

Heuristic Evaluation Results and Design Changes

Simple and natural dialog

The prompt “Search History” is unclear; is History a verb or an adjective? Are we going to search through something or will that pull up a History of our searches? Uncovered when someone in class thought that the nodes represented ‘just’ search results, not all pages visited.

Search History can take many types of input, acceptable input is not communicated; users don’t know they can enter date ranges. It is certainly simple to do basic search, if the user doesn’t ignore its presence. Users’ experience carryover ought to play a large role, though.

Users of other browsers, we have noticed, do not use the Google search box often at first. They instead still just go to google.com. This leads me to believe a small subset might initially ignore the screen area where we have our history search. However, in user testing, Jaska (a Chimera user, which doesn’t have a built-in search area) did use Search History function, though did not use the browser ”Search the Web” field when searching Google.

Design Change: Instead of having the search field default to “Search History,” have it read “Search the History” with a mouseover tooltip that says something like “Search pages that you have visited by typing words contained in pages or dates visited, or date ranges Example: john.doe 4/10/2003-4/15/2003”

⌘ icon turns green when the current page is recognized as having been visited before, but while it tells the users something can be done in history it doesn’t make any connection to the pages it is currently on in this screen.

Design Change: Put a history indicator next to the url that shows up when this page has been visited before, the color of the indicator matches the pages in history mode

Speak the user’s language

As discovered in heuristic evaluations, providing a summary and URL of a Google page (in the history) was not as helpful as it was for other pages, as the page summary can be nonsensical and the URL can be cryptic, many characters in length.

Design Change: Google pages won’t be summarized and will just have their search terms parsed.

Minimize user memory load

While the browser keeps the URL of the current page in its Address Bar, in the formative evaluations it wasn’t obvious to users when they switched to history mode they were still on the same page in the browser.

Design Change: To avoid having the history appear as a webpage in the browser, we are going to implement the history mode as a translucent layer over the current browser page.

In our History mode, sites are displayed as small thumbnails with the title or url if lacking a title. There will undoubtedly be times when users will know something other than this aspect of the site and instead of forcing them to try to recall the information we decided to provide we must have a clear way to use any information they may have in the most poignant way possible.

Design Change: Mouse-over tool tips with all helpful page information, Title, URL, Date, and Summary.

In the formative evaluations when imagining scrolling a great deal in the history, or when filtering a lot of results, the date these sessions represent is not apparent and desired by the users.

Design Change: Each session (not thumbnail) will have the date in the top left corner.

Be consistent

Our use of the color green is inconsistent. When the history icon highlights green, it means “click me,” while the green page highlight in history mode means “you are here on the web.” Thinking that green means “click me” in history view would be redundant and frustrating for the user.

Design Change: Removing this history coloring for matching URL is the best option; replacing it with a separate history indicator in the URL field will make this button more consistent with other indicators.

The history visualization is a significant dynamic representation of a user’s browsing history. We believe that a user will only have mild success with History until they form a mental model of the system’s behavior. The behavior is trivial to grasp, unless a user has expectation of how the History should work which doesn’t match reality. We have been unable to come up with any possible previous experience or expectation that would dictate a user’s expectation against our new reality.

DC: To be safe, we could program a brief message on first run that just comes out and briefly says what to expect. This instructional method was used frequently when GUI’d personal computers were being adopted early on.

A cognitive walkthrough made us think about how all other browsers have a history menu, and how we don’t want to introduce an annoyance or create a new problem. What if a user doesn’t want to go into a whole mode just to go back to a page she knows she just visited a few hours ago?

DC: This still needs more debate, but we may choose to actually implement a history menu, but give the sessions for each day a hierarchical structure using indentation by spaces (and each day still gets its own submenu as is commonly done now).

E.g.

October 1, 2003 --->

Slashdot

 Article 1

 link off Article 1

 Article 2

CNN

September 30, 2003 ---->

Google

 Search results for ’’Tshirt design’’

 Tshirts R’ Us

 Tshirts R’ Us Price list

Slashdot

 Article 1

Provide feedback

Formative evaluation revealed that the change between history and browser mode is not obvious.

Design Change: Animated transition will solve this.

Heuristic evaluation revealed that it may not be clear whether arrows are clickable.

Design Change: Arrows will be a shade of grey so user isn't inclined to expect something from clicking it.

Cognitive walkthrough revealed that the search field needs a better indicator for search mode—are you currently searching the history or searching the web?

Design Change: Add icons to search field to indicate web or history searching.

The original idea of having the \mathbb{H} button turn green was that it would do this whenever using the History would be easy and very fruitful. However, it is quite difficult to correctly anticipate what the user is looking for and thus decide when the History would be useful. A fear is that the \mathbb{H} will be 'on' (stamped) so often that it will be ignored and the notification will be lost.

Design Change: Remove history button coloring.

Provide clearly marked exits

The push-button is a MacOS X user interface standard, and Safari behaves similarly with its Bookmarks. The toggle action is intuitive to the user that they can go back to the way things were (browse mode) by clicking it again. To exit the History mode the user must click on the \mathbb{H} button again (the cognitive model behind this is that it is a toggle between the modes). We think many users will try looking for a close button, try to hit the Esc key, or the like. We should include a close box, enable the Esc key as well as keeping the toggle button. That way the user will find an exit with their very first intuition.

It's not very apparent how to return to an unfiltered history, as you have to clear the search field.

Design Change: Adding a \otimes button to the right edge of the search field for clearing the filtering would also help in this regard as it is consistent with most Mac OS X applications

Provide shortcuts

Heuristic evaluations revealed that there is no keyboard shortcut to switch to history mode.

Design Change: There isn't much modifier space these days. Command-G will have to do to switch between history and browser mode; it represents 'Go back', plus it's next to the H key.

When the user goes to History mode, scrolling back to a specific date is not easy, as discovered in formative evaluations.

Design Change: Create a date tool tip while the user scrolls to easily navigate by date to get to a certain

time frame (similar to how Adobe Acrobat displays page numbers when scrolling).

The visualization in our project itself is a shortcut to knowing the date of a visit. In our paper prototype we did not create any keyboard actions even though we were sure we wanted them.

Design Change: Add keyboard shortcuts and commands for moving through items in visualization (arrow keys, enter) and keyboard shortcut to switch to History view mode.

Re-googling is something we would like to minimize as we determined in the task analysis.

Design Change: Add a “recent searches” drop down menu to the search field; this would be consistent with most Mac OS X applications.

History changes frequently, and there is a desire for more static representation to find specific pages more quickly.

Design Change: If we have time, we’d like to add bookmarks that save the same page statistics, thumbnail, summary, path etc.

Good error messages

We have not encountered any situations that would lead to any drastically new error messages. However, standard browser errors such as if a server is down should be modified—why? If a user clicks a thumbnail and the server is down, it would be helpful to say explain in a better context of history than “Server not found. Could not open the page <http://unreliable.server.com/> because the server “unreliable.server.com could not be found.”

Design Change: Instead a text that matches the new interface’s behavior better: “Server not found. Could not open the page <http://unreliable.server.com/> because the server “unreliable.server.com could not be found. The server may be temporarily down or no longer exist.”

If the user enters a search term that yields no results our design currently just displays an empty history.

Design Change: It should communicate that no pages exist in the history matching that search term, in the place that the user expects results, since the eye will be there, while borrow the Google style and say “Slashdot 4/5/2002” - does not match any previously viewed pages in History.”

Since we used a paper prototype, it’s hard to reconginze possible errors that wouldn’t come up until we actually started implementing. Our thumbnails will have a cache that is periodically written to disk, if the program crashes, the images are lost, or maybe some how images just disappeared or became corrupted the program would show nothing rather in place of the thumbnail.

Prevent errors

A cognitive walkthrough revealed that the \mathbb{H} button looks similar to the “Home” button and thus should have a text name to avoid confusion. *Design Change: the \mathbb{H} should have a text name as well or should say “History” on mouseover.*

Mode changes are probably what could cause most user error.

Design Consideration: We must be careful to make the modes so evident and switching between them so natural that it does not cause any timing problems

Help and documentation

An in-class heuristic evaluation session revealed that some of the standard browser widgets may not be obvious to every one.

Design Change: "tool tips" for buttons and text fields with descriptions of their action.