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Assignment 1

Observation and Analysis

Of an Information-Seeking Experience

I chose a friend from work (TIS Music Catalog) as my subject for this assignment. We work in the same office, and I have frequently witnessed her search strategies (and her use of information searches as a "break" from a work-related task) in the workplace. She is in the habit of "talking through" her searches out loud (which I don't mind at all as her officemate—it's kind of fun to be a part of her thinking), so she was a "natural" for this assignment.

Melissa is a database and web designer, and was looking for a javascript that would facilitate a project at work. Our company is preparing to produce a CD-ROM series we're calling the Digital Singer, where the original printed versions (not recordings) of opera arias and art songs are digitized, "cleaned up", and made available on disc. Individual arias or songs can be printed as many times as necessary for practice or study, or for an accompanist; and the contents index can be manipulated along various vectors (e.g., composer, opera title, aria title) for easy sorting and locating of items. With about eighty arias/songs per disc, this format offers some obvious advantages for singers (and particularly teachers) over traditional printed books that become worn over time and which require you to carry around a complete book when you only need one aria or song.

Melissa has been working on designing an HTML-based interface for the Digital Singer discs. In an effort similar to customization tools we've been discussing in class, she wants to offer users the option of saving particular arias or songs to a "favorites" list for easy access. She therefore wanted to find a programming tool that would script this action. This was an information problem imposed by a work environment, but about which she was also interested for general purposes in her development as a designer.

Melissa is a curious, exploratory person with many interests, and would probably be categorized by Erdelez as a super-encounterer (Erdelez 1996). She's also extremely diligent and persistent when it comes to pursuing her interests and completing a task. This falls into line with Marchionini's comments regarding diligence in the information-seeking process (Marchionini 1995, ch. 3) as well as with the 2000 Sutcliffe study you described in class 5, where persistence produced better search results even when search strategies were flawed. Because of her inclination to pursue encountered information in perhaps unexpected directions, Melissa is also most definitely a berry-picker in the way she seeks information (Bates 1989).

On the surface Melissa's diligence might seem contradictory to her exploratory, "oh, let's see where this takes us" style, but the combination has ultimately enhanced her productivity, the quality of her work, and her enjoyment of her projects. She is a highly skilled information seeker, with much specialized experience and knowledge when it comes to design and programming sources and terminology. She also has specific tastes that can affect how she searches and how she responds to her results, a la Wilson's "intervening variables" (Wilson 1999, p. 256). As a graphic designer herself, she is often acutely aware of the style of a site, both esthetically and in terms of the coding used to build it. This awareness leads to an emotional response of pleasure or displeasure with the designers, which can either enhance or detract from her use of the information available. When she uses a search engine, data interface or commercial/informational website, she frequently comments on its design. Depending on her mood, she might not be able to use a site at all if it is "ugly", cluttered, hard to navigate or otherwise strikes her as ill-conceived.

We met in the apartment of Melissa's boyfriend Jake, and used Jake's iBook laptop for the web-based components of the search. Jake is also a programmer/designer, sharing many interests and strengths with Melissa. He was present for most of our session (until his roommate Ryan, one of my classmates in L503, arrived for *their* observation, with Jake as Ryan's subject). Melissa consulted both Jake and his computing books during the observation.

Melissa began at google.com, a strategy I have seen her use at work many times. She had forgotten the URL for a website she knew of for javascripts, and did a search on what she thought was the name of the site ("Javascript Central"). Her problem as she worked with this strategy, she noted, was that she didn't need a site that would teach her about using javascripts; she wanted a searchable library of free javascripts available for commercial use. She scanned her initial search results, telling me that she always gives up after viewing the first two pages; after that, the results are usually too far afield.

She tried another google search aimed at her problem area: "javascript add favorites". As she reviewed the results she realized that those search terms were not targeting her problem accurately enough. The javascripts returned by this search were aimed at adding pages to Internet Explorer's favorites—not to a separate favorites listing as Melissa had in mind. She also had to find something that could run locally after installing from the CD-ROM—thus it could not employ server-side applications such as perl or asp, which again ruled out many of the scripts she was finding.

Melissa's next step was to pursue a memory of a good javascript area on ZDNet. Going to the ZDNet home page, of course, meant encountering news about products she's interested in, so we went and looked at the new Bose Wave/PC unit for a little

while. Then Melissa picked up the thread of her original search and went to ZDNet's Devhead pages for javascripts (commenting that she didn't much like the layout of the page). Not finding what she wanted exactly, she let the problem "sit" for a moment to consult somewhat jokingly with Jake about what she should use as an icon for the button the user would click to add an item to their Favorites list. They then started talking about the problem in general, as Melissa described the task to Jake in more detail. Talking through the problem, she turned to a fellow human expert to get both his perspective on her situation, and take advantage of his expertise. She wanted to avoid scripts that call up a form, not wanting to make the user type data that's already there on the screen (e.g., the aria title): the user should just be able to click a button and save the item.

As they talked this out, Jake remembered a nifty feature on the website for the International Herald Tribune (www.iht.com). This was a "Eureka!" moment for Melissa: the IHT site features a tool called "Clippings", where you can click on an icon next to a headline and send that article to your Clippings list, which you can then access from a menu that drops down from the navigation bar on mouseover (and which conveniently displays the number of clippings you have already stored). Of course, she wouldn't be able to just copy and use that script or that design, because it's proprietary to IHT; but she could learn from its construction.

While waiting for the IHT site to load, she asked Jake if she could look at one of his Java books. It probably wouldn't help, she said, but it could get her thinking along different lines. Melissa deliberately sought an alternate way of thinking about her problem, and consulted a resource that would stimulate that thinking even though she knew it probably wouldn't have exactly what she wanted. She also deliberately turned

away from the electronic sources she had been using, again in the effort to stimulate her thinking along new lines.

It turned out that Jake didn't have the book she was thinking of, although she did look through the book he offered. Before turning to iht.com she opened another browser window and went to oreilly.com (the publisher's site) to look up the Javascript Cookbook. She noted that this book is a compendium of example scripts, which could get more ideas flowing for her. While there she encountered another O'Reilly book, Web Navigation: Designing the User Experience that looked intriguing, so she opened yet another window to look at that book for future reference (I have often noted at work that Melissa thrives in a computing environment with as many windows open as possible before the computer crashes: she is most definitely a strong multi-tasker!).

When Melissa examined the contents for the Javascript Cookbook, she found a chapter on Cookie-based User Preferences—and realized that what she was *really* after was something like a permanent "Shopping Cart": a repository for items the customer selects. This gave her a new search vector—or rather, a new definition of her goal. We discussed going to a bookstore or library and looking in more depth at the Javascript Cookbook, but decided against it by the end of the session.

Melissa took some time to study the IHT Clippings script using View Source (and saved a copy of the code to Jake's computer, with his permission). She admired its elegance, and also commented on how much she liked the design of the site in general for the clarity and functionality of its navigation options (not to mention the esthetics of its design graphically). She planned to work with the script further, but wasn't finished tinkering with her original search. With the "permanent shopping cart" idea in mind, she

returned to ZDNet's Devhead javascript pages, searching for javascripted shopping carts, but without much success for her purposes. Since her searches were coming up with a lot of material on cookies, that reminded her of a site called f—kmicrosoft.com, which she accessed to show me the violence of some people's hatred of cookies.

With further searching once again proving fruitless or not quite right (although she did come across a fun script for an online "To-Do List" which she wanted to play with some time), she returned to her good friend google and searched on "javascript free shopping cart". She found some interesting offerings, but most of them required perl or couldn't be used commercially. One result, on www.nopdesign.com/freecart, looked promising, and she made a note of it to study it further.

She then tried a new strategy: look up what development people have said about IHT's clippings feature (although she noted that this "probably won't give me anything"). She did find a big community weblog site called metafilter.com, but the discussion there was mostly impressionistic, and not the technical analysis she was after. She returned to google and pondered how to refine her search further; what else could we call this thing we're looking for? Stalled on that point, she went back to look again at the coding for the nopdesign.com script she liked, and then studied the Clippings code further. Could she edit it enough that it wouldn't be stealing? It's so well-written! She went and played on the IHT site again to further test the Clippings function.

Finally, Melissa concluded that she had gone as far as she could for the time being. She had refined her idea of what she wanted, and had two good examples to guide her. We've got the concept now, she said; next will come manipulating the model for a shopping cart. She had originally hoped that she could find something ready-made, free

and available for commercial use, that would work on the user's computer; but after this information-seeking session she concluded that she would have to write her own script, adapting elements from the two models she had found.

This information-seeking experience provides a rich demonstration of feedback loops within a search refining the seeker's essential concept of what exactly she is looking for, per Wilson's and Marchionini's frameworks for conceptualizing information behavior (Wilson, 1999; Marchionini, 1995). She also provided me with a neat example supporting Ellis' model of interchangeable, iterative search features: Starting, Chaining, Browsing, Differentiating, Monitoring, Extracting, Verifying, and Ending (Ellis, 1993, referenced in Wilson, 1999).

Melissa's basic strategy was essentially two-pronged: follow what you know or partly remember; and seek out ways to revise your conception of the problem, in order to more effectively define it and find the best solution. Melissa turned to social networks and trusted individuals to aid in both those processes, of remembering and of re-conceptualizing. Human contact seems especially important for Melissa in the evaluation of her results and her decision-making about how to proceed. While she starts with broader resources such as the web or a textbook, it helps her to talk things through with another person, or to see what other people are saying. In this case, she got her best "lead" not from a formal information source but through conversation with Jake, when he remembered the Clippings feature on the IHT site.

Melissa initiated most of her search loops by following what Marchionini would call a "memory trace" (Marchionini, 1995), whether this meant tracking down something she (or Jake) remembered or looking up a known resource. Her experience with

information seeking and her expertise in the domain for this particular search aided her in devising search strategies based on that recollection. This did not mean, however, that her searches were especially successful or satisfying. In fact, her experience with this kind of problem led her to anticipate frustration, as she frequently remarked out loud as she tried a new search strategy ("but this probably won't get me anything").

Knowing her own temperament, Melissa is in the habit of trying different search strategies not because she anticipates immediate success, but because she *expects* and *wants* her understanding of her goals to expand and evolve. Most of the searches she tried in our observation session were, in fact, aimed at changing her thinking about the problem. Her information encountering is quite purposive, and is one of her most reliable information search strategies. She seeks out information encounters, looking for the unexpected or not-yet-thought-of. This follows Erdelez' definition of super-encounterers as those who rely on serendipity and seek it out, not waiting for it to come to them (Erdelez, 1996).

Much of the information behavior research seems to assume that seekers are confused, uncertain, unsatisfied, in need of direction and lacking in the necessary skills or insight to get what they need (or to know what they have when they've found it). Experienced super-encounterers like Melissa give the lie to this. Melissa engages in an information search process knowing that it might be frustrating, realizing that her conception might need revising—and seeking out that revision. In this particular case that revision was in fact part of her task, and was a goal of her search strategies. As she literally asked out loud toward the end of the session, "What else could we call this thing?" And that, my friends, is a subject for further research.

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