

Elicitation

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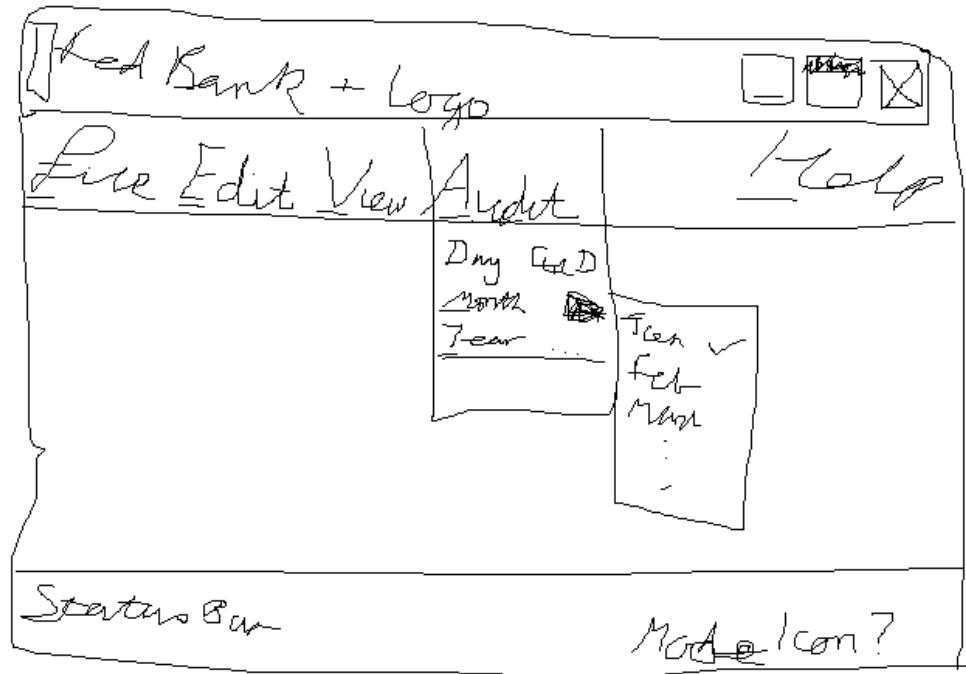
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Introduction

- Participatory and User Centred Design



- Interviews, Questionnaires, Focus Groups.
- Task Analysis.

Recap

- Lecture 1 on mental models.
 - User's mental model of the system:
 - everything they learned from using it;
 - typically, no idea of the implementation.
 - Designer's mental model of the system:
 - can be ignorant of the application domain;
 - but does understand implementation.
- Can designers ever understand users?

What does the Company Want?

- Managers have clear ideas:
 - 'new system will reduce staffing';
 - 'staff will perform task X in N seconds....'



- Managers have no idea:
 - may not understand everyday problems of their staff;
 - may urge gratuitous use of particular technologies;
 - may disagree amongst themselves.

What do the Users Want?

- Users have little idea of what can be built:
 - the easy things can be very hard to imagine;
 - the computationally intractable can seem easy.



Acknowledgement: BBC

- Users often find it hard to say what they do:
 - over time people build up *expertise*;
 - skills become unconscious;
 - long-term not short-term memory.

User-Centred Design

- Solution involve users in the development process:
 - use of rapid incremental prototyping;
 - this supports formative evaluation;
 - user testing before making design decisions.

- Problems:
 - if tests fail is it the design or unrepresentative users?
 - if a test fails how do you generate new solutions?

Participatory Design

- Involve users in the development process:
 - more direct involvement than in UCD.

- Users present in design meetings:
 - how representative is the user involved?
 - often representatives resemble developers!

- Problems:
 - very difficult to manage:
 - can feel intimidated by development team;
 - can feel superior to the development team.

Market Surveys

- Assess users' lifestyles and aspirations:
 - Early adopters? Second-wave? Conservatives?



Acknowledgement: BBC

- What competitor systems are successful now?
- Photo diaries and technology trials.

Interviews

- Unscripted sets of questions:
 - follow the mood of the interview but...
 - can be (mis)led by the interviewee.

- Prescribed sets of questions:
 - ask everyone the same things and compare answers;
 - might not ask the one really crucial question?

- How to record the responses:
 - notes (cheap but may detract from interview);
 - audio taping (unintrusive but costly to transcribe);
 - video (facial expressions but costly to transcribe).

Interviews

- Questions can give away information.

- Implied criticism:
 - 'Most of the staff here have never used an IX3205B?'

- Poor preparation:
 - Interviewer: 'You work in the paint preparation shop?'
 - Interviewee: 'No, that was closed last year...'

- Arrogance:
 - 'We're planning a servlet-based extension to the...'

- Patronising introductions:
 - 'Now please relax, there really is nothing to be worried about...'

Questionnaires

- Low response rates especially from certain groups?

Do you like the existing system? Yes No

- Multiple choice:
 - users may mindlessly tick certain responses;
 - may ask trick questions (double negatives etc).

What is good about the existing system?

- Open ended:
 - users may not have time/interest to write much;
 - how typical are the users who write lots and lots?

Questionnaires

- Asking more subtle questions...

It is easy to make mistakes? Disagree 1 2 3 Agree

Were the lectures helpful? terrible wonderful
1 2 3 4 5 6 N/A

- Scalar responses (Likert scales):
 - can be difficult for users to choose between values.

Rank the following from 1 to 3
The most important thing about this lecture is:
----that it finishes in an hour -----
----that it helps me to pass the exam -----
----that it never mentions Java -----

- Ranked responses:
 - what if there are equal preferences?

Focus Groups

- Questionnaires open to bias and influence.
- Peer groups complete questionnaires together?
- May miss shared attitudes and beliefs.
- How do you interpret responses?
 - partial answers may need more detail;
 - responses may contradict views of managers etc.
- Focus groups to follow-up questionnaires.

Focus Groups

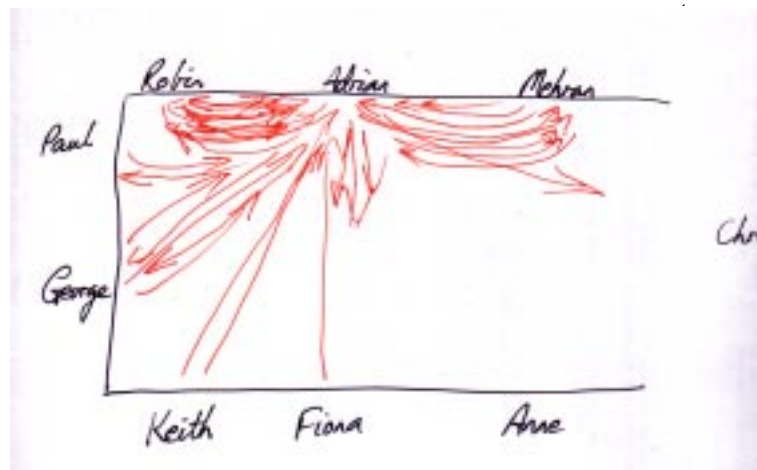
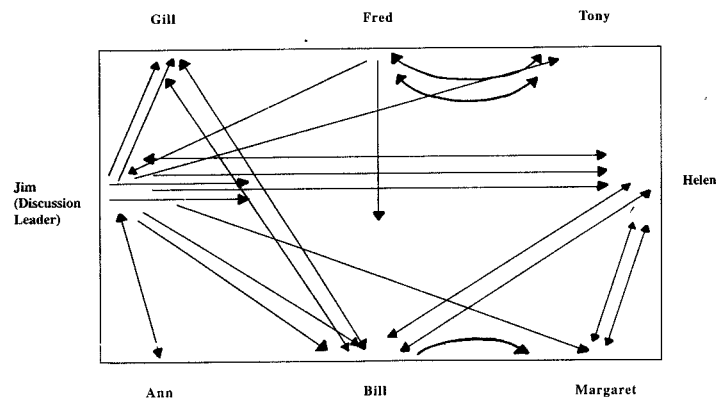
- You act as facilitator for a discussion:
 - introduce a topic and let them talk about it;
 - prompt and direct towards key topics.

- Record and account for different perspectives.

- Problems:
 - can be ‘hi-jacked’ by opinionated participants;
 - care must be taken with group dynamics.

Participation Grids

- Who contributed to a focus group?
 - minor manager talks but project sponsor is silent;
 - might come away believing minor view?



- Participation grids:
 - draw an arrow when A talks to B;
 - repeat for each major topic.

Requirements Documents

- What do you do with the information?
- Construct a requirements document.
 - Describes *what* must be done:
 - provide automated ordering facilities for all staff;
 - staff should complete first order with 1 day training.
 - Does not describe *how* to do it:
 - use a Pentium III running NT, written in Java...
- Can be based on usage *scenarios*.

Hierarchical Task Analysis

- What do you do with requirements document?
 - Spilt a high-level task into sub-tasks.
0. in order to complete an order
 - 0.1 take customer's product selection
 - 0.1.1 ask for reference number
 - 0.1.2 enter reference number in system
 - 0.2 take customers contact details
 - 0.2.1 ask for customers post code
 - 0.2.2 enter postcode into system
 - 0.2.3 complete any blank fields
 - 0.3 take customers payment details
- Good points:
 - builds a conceptual model of users' view;
 - can identify knowledge requirements with each step.
 - Simple plans but what if things go wrong?

Current Problems: Plans and Situated Actions

- Lucy Suchman criticises much of this.

- Plans evolve within a complex working environment.

- People:
 - are more opportunistic;
 - must adapt to interruptions.

- So designer must:
 - consider users' model of the system;
 - consider the effect that context has on the model.

Conclusions

- Participatory and User Centred Design
- Interviews, Questionnaires, Focus Groups.
- Task Analysis.

Further Reading

- Shneiderman on:
 - design process - pp. 95-117;
 - evaluation - pp. 124-150.

- He combines elicitation and evaluation.