Screenshots
- Artifacts



Booking

Please reserve for me _____ (boat)

from _____ (day) _____ (date) to _____ (day) _____ (date)

Name _____

Address _____

Postcode _____

Telephone _____ (home)

_____ (office)

_____ (mobile)






Audio Scavenger



- Interviews
- Phone calls
- Discussions
- Meetings
- Walkthroughs

Entity editor

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 of the system is "the determination of the most ap
 own selected media". To do this, the system makes use of
 x which plots selected media against available devices
 system suggestions or alternatively select a **presentation**

Name >	Multimedia Multimedia
Description >	The system allows the presentation of a number of different     : of the current situation 
Related activities list:	Related artifacts list:
<div style="border: 1px solid black; padding: 5px;"> <p>selectuating pool (fluctuate)</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>selectuating pool (fluctuate)</p> <p>graphical (graphical image)</p> <p>presentation (present)</p> </div>
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Related roles list:	Related streams list:
<div style="border: 1px solid black; padding: 5px;"> <p>selectuating pool (withdraw book)</p> <p>graphical (graphical image)</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>selectuating pool (fluctuate)</p> <p>presentation (present)</p> </div>
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