Advanced) HCI Fieldwork and Analysis Rowanne Fleck School of Computer Science University of Birmingham 2016/17 Last time Described some methods for understanding users better Interviews Focus groups Questionnaires Observations These methods can be used both in HCl research and design practice, and at various stages in the design process. Today Will talk about fieldwork and ethnography Cultural probes Choosing a method Qualitative research methods and affinity diagrams	UNIVERSITYOF COLLEGE OF DOMESTIAN DO STREET OF	
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diagrams	□ Choosing a method	
	diagrams	

Fieldwork and Ethnography

- ☐ Fieldwork research conducted in a natural environment, rather than a lab
- $\quad \square \ \, \text{Ethnography}$
 - an approach to collecting fieldwork materials
 - Roots in Anthropology

Design-oriented ethnography in CSCW

- □ Suchman's Plans and Situated Actions
- □ Study of photocopier use
- ☐ Interactions with technology are situated in social practices
- Rejection of cognitive science models that treat plans as fixed sequence of actions
- □ Ethnomethodology





Example – Tourist Information Office (Marshall et al. 2011)

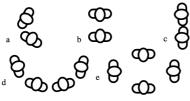


Figure 2: some different F-formation configurations. a. L-arrangement; b. face-to-face; c. side-by-side; d. semicircular; e. rectangular

Example – Tourist Information Office (Marshall et al. 2011)

Key characteristics

- □ Participant observation
 - Interviews, observations, participation in activity
- □ Interpretation
 - Through 'thick' textual description
- □ Analytical orientation
 - Ethnography isn't just description

Cultural and Informational

Probes

Cultural Probes: Gaver et al. 1999



- packs of materials e.g. maps, cameras, diaries, postcards
- generate discussions designs that were
- relevant
 not aiming to design
 solutions for needs
 instead, provide
 "opportunities to
 discover new forms pleasures, new forms of sociability, and new cultural forms."
 inspiration for design

Informational probes

- □ Crabtree et al. (2003)
- $\hfill\Box$ Designing with unconventional users
 - former psychiatric patients in residential care
 elderly people living at home

 - a stroke victim and her family
- $\hfill\Box$ Standard observational techniques not appropriate:
 - "when we start to investigate the cooperative "when we start to investigate the cooperativ work of care, we are inevitably and immediately confronted by people with a range of infirmities, disabilities, and impairments, who for a variety of highly understandable reasons may be reticent to subject their lives to the inquisitive gaze of strangers and outsiders - and who can blame them?"



Informational probes

- □ Adapted Gaver, Dunne and Pacenti's Cultural Probes
- □ Provided participants with packs that encouraged reflection on the important features of their lives
- □ Postcards, camera, diary, dictaphone, visitors book, maps of the local area



Informational probes

- □ Returned probe materials served as a basis for ongoing conversation
- □ Participants enjoyed active
- □ Useful insight for designers

Got of Today AT 100 CLOCK Got PLAN	
BED if Hour Longite Breause I could get get UP. TOOK JOHN PHONE OF THE	E
FLAT. Going To DAM CENATUR THIS GE MOON MY HERAD HAS GOT A BAD PRAN.	रचा.
MY WEND AND IS GET GOING OWNER.	
1	



Informational probes

- □ Preoccupation with safety and security
 - residents increasingly cut off from friends and family
- ☐ Worries about managing medication





Which method to choose ??!

- □ Can use multiple methods
- □ Depends on the
 - Focus of the study
 - □ What are you trying to find out?
 - □ What stage of research/in the design cycle are you at?
 - Participants involved
 - Resources available
 - Time available

Understanding Findings: Quantitative vs. Qualitative data analysis

- □ Quantitative
- □ Qualitative



Image: http://www.oxfamblogs.org/fp2p/?p=10273

Qualitative Data Analysis	
Techniques	
□ Initially – get an overview of the data	
☐ Identifying recurring patterns or themes	
□ Categorize data	
□ Analyze critical incidents	
{ }	
© 0/	
m ' 1	
Two main approaches	
□ Top-down: Knowing what you're looking for and coding	
specifically for that - E.g. errors, terminological confusions, specific concepts	
 Taking a particular theory and using that as a filter on analysis (e.g. 	
F-formations) - Faster, more direct, constrained, biased?	
□ Bottom-up: Letting the data "talk" and finding important	
ideas that emerge from the data - Inductive method	
Grounded Theory, Emergent Theme Analysis, and similar Slower, exploratory, looser, more objective?	
- Glower, exploratory, looser, more objective:	
	-
	1
Coding data	
☐ Open coding: identifying important ideas	
☐ Axial coding: identifying new relationships in the	
data	
☐ Selective coding: generating a focus and building up themes around it	
☐ Can be supported by tools such as Atlas Ti and △	_
NVivo – BUT you still have to do the work!	
- Highlighter pens - Spreadsheets	
- Spreadsheets - Mindmaps	
- Post-its	

0	•				Casel	8.xls						
0	A	8	С	D	E	F	G		Н	1	1	K
	Time	SP	Transcript/summary	Reflection	RL	Focus	Notes		Collaboration	Collaborati	refcollab	image u
1			0					0	Notes 0	on Codes \$	codes	codes
		М	right ek. Because you've got, well you									
			can't see can't see all of them, but						m uses images as			
			you've got quite a few faces looking in						evidence to support			
64			this direction						what T is saying	levi		levi II
65		PQ	Yeah, Fear - who's going on the board								explain	
66			apart from uh J. In the middle								CAPON	M
-	00:04:14		yeah. But I rarely have J's attention to		_	SA						
67			be fair								explain	
67	00-04-22		ok, I think we're reading through the					_			explain	
68	00004.22	2.5	excepts there									id
68	_	0.0	mm perhaps he's speaking to N quite a	R1: Observation from P9.		SA	_	_	this is the kind of	refue pe ctx		10
			for as well	followed up by reflection from		3/4			comment that in SR	maup pe cix	pan	
			iot as well	M - including sharing of prior								
									would probably not lead to reflection, but it's			
				knowledge/experience of								
				student. Given this, Mis also					picked up by M and			
				surprised/dissappointed in the					they discuss			
69				student. Vaguely dialogical?								
70												
71			mmm, yeah, disappointing									
72		[p]										
73	00:04:43		(not quite sure)									
		M	(her and her friend) who she's, H,			SP (past						
			she's, both been getting into a lot of			kowledge						
			trouble recently. Been excluded for quite			of						
			a number of days at the minute, so you			student)						
			would have thought, so you would have									
			thought actually that being (away from								nenfil	
74			that influence, they'd be better)							ctx	(imp)(ed)	led?
	00:04:58		(when I gave back her) when I gave her	another reason why he's	_	SI.				CLX.	(mp)(go)	941
			back her ? report, she looked quite	dissarointed/surprised at								
			disappointed she was on a D. Ishe	students behaviour								
			thought she'd be on an E next time ?1	AUGUSTA CONTACTOR							ner-fil	
/3	00:05:05		um, yeah, so we were reading through			TS		-			permi	
	00.00.00		the Shakespearian?, there was three of			10						
			them, so we were trying to									
							l					
76	_		Impersonate [laushs and points to screen] I just		-	-	_	_				ld .
			[laughs and points to screen] I just wondered what that was			٥			joking about the images			
77											jokes	
78			yeah, that's one of the handouts!			0						
79			that thing coming from her head!			0						
	00:05:19		so how do you feel looking at this then?						M prompts reflection	mdup ste	1	
			I mean.	starter wasn't enjoyed much.					about part of the lesson		I	
				P9 gives a possible reason					they're discussing, but		I	
									not really following up		I	
									on anything in particular		I	
									T was saying here, but		I	
									does prompt T to look			

Affinity Diagrams	
(Beyer and Holtzblatt,	1998)

- ☐ Technique for finding emerging patterns
- □ E.g.,

https:// www.youtube.com/ watch?v=f6QHKw15tGI



Image: http://www.baran-systems.com/Products/Affinity%20Diagram%20for%20Excel/index_concept.htm

Lecture Summary

- $\hfill\Box$ Talked about fieldwork and ethnography
 - Cultural probes
- □ Choosing a method
- □ Qualitative research methods and affinity diagrams
- □ NEXT TIME
 - Feeding findings into the design process
 - □ personas and scenarios

Readings	
□ CORE	
 Crabtree, A., Hemmings, T., Rodden, T., Cheverst, K., Clarke, K., Dewsbury, G., Hughes, J. and Rouncefield, M. 	
(2003) Designing with Care: Adapting Cultural Probes	
to Inform Design in Sensitive Settings. Proceedings of	
OzCHI 2003. Brisbane. Australia	
□ Additional	
 Marshall, Paul, Yvonne Rogers, and Nadia Pantidi. "Using F- 	
formations to analyse spatial patterns of interaction in physical	
environments." Proceedings of the ACM 2011 conference on Computer supported cooperative work. ACM, 2011.	
- Video about ethnograpy: https://www.youtube.com/watch?v=6llzz3DIEWQ	
- http://www.usabilitynet.org/tools/affinity.htm	
Video about affinity diagraming:	
https://www.youtube.com/watch?v=f6QHKw15tGI	
Beyer & Holtzblatt (1998) Contextual Design. Morgan Kaufmann.	
Chapters 3 - 6	