

Quick User Interface Checkup™ of the XXXXX User Interface

performed for

ZZZZ

performed by

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Overview

A Quick User Interface Checkup™ is a quickly-executed but intensive examination of the principal aspects of a user-computer interface. The purpose of the Checkup is to identify strengths and weaknesses of the interface.

Overall, the XXXX user interface and underlying application program are well-designed, representing an innovative information service approach with considerable intuitive appeal. As with all systems in early development, some aspects of the XXX user interface would benefit from modification to further enhance the system's usability. Recommendations for these modifications are grouped below in three categories: Apparent Program Bugs - Must Fix; High Priority Recommended User Interface Changes; and Less Urgent Concerns. Please note, however, that the choice between the latter two groups is an informed "best guess." I would encourage you to make as many changes as possible, and to carefully observe initial users of the system to identify the other problems that will assuredly arise.

The methodology used in the study was straightforward. Mr. zzzzz gave me a brief system demonstration, after which I used the system for two sessions, of about two hours each. During my initial session, I needed to ask Mr. zzzz some clarifying questions. At the beginning of my second session, I reviewed a few of my observations with Mr. zzzzz to make sure that I was not working under any fundamental misconceptions which might be leading me astray. There were no such misconceptions.

Apparent Program Bugs – Should be Fixed

When invoking 'restart query', a watch cursor appears, and then the system does not behave properly. Can't use exit command from file menu, had to exit from workspace pop-up menu. (May be consequence of the demo system running combined client/server.)

The 'welcome to XXXXX ...' window comes up with the subscription number from the last call.

From the second screen, when I invoke 'reason code...', the Open Look file manger comes up on top of everything, under it is the reason code window, then screen 1.

High Priority Recommended User Interface Changes

Using '*' as the wild card for text searches is slower to type (requires shift key) than a non-shifted key, such as '=' or '/'. Computer technologists are accustomed to * as the wild card, but we can train the users to use most any key.

I strongly recommend that the use of the 'More' button, which is associated with the query results, be replaced with an initial vertical scroll bar, if more than five records satisfy the query. The scroll bar should be proportioned to indicate how many of the total hits are shown in the current window. Doing this will hide from the user the fact that the actual hits aren't downloaded until requested. Using the scroll bar will become the implicit request from the user to do the down-loading.

I did a query on 'Jacksonville' and the 'performing query' dialogue came up, stayed for about 25 seconds, then I got a dialogue saying the search was too broad. Much better to have warning in advance rather than having to wait 25 seconds to find out.

On second screen, need to indicate visually which xxxxx names, xxxxx types, etc actually have zzzzz text, so user doesn't have to go double clicking on each item to see if there is zzzzz text.

We need some feedback while a search is happening - there is no sense of how long a search will take. In the example above, the search was quite long, and in the end, unsuccessful. If the search is estimated to take less than, say, one second, then we may not want to give the feedback, as it may be a distraction (you may want to hold off on this latter point, of not giving feedback on fast searches. The inconsistency that results may be worse than the distraction. Monitor this during initial testing.)

If a query is not satisfied, the user may need help in generalizing the query. One way to do this is to tell the user, for each term in the query set, what the effect of eliminating just that one term would be. I suspect the indexes you are using will support this. Hence, if the query is A *and* B *and* C, and no records satisfy the query, a message such as the following would appear:

| Eliminate from the query set | This is how many records will be retrieved |
|------------------------------|--|
| A | 5 |
| B | 8 |
| C | 5 |
| A and B | 40 |
| A and C | 50 |
| B and C | 150 |

The second set of three is what we would have if we expanded this from single terms to all pairs of terms. My guess is that there is not nearly as much payoff in doing pairs as in doing singletons, where I believe the payoff can be considerable.

On the query set, the scroll bar indicates that I can scroll (because there are up to 10 elements in query), even if none of the elements have been specified. The scroll bar should initially indicate no scrolling needed, then the scroll bar should get smaller as the sixth, etc query qualification is entered. If all 10 items have been specified, the scroll bar would be half-length.

I access 'other xxxx qualifiers', 'xxxxx list,' 'select xxxxx,' then 'apply'. Nothing happens - shouldn't 'apply' cause the selection to appear in the query set collection area? This looks like the right mechanism for doing multiple selections, but doesn't do that, and I don't see a way to do a multiple selection, which will surely be important.

When I do an 'execute query set' with the word 'kkkk' in the alpha name search field, and no other qualifiers, I get a message which says 'No records satisfy this query! Please reduce the complexity of the query by deleting some of the qualifiers'. This is not the correct action in this case. The 'pizza' qualifier needs to be made more general, not deleted. If we can get more information on why a query fails, can fix this.

There is no 'undo' capability to undo, for example, the accidental clearing of an item in the query set. Undo is a must.

Less Urgent Concerns

The 'execute query' item in the action menu is enabled even when there is no information to conduct a search - and when I invoke 'execute query,' I get a "Query set is empty" message. This sets the user up for a fall.

The clear entry action (right mouse button) does not work on the xxx field, nor on the zzzzz field. It does work on the yyyyy field. The action also doesn't work in the 'xxxxxx' window. Very inconsistent.

The 'welcome to XXXXX ...' window currently has no edit-check on the field - if subscription number is indeed a number, could disallow non-numeric input, for instance. Just filter keystrokes coming in, or beep, or whatever.

'Query set' as a term for non-technical users (which ours are) is perhaps not as communicative as 'query conditions' or 'query requirements' or 'query qualifications'. Similarly, 'execute query set' might be replaced by 'execute query' or something similar that is more oriented toward non-technical users.

When I do a search with the Toyota brand name, then xxxx, yyyy and zzzzz as geographic restrictions, I get one dialogue box flashing up, it disappears before I can read it, then the 'no records satisfy this query' dialogue box comes up. This is very disconcerting. Later this happened again but the first dialogue was up a bit longer - it is the 'doing search' message. It is

this very rapid appearance and disappearance, which motivates the earlier comment about possibly not giving any feedback while a search is in process, if the search is expected to be fast.

On the second screen, I can select (ie, highlight) an entry in 'xxxx', but can't do anything with it. Should disable selection. Similarly on 'zzzzzzz', perhaps on others as well (these were the only two scrolling lists which were populated in the case I looked at).

Also on second screen, I can put cursor in the 'zzzzzz' area and click and get the insertion mark to be there, but can't type in. Implies that at some level someone thinks this is an editable text field, and that at another level it is not. Since these are meant to be read only screens, the cursor shouldn't be able to be placed there. On the first screen, in the 'xxxxxx' field, I can insert the cursor, but this is a read-only field. Same problem, same solution, ie disable placing of cursor. Similarly, on second screen, the 'xxxxx' fields let me put the cursor in them, but can't be edited.

The current method of clearing a field (click on right button, move cursor to the clear button, release button) is nice, but could be speeded up, say, by using a single click on the middle mouse button.

I can process "nonsense" queries, such as just selecting a city or just selecting a payment method. Trained users probably won't do this, but an at-home user who does it will get upset and want a refund of the charges incurred in doing the query, which will result in lots of hits and thus higher charges. Alternative is to alert the user if a query will result in more than x hits, so they can further refine the query before searching. Presumably the index structure will support this.

If I look up 'repair' as an alpha name search, I have to put wild cards around it for success. Same with 'dddddd,' which is the first word of 'dddd auto repair.' Seems unnecessary. It is more natural for the user to be able to just type a word that is found in the name. The wildcard character, be it an * or something else, can be reserved for partial word matches, such as 'christ*' if the caller isn't sure about the spelling - let's see, is it 'christy' or 'christie'?

Do we need a phonetic spelling "sounds like" modifier on the alpha name search? This would be another, potentially cleaner way to deal with spelling uncertainties.

Can't get help on 'query too broad' message - no action at all - does not dismiss dialogue, unlike other cases, where the dialogue is dismissed.

Did it again, and used cancel on the 'performing query' dialogue, then the watch cursor stayed around for quite a few seconds before finally going back to the arrow cursor.

When I add a qualifier to the query set and it is the 5th or later qualifier, then should probably auto scroll the set of query elements to show the newly-added item. This gives me feedback that indeed the item has been added.

Double clicking on a qualifer which is already in the query set does not give me any feedback to tell me that the item is already in the query set. This is OK, more or less, if the item is visible in the query set, but when it is not visible, could be a problem.

'Query set is full' message should come up close to the screen location from which the selection which was just attempted was made.

xxxxxx type in field: when I type in a name which is not recognized, the message coming back is not very helpful. Could throw me into a list of valid keywords based on partial alpha match of what was typed.

The note pad text editor requires that I do a 'new' before I can type, although the window is presented to me initially when going into the editor (the text cursor is not displayed, but I tried to type anyway). What is the purpose of note pad? If it is to allow the user to make notes for later use, perhaps there should be a default file into which notes go. If we don't expect much use to be made of notepad, then this is not important. Note that from notepad the user can get into Motif help, which probably is not a good idea. Motif and the Unix underneath should be walled off from the user.

After talking with Mr. xxxx on this, and learning that the purpose is to allow the user to log problems, I suggest an explicit log of some sort, which time stamps an item, allows the operator to type in and edit text, and which also captures the query set for later analysis and debugging purposes.

There seems to be a double-click time sensitivity problem.

When I briefly ran with the more-fully populated data base (via modem), I was immediately struck by the length of some of the scrolling lists, such as for gggggg. I'm concerned that the users will have trouble with deciding which of the hundreds of headings is the right one. More levels of hierarchy is one solution. Another solution, which gets away from the problem of which hierarchical decomposition to use, is to make the list windows a lot larger (they are pop-ups, so lots of screen space is available. This approach has the advantage of allowing the user to see more of the options at once. On the other hand, the long lists remain long and hence slow to download.

'xxxxx' window – the 'at' choice buttons visually look like they are enabled, but they in fact are disabled until a day (or weekend/weekday) radio button is selected. Then and only then can the 'at' choices be used. Need a visual coding to show that they are disabled. Also, I can do nonsensical things, like select 24 hours and then type a time into the hours field. Finally, the message "invalid time format" isn't as helpful as giving an example of the allowable format(s).

Let's put a horizontal scroll bar on the collection of query set fields, so that user can more easily scroll for long text fields, such as one gets with a complex set of opening hours search.

On second screen the "dismiss" button does not make obvious *what* it is that will be dismissed. How about 'dismiss screen', or 'return to screen 1'?

Command Key Equivalents

Mr. zzzz requested that I take a look at the command key abbreviations. Below is the current list, shown in the left-most column, and a potential new set of command key sequences. The new set will be easier to learn and less error-prone because it has a more systematic structure (a

nicey-done experiment, published about ten years ago, verifies this) but will be somewhat slower for the really experienced users, due to the extra keystrokes required. I'm not pushing the change, but would push to do away with command keys for the commands that we expect to be relatively infrequently used, such as exit system, broadcast text message, and perhaps change xxxxx.

I do encourage the trainers to pay attention to the ease with which users pick up on the current commands. Also, when we move to direct use by zzzzzzz, the ease of learning and error rate issues will need to be revisited.

XXXXXXXX Command Keys

Control -

| | | |
|---|-------------|---|
| A | PA | PIP Available |
| U | PU | PIP Unavailable |
| N | NC | New Call |
| E | EC | End Call |
| Q | XQ | Execute Query |
| R | RQ | Restart Query |
| X | EQ | End Query |
| I | AI | Additional Information |
| G | OGQ | Other Geographic Qualifiers |
| B | OBQ | Other Business related Qualifiers |
| L | LBL | Line of Business List |
| M | MA | More.. Advertisers |
| R | RCO | Reason Code Options |
| Z | none | Exit System |
| P | none | NotePad functions |
| S | S (or none) | Status of all PIPs (Managerial Function) |
| T | none | Broadcast Text Message |
| D | none | Change Markets |