

Get real!

Techniques for gathering and analysing user requirements in the 'Real World'

Abstract:

User requirements analysis, also known as user needs analysis, is often overlooked when money's tight and deadlines are short, even though it's fundamental to User-Centered Design. This tutorial will teach participants how to do credible and valuable user requirements analysis in 'real world' situations, with short timescales and small budgets.

Length of tutorial:

Half-day

Learning objectives:

Participants will learn how nine practical techniques can be used to gather and analyse user requirements on projects where there is little resource for this activity. The techniques will give results that are credible enough to be essential building blocks for subsequent developments.

Participants will also learn about some strategies for coping with the common obstacles to undertaking user requirements work, be they political, practical or perceptive. Again, these will be practical strategies that can be applied in real life situations.

Knowledge and pre-requisites for participants:

This tutorial is aimed primarily at those who have a basic understanding of usability techniques but are keen to understand how these can be adapted to 'real world' situations, where time and budgets are limited. A typical attendee may be one of the people who have posted in recent weeks to the CHI WEB list on the subject of adaptable usability engineering processes. (see CHI-WEB archives Fri, 8 Nov 2002).

How the tutorial will be conducted:

The tutorial will be class based and will be supported throughout by an ongoing case study (see below). I will seek input from participants regularly, in order to break up the sessions and generate ideas and examples from other 'real world' situations. Participative work is likely to take up about a third of the tutorial time.

Detailed description of material covered by tutorial and a schedule of events

Background and context for the tutorial

User requirements analysis is fundamental to UCD, evidence by its inclusion in ISO 13407 and all the major, respected text books on the subject of usability. However, this critical process is one of the most overlooked aspects of the whole development cycle, of less interest to managers and clients than prototype testing and heuristic evaluations.

Consultants and in-house developers are often asked to develop intranets, portals, web sites and applications to a set remit that shows little signs of ever having been near a potential user. On top of this, when usability professionals broach the subject of undertaking some sort of user needs evaluation, clients and/or managers rarely pay little more than lip-service to the time and budget required to undertake this sort of analysis. It is often seen as a time-consuming luxury that is ill-afforded when deadlines and other pressures are looming.

If done 'properly', ie, according to the text books, requirements analysis can take months to gain a true picture based on the most respected methods, such as observation. When this is compared to usability testing, which can be a relatively quick exercise, user requirements analysis is often seen as impractical within project timescales.

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However, development teams know that even when they deliver a perfectly usable web site or application, if it doesn't meet user requirements it won't be well used and risks failure. Ultimately that always reflects on the development team as well as the manager or client.

So, within the very real context of unenthusiastic management or client support for user requirements analysis, this tutorial will raise awareness of the obstacles and teach a range of techniques that usability professionals can contribute to a development project to ensure that the resulting development does meet user needs.

Detail of topics that will be covered in the tutorial

The table below shows a detailed breakdown of the tutorial. It may need to be cut down somewhat as it contains a lot of detail for one half day session.

There will be a running **case study** throughout the tutorial of a recent project I have completed doing a user requirements analysis for a university's portal project. This was a large project and I will provide examples from it relevant to each of the topics listed below.

Where appropriate, examples will be provided, though I have rarely indicated this in the detail.

Topic	Detail	Schedule
Introduction	Introduce myself, including my general experience and specific experience relevant to today's tutorial. Description of the tutorial, and any house-keeping necessary	5 mins
	Quick once-round the participants to find out a bit about them and why they are at the tutorial. (depending on numbers)	10 mins
Definition of user requirements analysis and why it's important. <i>Take audience participation here.</i>	5 mins
"It's not like it is in the books..."	This is about the real world context in which user requirements is done, to include: - How the books describe the process (with examples eg ISO 13407) - Why it is often overlooked, examples include: - Clients/managers can be affronted by the idea that they don't know what their customer's/staff/partners require - the learning cycle for technical developments: "peak of expectations, trough of disappointment, slope of enlightenment" - in the "peak of expectations" much is assumed including user needs. - Clients/managers lack of strategy or clear objectives, eg, don't have a clear audience in mind or haven't prioritised within the limits of the project resources. - Clients/managers just don't get the point of the exercise. Certainly for internal developments, it can be a very foreign and overtly radical idea - Internal corporate or organisational pressures may be driving the development and the quality of the resulting product may not have precedence of influence - ... you can make a perfectly attractive, usable and functional site without doing user needs analysis and it <i>may</i> work! - Project limitations, eg, timescales, budget	15 mins
	<i>Discussion within group where a few people will describe when they've been in this situation and what they did.</i>	10 mins
	<i>Introduce the case study and relevant parts of it.</i>	10 mins

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<p>How to overcome or work with the limitations</p>	<p>Before trying to influence the client or manager to undertake user requirements work, you must be aware of the context in which the project is taking place and what actions you can appropriately take from those listed below. Consider also that user requirements analysis may not be appropriate.</p> <p>Actions that can be taken at this stage, assuming that analysis does seem appropriate and potentially useful to the development project.</p> <ul style="list-style-type: none"> - Provide evidence for the effectiveness of doing user requirements analysis; give examples. - Give examples of ROI that is achieved in other projects through applying UCD techniques. - Get project sponsors feedback about what they do and don't like about developments that are similar to their own. Draw on this, if possible, to evidence how useful stakeholder input is. - Use terminology that won't alienate the manager/client, to include examples. - Use the project timeline to build in requirements gathering so that it affords little extra time or resource, eg, supplement usability testing sessions of early prototypes with gathering high-level user needs, rather than just checking if users can perform tasks and suchlike. <p>If all else fails:</p> <ul style="list-style-type: none"> - be explicit about the limitations to the project in project documentation. - Build in more iterative, small scale testing which may help to offset the lack of user needs analysis. <p><i>Suggestions of more ideas from participants</i></p> <p><i>Discuss relevant parts of case study</i></p>	<p>15 mins</p> <p>5 mins</p> <p>5 mins COFFEE BREAK</p>
<p>The nine 'real world' techniques that are practical on small budgets / timescales:</p>	<p>When doing user requirements work, need to know who your users are. This can be difficult if client / manager is unable to be specific about their priority targets for the development (and, let's face it, it happens!). If this is the case, you can take a broad sweep at analysis, but must make this explicit in the project objectives.</p>	<p>5 mins</p>
<p>One</p>	<p><u>Interviews</u>, to include: Types (structured, unstructured), significant benefits (can use time to get qualitative and quantitative data); limitations (needs skill from interviewee, what people say isn't necessarily what they do.)</p> <p>Within interviews can do the following four techniques (two to five)</p>	<p>5 mins</p>
<p>Two</p>	<p><u>Content identification</u>. Users can describe, for example, what information they currently use. This could form content areas for the development. Benefits/limitations</p>	<p>5 mins</p>
<p>Three</p>	<p><u>Prioritisation</u>. Users prioritise content areas (supplied by them or/and by the project sponsors and/or other similar sites/developments). Benefits/limitations.</p>	<p>5 mins</p>
<p>Four</p>	<p><u>Card-sorting</u>. (I believe this has another name in the USA) Users can sort content areas in hierarchies as they choose. For user needs analysis, it also allows them to throw out any content that they don't feel would be useful. Benefits/limitations</p>	<p>5 mins</p>
<p>Five</p>	<p><u>Task-analysis</u>. Allows you to identify content or functionality that the user may need that they have not described verbally or by other methods. Benefits/limitations</p>	<p>5 mins</p>
<p>Six</p>	<p><u>Focus group</u>. Allows for gathering qualitative and quantitative data and for</p>	<p>5 mins</p>

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	doing two to five above. Describe significant limitations.	
Seven	<u>Studying stats.</u> Allows for gathering popularity of elements of existing developments, thus potentially signifying users' preferences, if not requirements. Significant limitations / benefits.	5 mins
Eight	<u>Surveys.</u> Quick way to collect structured information from a lot of people. Limitations/ benefits.	5 mins
Nine	<u>Reviewing</u> competitive or complementary developments. Can allow for an overview of what other sources user are using. Describe significant limitations / benefits.	5 mins
Techniques in practice	<i>Discussion about participants' experiences of these techniques.</i>	15 min
	<u>Portal case-study</u> Show how I used some of these techniques in the user requirements gathering process for the portal, including: <ul style="list-style-type: none"> - Techniques used and how I combined them to ensure their validity - How I analysed them (briefly show analysis technique) - How I presented them. - Describe the impact that the results have had on the development project - 	15 mins
Exercise	Participants will split into groups (size dependent on the amount of participants). They will be given a project scenario, wherein they have a set amount of time and human resource to conduct user requirements analysis for a large intranet. Each group will come up with a project plan for the analysis to include objectives, techniques that will be used and the deliverables.	30 mins
	Group discussion about outcomes of exercise.	15-20 mins.

Description of materials:

Handouts will include:

1. Original materials from the case study, including examples of :

- interview questions
- card sorting subjects (see example A below)
- prioritisation
- target user profiles
- analysis output to show how valuable deliverables can be achieved on limited budgets / timescales (see examples B and C below)
- other deliverables from the user requirements process that had a significant impact on the development project

2. A card for each of the nine methods, showing a brief description of the process, plus limitations and benefits of each.

3. Details of the exercise, to include the brief. Participants will use the handouts from point 1 and 2 above to work from during the exercise.

Number of participants

There is no minimum amount. I would suggest a maximum of 40, although I could work around more if required.

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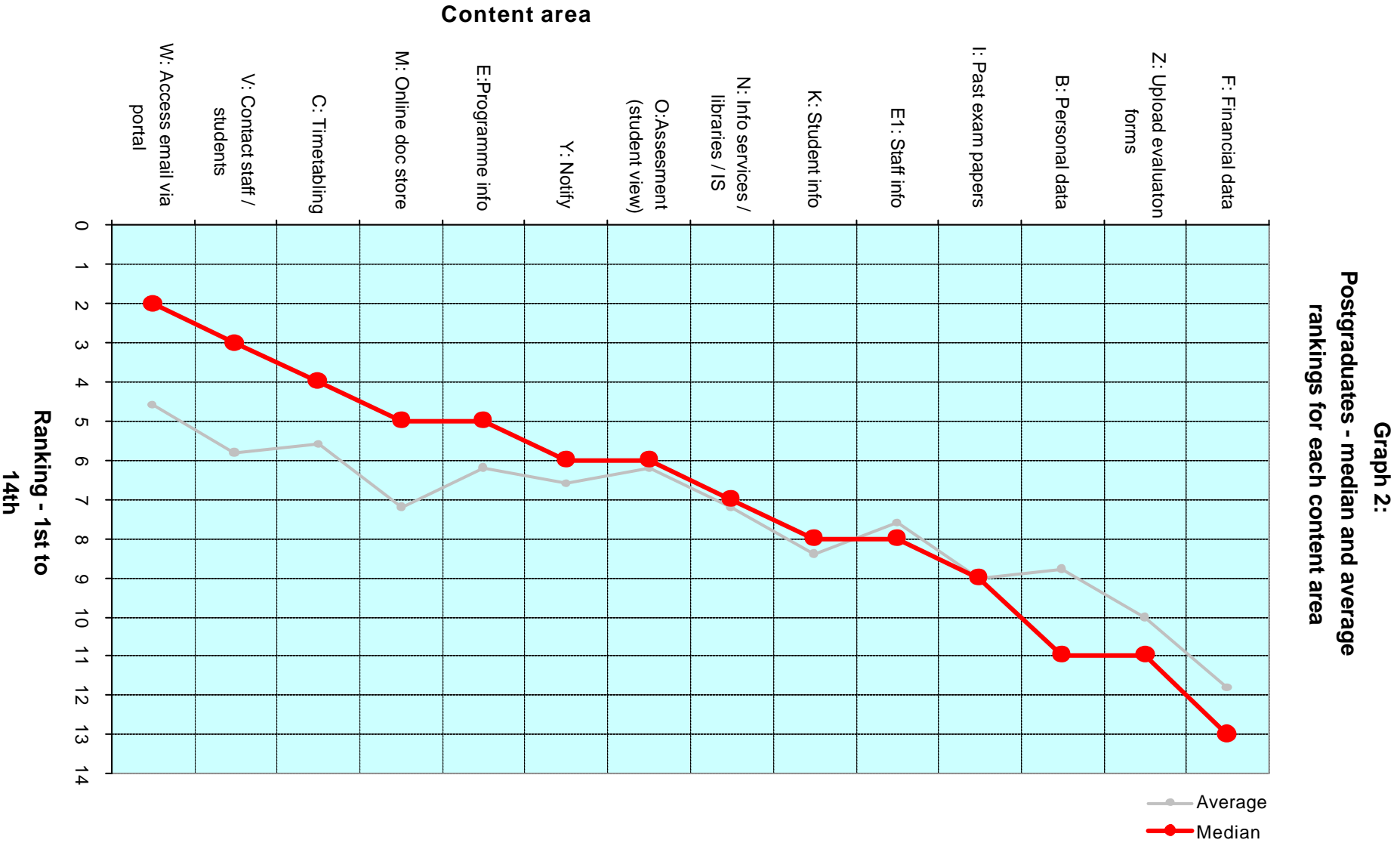
Handout example A: Card sorting subjects for the case study

Key content areas for student view of portal

V	Contact students / staff	Lets you email groups of students or staff in your unit, project group, tutorial group, etc	<u>Example:</u> Email other students in your project group
B	Personal details	Lets you see and change your personal details that the University holds	<u>Example:</u> Home address
E	Programme / Unit information	Lets you view info about your courses, including programme, units, sub-units, costs and sign-up to units	<u>Example:</u> View lists of students on each unit.
K	Student info	Lets you see lists of other students in your unit / project group, etc including their photo	<u>Example:</u> View students in your unit
C	Timetabling	Lets you see your timetable for lectures, seminars, tutorials, meetings, etc	<u>Example:</u> See where you have to go for a lecture
M	Online document store	Lets you view and upload documents in your own online document store	<u>Example:</u> Save your essay on the network so you can access it anywhere
E1	Staff info	Lets you view info about staff, particularly your own teaching staff	<u>Example</u> View the office hours of your tutor or find out research interests of a staff member
N	Information services / libraries	Lets you search / interact with libraries and get help with IT	<u>Example:</u> Reserve library books online
I	Past exam papers	View past papers online	
F	Financial data	Lets you view your own financial data from the university	<u>Example:</u> View / pay fees owed View library fines
O	Assessment (student view)	View (allowed) grades, your own progress file and upload assignments	
W	Access and view your emails	Use your university email account through the portal, rather than opening it up in a new application	
Y	Notify	Receive notifications on your homepage	<u>Example:</u> Get notification that your assignments are due, that your library book is due, etc
Z	Upload evaluation forms	Upload your unit evaluation forms online	

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Handout example B: an analysis of prioritisation.



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Handout example 3: Major deliverable from user analysis project, showing requirements for portal content of three major user groups.

"Using the methods previously described, the groups' top five content areas were identified. The following lists them and indicates where there is commonality. Content areas listed in the yellow zone show a correlation of ranking between two of the three user groups. The remaining content areas have achieved a top five ranking by only one group out of the three canvassed."

Content area	Ranked as a top five content area by:		
	Staff	Postgraduates	Undergraduates
Online document store		✓	✓
Access email via portal		✓	✓
Contact staff / students	✓	✓	
Calendaring / timetabling	✓	✓	
Programme information	✓	✓	
Information services / libraries			✓
Notify			✓
Past exam papers			✓
Personal data	✓		
Student information	✓		