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Contextual Enquiry

[Project Name]

Sample Only

Prepared for Client

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Date

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Sample 'Contextual Enquiry' report

The remainder of this document is taken from a typical Contextual Enquiry report.

Contextual enquiry may also be referred to as user needs/task analysis; however the scope is somewhat more design-focused. Information gathered can be used to create scenarios or use cases.

During contextual enquiry, several intended users of a system or process are observed conducting their day-to-day work (usually for no more than two hours). They are asked to identify issues and concerns, and the observer will also note issues that may not be apparent to the users.

Most user organisations welcome this activity, since it provides a direct line into a design team, and helps ensure that new or redesigned products meet their requirements in the real world, rather than the assumptions of the design team.

We believe that contextual enquiry provides the highest possible return per dollar, for the following reasons:

- At an early stage of the project, real data from the users' world is fed into the design process. Incorrect assumptions, with consequent wasted development time, can be avoided
- Design teams learn about the user's world; resulting products are more focused on the user
- Previously unknown issues and opportunities are identified.

In this sample report, names of organisations, people and projects have been deleted. In addition, over half of the original content has been removed.

Introduction

This document presents the results of a contextual enquiry conducted prior to user interface design stage of [Project Name].

The data was gathered primarily from site visits.

Although the focus of the effort was on the [Item] area, some information on other parts of the [Project Name] system was also collected.

Summary

'We like the system, but it should be better'.

The [Project Name] system is generally well regarded and provides a useful service.

However, there are significant issues that should be addressed in any re-design.

The system needs to:

- Be easier to learn and use
- Provide clearer navigation
- Use simple and consistent terminology
- Provide as much information online as possible

A need for some additional or enhanced functionality emerged, including an audit trail capability and the ability to provide account status information.

If the system is intended to be used by the general public, it is particularly important that the entire process be as transparent as possible.

For payment model, the 'shopping basket' rather than 'pay per view' model should be used.

Essentially, the [Project Name] system needs to be designed around the users and their tasks, rather than any legacy system or process which is irrelevant from the user's perspective.

Internet experience is varied among users; this means that any re-design must assume an audience with little Internet experience.

This report contains several specific recommendations that can be used to inform the re-design effort.

Method

Site visits were made during December 1999 to several organisations who use [Project Name], or who are involved in the procurement or supply of [Item].

During these site visits, users were observed carrying out their tasks, and were asked to identify any issues, problems or concerns. They were also given the opportunity to complete a brief questionnaire intended to gather some demographic information and to prompt for any issues not already identified.

In addition, three 'real people' who had purchased [related item] but had no expert knowledge in the area were asked to complete a questionnaire intended to uncover levels of knowledge of [item] and attitudes to ordering over the Internet.

At the end of the data collection stage, all information gathered was analysed, and sequence models produced. Refer to Appendix A on page 20 for sequence models.

Issues, comments and notations were then grouped using an affinity diagramming technique to identify the issues. Issues are documented from page 7 onwards.

Site Visit locations

Ten site visits were made in all (to 11 people in total), as shown in Table 1. The original intention was to make between six and eight visits; however since some of the first people visited did not use [item], the number was increased.

Organisation	User
[Organisation Name]	Customer Service Operator
[Organisation Name]	Settlement Clerk
[Organisation Name]	Reseller
[Organisation Name]	Broker
[Organisation Name]	Assistant Valuers (2)
[Organisation Name]	Law Clerk
[Organisation Name]	Administration Officer
[Organisation Name]	Title Searcher
[Organisation Name]	Law clerk/Legal assistant
[Organisation Name]	Lawyer & assistant

Table 1. Organisations visited

The amount of time spent on each visit ranged from three-quarters of an hour to two hours, depending on the amount of work being carried out and the availability of personnel.

Issues identified in Site Visits

Several issues emerged during site visits. These issues were collated and grouped, and the results are shown on the following pages.

It should be noted in advance that it is quite normal for a large number of issues to emerge in such an activity, and that in general there was quite an amount of favourable comment about [Project Name].

It should also be noted that issues are reported here 'as is'. There may be very good reasons why an issue exists or cannot be addressed easily; nevertheless they are included here for completeness.

In some cases, specific recommendations have been made that should be kept in mind for any new design.

On the following pages, items in quotation marks are direct quotes from participants.

[Organisation] issues have been treated separately, since the visit to that organisation took the form of a meeting rather than an observation of work taking place.

For a complete list of all the notes made during site visits, refer to [appendix].

Praise for [Project Name]

In general, participants liked the [Project Name] system.

'System is generally good.'

'It steps you through fairly well'.

'It's an improvement over the old green screen version'

'Everything we've ever needed is available.'

'Quite quick'. 'Really quick – usually get faxes within an hour.'

'You know where you are all the time.'

'It's user friendly'.

People liked the ability to use [Project Name] out of hours.

'Good that it tells you the price.'

'That's what [Project Name] has done to make it easier for us'.

‘We like the system, but it should be better.’

Recommendation

Capitalise on the strengths of the product by making it easier to learn and use, and by making as much information as possible available online.

Scrolling and Screen Size

The main [Project Name] screen does not fit in a browser window when set to the most commonly used screen resolution (800x600 pixels).

Some participants commented on the requirement to scroll in many screens. In other cases, extensive scrolling was evident although not commented upon.

In particular, it is necessary to scroll extensively in the [Named Screen]. Although there is a logic in attempting to ensure users verify details before submitting, those who do not wish to do so are simply inconvenienced by the requirement to scroll. ‘It’s a pity we can’t go straight from [the Application] and just Submit [without having to scroll through the Verify details]’.

Recommendation

Minimise scrolling. Provide ‘Confirm’ functionality at the top of any [Named Screen] as well as the bottom.

Knowledge of end-to-end process

It was clear that there are different perceptions of the processes involved.

Perhaps the clearest example of this was that one participant uses the ‘[Project Name] information’ field to communicate with [Project Name] (almost like an email). However, [Person] stated that this information may not be seen by [Project Name].

Another participant typed ‘urgent urgent urgent’ in the ‘[Project Name] information’ field, but had no idea whether this has any effect.

In a similar vein, [Project Name] had stamped ‘Urgent’ on an application for a [Item], but the officer at [organisation] simply ignores this because no premium service is available.

There was also confusion in roles. For example, one broker commented that they should not have to chase [items] with [organisations] – this should be [Project Name]’s job.

Participants made statements like ‘Staff need to know some of this’; however there seemed to be little basis for making such decisions. One participant includes settlement date because of a belief that this helps [Project Name].

One participant commented that the process is ‘cumbersome’.

Recommendation

Make the process clearer to users.

Provide order status information.

Eliminate requests for non-essential or irrelevant information.

Do not make premium service requests from [organisations] that do not have premium service available.

System Knowledge and Training

Level of system knowledge was generally low. It was apparent that users were familiar with the parts of the system they used, and unfamiliar with everything else.

‘I don’t understand the concept of [item].’

One participant changed their own address on the [Named Screen] every time they applied for [item], and was apparently unaware that they could change this globally.

One participant understood the word ‘faxed’ in the Status column to mean that the required [item] had been faxed, however another took it to mean that the *request* had been faxed to the supplier. The same applied for ‘emailed’, which was interpreted as ‘emailed to me’.

When asked about ‘save temporarily’, one participant said they had never used it; it ‘must be to save your page or something.’

One participant always selected ‘automatically fax [items] when available’, but realised during the site visit that this was why they were receiving two copies, one of which they did not need.

One participant doesn’t use [item] because they ‘tried it once and it didn’t work’.

Training

Participants had received little or no training. Some users felt the system was easy to learn, one in particular felt it was ‘very confusing’. Regardless of their stated level of comfort, it was clear that users did not have an across-the-board understanding of [Project Name].

One participant stated that they had had to ring [Project Name] to figure out how to use various features.

One participant had received an information package and attended a breakfast seminar.

One participant reported that the IT staff had been trained, and had 'passed it on'.

User Guide

Although most participants did not refer to the user guide, one user had printed out a copy and highlighted parts. This person commented that even after reading the user guide they did not feel they had a good working knowledge of the system.

Recommendation

Ensure the system can be used with no training, if it intended to be accessible to the general public.

In addition, provide training courses for professional users. Ensure that users (rather than just management) are made aware of the existence of any such courses.

Do not rely on users reading the User Guide. (Results from site visits and the card-sort activity indicate clearly that many will not do so.)

Is possible, provide simple and comprehensive task-oriented online documentation in any new version of the [Project Name] system.

Field Entry

There is insufficient room in some fields to enter all required data. For example, if there is more than one proprietor, there is insufficient room to enter all proprietor names.

The Address field is difficult if there is a unit and accessory unit. For example, the following entry generates an error:

```
Unit 5 & 9, 2 Smith St
```

Instead, the user has to enter quotes:

```
"Units 5 & 9", 2 Smith St
```

The Sale Price field would not accept the following entry:

```
520,000.00
```

Recommendation

Provide greater flexibility in field entry. As a minimum, provide a mask (or example) where flexibility is impossible or inappropriate.

Cost and Charging

There appeared to be a high degree of cost-consciousness.

For example, a [person] provides [services] on a fixed-price basis. This meant there was a strong drive to carry out work over the counter at [location], rather than 'racking up charges' on [Project Name]. It was acknowledged that once everything is available online, there may be more of a drive to conduct all business in the online medium. The [person] also stated that they did not want to spend money for each dead end.

Printing

All participants relied heavily on printing from [Project Name]. They printed the electronically available [items]. But they also printed screens, in particular the [Named Screen]. These were often attached to client files and used as checklists.

Recommendation

All screens should be designed with a view to producing good results when printed.

However, the prevalence of printing also indicates a potential need for an audit trail. While this can of course be provided by a paper-based system, it is potentially an area where the [system] could be enhanced to provide significant added value.

Reliability

The system seemed to be generally perceived as reliable. However, one participant stated that the new system crashes more often than the previous version (the green-screen version).

One user of the 'green-screen' version stated that the system crashes if you print a screen. This was not observed.

Some perceived unreliability stemmed from the fact that [Project Name] is delivered via the Internet. See *Internet Issues* on page 12.

Defaults

Much of the data entered was the same across multiple [item] applications, making a clear case for provision of defaults.

For example, many participants order the same set of [items] each time. User-definable default settings would save these users a lot of time.

Recommendation

Provide appropriate defaults.

Errors and Checking

User errors were not prevalent, although lack of system knowledge was common. One participant was observed clicking on the wrong [item] link.

There was an awareness that the work 'is legally binding so everything has to be exactly right'. Several participants liked the [Named Screen] as it enabled them to check before submitting.

In addition, some participants used a printout of the [Named Screen] as a checklist as [items] arrived.

Recommendation

Ensure Verify functionality is maintained and that layout enables quick and effective scanning for users to confirm details.

Duplicated Effort

There was a general feeling that it was necessary to enter information that the system should know, or to re-enter information.

[Deleted]

Recommendation

Significant improvement is probably dependent on all records becoming available electronically. However, any efficiencies that can be identified should be implemented to reduce this workload.

Mandatory and Required Fields

Participants generally understood that red asterisks indicated mandatory fields. However, it seems that not all such fields are mandatory, and that other fields are in fact required.

In the legacy system in use at a bank, the user had to type '1' as the document type, but had not idea what this was or why it was necessary.

Recommendation

This issue seems to derive from the fact that different fields are required under different circumstances. It may be appropriate to identify the information required by the user first, and then ask for the appropriate fields to be filled in.

Internet Issues

There was a general acknowledgment that there have been a lot of changes in the last few years because of technology.

Organisations visited had a range of attitudes toward the Internet. Some had clearly embraced it. Others were more hesitant.

One participant stated (somewhat jokingly): 'It would be a sack job if people started playing with the Internet'. Another stated that the company was worried about people 'spending all day on the Internet'.

Others saw the Internet as a great convenience. In particular, two people stated that they used [Project Name] out of hours early in the morning.

Companies were using dial-up connections, which were clearly not all that reliable. Where known, modem speed was 56.6k. In one case after several attempts the participant gave up and walked over to [location]. Apparently this is a common event.

It was also noticeable that users were 'clicking ahead' rather than waiting for graphics to load. However, one person stated that they have to wait for the screen to populate fully at the [Named Screen] because otherwise it would go back to the entry screen.

Most users have [Project Name] book-marked. The URL change notification was current at the time of the site visits. Some people had already updated their bookmarks; others did not know how to do so. The new address was not actually a hyperlink – this would have made the task simpler for people.

In one case, the browser didn't auto-transfer from the Access Authorised screen.

Many users did not log off, but just closed the browser.

Response times seemed to be generally acceptable. 'Bit of a pain waiting for graphics to download'.

Users had Netscape or IE. However, one broker stated that they recommend Opera to their clients, who tend to have older PCs with limited disk space, because Opera only requires 2MB.

Some users recognised that Internet problems had to do with their ISP or the Internet rather than [Project Name], others did not.

Level of Internet knowledge varied also. Some users were obviously very familiar with the medium. However, one participant complained that the arrow keys do not move from field to field as they did in the old system. (Perhaps contrary to expectations, this was a young person).

Several users double-clicked on all links, rather than single-clicking.

Recommendation

Assume that a significant proportion of users have little Internet

experience.

Maintain small page size to minimise download times.

Consider suggesting a minimum configuration for Internet access.
Consider a list of 'approved' ISPs who can provide a minimum standard of service.

Use of 'Back' button

Participants made extensive use of the 'Back' button.

However, one participant stated that [Project Name] crashes if you go back a long way, and then you have to log on again.

One participant stated that the 'Back one step' link is 'exactly the same as the back button'.

Recommendation

Since 'Back' button usage is firmly entrenched behaviour, ensure that using it does not cause any problems.

If 'Back one Step' is not identical to the 'Back' button, change the wording to make this clear.

Perceptions of the [Project Name] System

At the end of each site visit, participants were asked to complete a brief questionnaire. Six of a total of 11 personnel visited completed and returned the questionnaires. The following pages summarise the questionnaire results. See [appendix] for a copy of the questionnaire.

Demographics

Table 2 shows job titles of respondents.

Job Title	Number (n=6)	Length of time in current job (months)
[Title]	1	Some years
[Title]	1	8 months
[Title]	2	2 years, 1 year
[Title]	1	9 years
[Title]	1	7 months

Table 2. Occupation of participants

Table 3 shows age range and education of respondents.

Characteristic	Number (n=6)
Age	
18-25	2
26-35	3
36-45	0
46-55	1
Highest Educational Level	
High School	4
University	2

Table 3. Age and education of respondents

All respondents used [Project Name] daily.

Participants were asked the extent to which they agreed or disagreed with statements about the [Project Name] product. Results are shown in Table 4. Note that only 5 participants completed this part of the questionnaire, as one did not use [Project Name]. These results are broadly in line with those found in the card-sort activity.

Mean (average) level of agreement with statements (5=strongly agree, 1=strongly disagree)	
The [Project Name] site is easy to use	4.6
I always know where I am in the site	4.4
It's easy to get lost	1.4
[Project Name] is difficult to learn	1.8
I didn't get enough training	2.8
The online user guide is useful	2.8

Table 4. Perceptions of the [Project Name] product

Comments and Suggestions

Respondents were asked what three things they would change, if they had an option to do so. The following comments were made:

[Deleted]

Respondents were asked whether they had any other comments and suggestions. The following comments/suggestions were made:

[Deleted]

Reactions from ‘Real People’

We often use the term ‘real people’ to describe those who are not domain experts and thus have no expert knowledge of the area under investigation.

Three respondents were administered a questionnaire (see [appendix] for a copy of the questionnaire). One interview was conducted face-to-face, the other two by phone. Respondents received a payment of \$25 each for their participation.

It must be pointed out that the information that was gathered by this activity is not *statistically significant*. For example, all respondents were in full-time employment, but we cannot extrapolate that therefore 100% of users are therefore in full-time employment.

However, we can say that because two of the respondents cited ‘Security’ as an issue for Internet purchasing using a credit card, security is an issue that must be taken into account when designing any system to support users.

Summary

The following points emerged:

- Respondents had very little knowledge of the terminology used in [domain].
- Where respondents had some knowledge, it was sometimes inaccurate.
- Respondents preferred the ‘shopping basket’ model to a ‘pay per view’ model.
- Some respondents are concerned about the security aspects of giving out credit card details over the Internet.
- There is a perceived difference between an ‘original copy’ of [item] and a copy delivered online.

Demographics

Table 5 lists participant demographics. Note that this demographic is very heavily skewed towards a highly educated audience.

Characteristic	Number (n=3)
Employment	
Full-time	3
Age	
26-35	1
36-45	2
Education	
University	3
Gender	
Male	2
Female	1

Table 5. 'Real People' demographic

[Item] purchasing profile

All three respondents had purchased [related item] in [location]; none had sold [related item] in [location].

One respondent intended to purchase [related item] in [location] within the next year. No respondents intended to sell [related item] within the next year.

Knowledge of Terminology

Respondents were asked whether they understood some specific terminology, and whether they had heard of [Project Name] and [item]. Respondents were also asked to explain what each term meant to them if they answered 'Yes' or 'Not sure'. Table 6 lists the results.

Question	Number (n=3)
Have you ever heard of [item]?	
Yes	
Not sure	
No	3
[Remainder Deleted]	

Table 6. Understanding of Terminology

Dealing with [items]

[Deleted]

Internet purchasing

Respondents were asked whether they had used the Internet to make purchases, whether they had used a credit card, and whether they had any concerns about giving credit card details over the Internet.

One respondent had purchased 'several times' over the Internet, and had used a credit card to do so.

The other two had never used the Internet to make a purchase.

The respondent who used the Internet to purchase stated that they had no concerns about doing so. 'It's the same as [using your credit card in] a shop.' The two respondents who had not purchased in this way stated that security was a concern.

Note that there is abundant published material available on Internet purchasing habits and concerns.

Preferred purchasing model

Respondents were presented with two models for online purchasing of [items]:

1. You can assemble a list of all the [items], and pay for them all at the end with your credit card.
2. You can enter your credit card number first, and be charged for each [item] as you get it.

All respondents expressed a clear preference of the first option. This supports the 'shopping basket' model, although again we caution that this sample is *not statistically significant*.

Access to fax and Internet

All respondents had access to fax for occasional personal use (one at home, two at work).

All respondents had access to Internet for occasional personal use (two at work, and one at home and at work).

One respondent used Netscape V3 and Netscape V4, one used Internet Explorer (version unknown), and one cited 'Big Pond'. Note that Internet Explorer is the default browser provided by Big Pond.

One user had access to the Internet via a LAN. One had access by LAN and by 56.6k modem. One had access by 28.8k modem.

Appendix A: Sequence Models

The sequence models on the following pages represent the actual tasks observed during site visits.

In these diagrams, a 'lightning bolt' symbol is used to indicate a discontinuity, issue or problem in the process.

These sequence models can be used to produce drafts of the scenarios (use cases) that can be used to drive the design process.

[10 of 11 sequence diagrams deleted]

Task: Customer requests copy of document, and location is known

