



UH Libraries Website Redesign

CONTEXTUAL INQUIRY REPORT

Web Services, May 2015

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Introduction

Web Services has focused its UH Libraries public redesign efforts on building a solid foundation of research. In 2014 the department gained insights from stakeholders through focus groups conducted across the Libraries' departments. Then, Web Services surveyed the landscape of library websites among peer and aspirational institutions, documenting design and content patterns, current best practices, and opportunities for innovation.

Web Services also wanted to collect data from website users themselves. After examining the limitations of earlier user survey and focus group research, the department chose to conduct in-depth interviews of individual UH students and faculty following a methodology known as contextual inquiry. Because the data is qualitative and contextual, and the analysis process is collaborative, this type of research yields unique insights often not possible through more traditional forms of data gathering.

Contextual inquiry is time and resource intensive. Because of this, Web Services chose to focus the inquiry primarily on how users initiate and conduct research. This inevitably meant that much of the observed online behavior involved use of the Libraries' catalog, resource discovery system, and e-resources. The study did not yield direct insights into how users engage with areas of the site devoted to Special Collections, News & Events or general information about UH Libraries.

In addition, the users themselves play a substantial role in where interviews are conducted and what resources and services are addressed. While the investigators were open to meeting users at any location on campus, most of those that chose to participate requested to meet in the MD Anderson Library. As a result,

the findings are taken from the experiences of users who do not regularly visit any of the branch libraries or engage with their resources and services.

Ultimately, future contextual studies like this one could target more frequent branch library and Special Collections users, giving a richer and more comprehensive picture of the UH Libraries user experience.

Introduction to Contextual Inquiry

WHAT IS CONTEXTUAL INQUIRY?

Contextual inquiry is a user research methodology comprised of a series of structured in-depth user interviews. During the interviews investigators observe participants performing common tasks that are part of their daily work or study routine. Unique to this method is the emphasis on observing participants in an actual work or study environment. In the case of UH Libraries, the investigators wanted to look at how students and faculty perform their research and schoolwork in a typical scenario on campus.

Data from each interview is presented and interpreted by a team that includes core team members and stakeholders. The group focuses on documenting workflows and behavior patterns, and generating insights into user needs. After all interviews, observations from each interpretation session are consolidated through an affinity diagramming exercise which frames them more explicitly as user needs. From this analysis, team members then brainstorm design ideas and create shared deliverables such as a contextual inquiry report and personas.

A contextual inquiry helps researchers identify specific needs, expectations, and desires users have when using resources and services. It is especially useful because it can capture through observation what users may not be able to articulate.

WHY CONDUCT ONE?

Unlike surveys, researchers can interact with the users and observe what they are doing. This is much more accurate than self-reporting.

Unlike web analytics, researchers can understand the intent behind their actions. If it's unclear, investigators can ask them why they took a certain action.

Unlike usability testing, it's not under contrived conditions in a laboratory-like setting. It's what users would actually do in real life, not tasks researchers designed to test specific parts of the system.

Unlike focus groups, an individual user is able to talk about and show researchers in detail the way he/she does things without the influence of others.

CONTEXTUAL INQUIRY IN ACADEMIC LIBRARIES

Human computer interaction engineers at the Digital Equipment Corporation (DEC) created the methodology in the late 1980's as a way to understand digital products from the perspective of their users (Raven & Flanders, 1996). As it has evolved (Holtzblatt & Jones, 1993; Beyer & Holtzblatt, 1997; Holtzblatt, Wendell & Wood, 2004) the protocol has remained the basis for contextual inquiry best practices across both private and public domains (Raven & Flanders, 1996).

Observational and ethnographic studies investigating both physical space and website use have been conducted in academic libraries for a number of years. However, contextual inquiries in libraries have rarely been documented through formal scholarly communication. Notess (2004) provides the only account published in a scholarly journal of a contextual inquiry in a library that explicitly follows the data collection and analysis protocol of the original DEC methodology. Makri, Blandford &

Introduction to Contextual Inquiry *(continued)*

Cox (2006) conducted sem-structured interviews and ethnographic observation of law students performing research online to inform the design of a digital law library. However, the authors do not provide insight into how they analyzed the data or visually communicated the findings.

Recently, the method has been appearing more frequently in both discourse and practice among information technology librarians. Contextual inquiry has often been discussed and has been the subject of user experience design workshops at recent technology-focused library conferences (Dempsey, 2014; Kolko, 2015). In 2010, the User Experience Department at North Carolina State University Libraries worked with a UX design firm, hesketh.com, to conduct a contextual inquiry for their website redesign, posting their inquiry materials online.

The investigators used the Holtzblatt, Wendell & Wood protocol (2004) and the materials from the NCSU contextual inquiry as starting points for their study at UH Libraries.

Methodology

IRB

A study proposal was submitted to CPHS for IRB approval on December 16, 2014. CPHS requested minor changes to the application on January 7, 2015. Following the changes, the study was then approved and awarded Exempt status on February 27th.

RECRUITMENT

Robert Newell, Web Services Coordinator, and Rachel Vacek, Head of Web Services, were the lead investigators in the inquiry. Other members of Web Services and stakeholders from other departments contributed throughout the study's several phases. The investigators recruited 12 participants through a digital advertisement in the MD Anderson Library and on the UH Libraries' homepage. Interviews were conducted March 19-April 7, 2015. Eight undergraduates, three graduate students, and one faculty member were interviewed.

Participants' areas of study:

Undergraduates

- Geology and Geophysics (also Honors College)
- Civil and Environmental Engineering (also Honors College)
- Biochemistry
- Business Finance
- Graphic Design
- Chemical Engineering
- History
- English Literature (also Honors College)

Graduate Students

- Construction Management
- Social Work
- Library & Information Science

Faculty

- Classical Rhetoric

INTERVIEWS

The interviews lasted one hour and were conducted where the participants commonly perform research on campus. The investigators met seven students in the MDA Library, one student in the Department of Earth and Atmospheric Sciences Computer Lab, one student in the Language Acquisition Lab, one student at the Nook coffee shop just off campus, and the faculty member in her office.

Two investigators were present at each interview. One investigator typically led the interview, while the other took notes and audio recorded the session. They alternated roles with each interview.

The interviewer began each session by collecting demographic information, then asking open-ended questions about their research habits and use of both library and online resources. Finally, the interviewers asked each participant to walk through research or assignments the participants were currently working on. In some cases, the interviewer asked the participant to perform pre-determined tasks in order to observe how they engage with online library resources and services in key areas.

The interview protocols can be found in Appendices A-C.

Methodology *(continued)*

ANALYSIS

The web team and select stakeholders engaged in 12 interpretation sessions. They were held within 48 hours of each interview, usually the next day. The following members of the core web team participated in all interpretation sessions:

Web Services Team

- Robert Newell
- Rachel Vacek
- Sean Watkins
- Keith Komos
- J Fisher

The following stakeholders helped make up the interpretation team and attended two or more of the sessions:

Resource Discovery Systems

- Kelsey Brett
- Frederick Young

Liaison Services

- Lisa Martin
- Cherie Turner
- Ashley Lierman

In these sessions, each interview was recounted to the team by the interviewer(s). The team discussed notable aspects of the interview. A designated note taker recorded demographic information and captured these observations, ideas, questions and insights made by the group members.

In addition, workflow sequences-- detailed step-by-step accounts of how participants complete select tasks-- were documented and illustrated as sequence models.

Workflow sequences we were able to observe across most participants fell roughly under two general tasks:

- Initiating Research
- Finding a known item

After the 12 interviews and respective interpretation sessions had been conducted, the web team and select stakeholders met in multiple 1-2 hour sessions to build an affinity diagram. The exercise allowed the team to look at and organize the recorded observations and insights across all participant interviews. The affinity diagram sessions and their results are described in more detail beginning on page 12.

Next, one of the lead investigators and the graphic designer in Web Services combined sequence models across participants for key tasks to create consolidated models. These models break completing these tasks down into common abstract parts. They allow designers to design for the varied user workflows across participants during each part of the task. The sequence modeling process and this study's models will be described in more detail in a separate report.

In the final stage of the analysis, co-lead investigator, Robert Newell, created personas from the findings of the interpretation session discussions, the affinity diagramming sessions, and the sequence modeling. The personas are presented on page 25 of this report.

Methodology *(continued)*

DESIGN IMPLICATIONS

Following the affinity diagram exercise, Web Services conducted one 2-hour design ideation session. The department looked over, or “walked,” the affinity diagram and consolidated sequence models, annotating select sections with applicable design ideas. These will inform the future design of the UH Libraries website and will be presented in a forthcoming detailed design document.

Top Findings

The following findings reflect key insights pulled from all of the study's analysis activities. Each study participant was assigned a coded identifier (U1, G2, etc.). These codes appear in the findings to help (anonymously) attribute a data point or quote.

Current Successes

1. USERS VALUE GREATLY AND TAKE ADVANTAGE OF THE LIBRARIES' PHYSICAL SPACES AND THEIR RESOURCES

While the investigators did not explicitly ask to meet students in the MD Anderson Library, most elected to, noting that they spend much of the time they devote to schoolwork on campus in the library. The library is convenient for doing work between classes, spreading out materials, and studying without the distractions of home or other noisy places on campus. Many conducted much of their work on the desktop computers in the ARC or Learning Commons, rather than bringing their laptops to school. The team also found that many users printed resources and assignments frequently in the library, often taking trips to the library solely to print.

"I like to do my work on campus because my family can distract me at home." U1

2. USERS APPRECIATE GUIDANCE FROM LIAISONS AND APPLY WHAT THEY'VE LEARNED FROM THEM

Several users noted that instruction and resources provided

by Liaisons informed their research workflows. One undergraduate explicitly linked her research methods to a class visit by a liaison. One told the interviewer that professors have referred him to a number of liaisons and he seeks them out in the staff directory. Another student noted he has continually reached out to Loretta Wallace for business project and future graduate programs advice after meeting her at the Graduate Student Mixer last year. Others showed us research guides that they liked to use, and said they wished they had found them sooner.

"If I would have known [about research guides] like maybe my first semester here, I probably would have used them more than I have been." U7

3. SOME USERS HAVE INTEGRATED MULTIPLE LIBRARY RESOURCES AND SERVICES INTO THEIR RESEARCH WORKFLOWS

A few users displayed a substantial understanding of UH libraries online resources and services and how to use them, working them into their regular research routine. Some, both graduate students and undergrads, tried many different resources for finding and acquiring sources during a single research session. These included OneSearch, multiple science or humanities databases, accessing the Catalog directly, research guides, ILL and online requesting. Even with recurring network issues during the interviews, these users found ways around these breakdowns by alternate paths through the UH Libraries online presence. This type of user will be one of many profiled in our user personas.

"If I can't find the article through the UH website or one of its databases, I'll try another database (NCBI)." G2

Top Findings (continued)

Opportunities

1. THE LIBRARIES' PRIMARY ONLINE SERVICE TOUCHPOINTS FALL OUTSIDE COMMON STUDENT RESEARCH WORKFLOWS

One of the team's goals during the CI was not just to observe user behavior on the UH Libraries website, but also how users reached online resources and services from outside the site. How do users enter our online presence during research and why that entry point?

The team found that many valuable resources were not easily findable from where the users began their work. Most users began their research by accessing assignment information on Blackboard through AccessUH. From there, some chose paths around the UH Libraries' website's homepage (the most comprehensive portal to the Libraries' resources and services.) These paths included searching Google, searching Google Scholar, or going directly to a known database and bypassing the website. Only one user acknowledged that they were aware of the Library tab before the interview (U5).

One user (G1) discovered the tab as he was walking us through his typical research routine. He entered search terms from the library tab, which sent him past the homepage and directly to search results, bypassing resources linked from the homepage, such as databases and research guides. Normally using Google for research, he noted that the first time he had even visited the Libraries' website was during the interview.

Another user was not able to reach the Libraries homepage from Blackboard. After looking up his assignment, he then went to the university's homepage and navigated to uh.edu/research/libraries, where he found a 404 Error message. (U6)

"I usually access everything through AccessUH." U2

2. USERS WOULD LIKE BETTER WAYS TO FIND WHAT THEY NEED AND CONTROL WHAT THEY SEE ON THE PAGE

Some users felt—most notably of the website homepage—that too much information was crowded together on pages, making it difficult to see options clearly, to find what they were looking for, or simply to make sense of what was in view.

One user noted of a research guide that there was too much information on its pages, and she could not understand or contextualize much of it (U4). She also found the long dropdown of database options frustrating. Another user compared the body text on the homepage to (small) footer text (U7). Many remarked the Tiny Gallery did not warrant their interest because they thought the information and events displayed were not relevant to them (U4, U6, U5, U7, G1).

Users wanted better ways to sift through and narrow search results. Two users (G0, U6) preferred results to be clearly separated by resource type. Others wanted to be able to identify or filter out previously viewed or saved results. Users also frequently relied on one or two facets for refining their searches. These included filtering by peer-reviewed (U4.)

Top Findings (continued)

and recent scholarship (U1, U2), and sorting by date (F1, U4, U2). The one faculty participant (F1) and a graduate student (G2) looked to “times cited” and “cited by” respectively as heuristics to quickly assess research quality.

“Everything else down here—everything I would have used if I would have known—looks kind of like the small print at the bottom of a website.” U7

3. USERS APPRECIATE UH LIBRARIES RESOURCES, BUT WOULD LIKE THEM TO BE MORE DISCOVERABLE WHEN THEY ARE LOOKING FOR DIRECTION

Many users expressed their appreciation for online resources such as research guides and the digital library. However one user—a transfer student—noted she would liked to have used them earlier had she known about them (U7).

While demonstrating their research workflows, some students took paths that limited discovery of relevant resources based on misconceptions about the tools they were using. Two users assumed that OneSearch only searched articles (U8, U4), and divided their search time between OneSearch and the Catalog. One user thought that ILL only retrieved books (G2). Another user assumed she could check out books in Special Collections (U7). That same user’s behavior suggested that she did not understand the difference between partial-text and full-text resources in search results.

Some users did not understand the distinction between popular and scholarly sources (G1, U6, U3) and which would be relevant for their coursework.

Many users seemed to hit roadblocks during their research, either because they did not understand search features such as facets, or they were unaware that resources such as research guides or subject-area librarians could provide support and guidance when needed (U6, G1, U3). These users stuck to search results from OneSearch or Google, limiting their chances of discovering potentially useful resources.

“OneSearch is a schizoid collection of articles.” U8

4. FINDING, USING, AND MANAGING SOURCES DURING RESEARCH CAN BE INEFFICIENT AND IDIOSYNCRATIC

While many users explicitly noted their attempts to maintain an efficient workflow, most strategies for saving sources, citations, and annotations involved redundancies and maintaining multiple versions of documents and folders. Many saved documents on more than one device to access in different contexts.

Some users saved documents on a library computer and then transferred them to a thumb drive to import to their home or work computers (F1, U4, U2, U1). The faculty member stored documents and sources in multiple locations, while storing dissertation materials on an external hard drive (F1). One user emailed found articles to herself as a backup for any potentially lost downloaded articles (U4).

Users recorded citations through a variety of methods. One kept a hardcopy of resource citations (F1). Another handwrote MLA citations on paper (U7). Two users copied a citation or link to a word document, which he then uploaded to Google Drive (G1, U2). And others chose not to record

Top Findings (continued)

citations out of immediate efficiency, only to track down the sources again when a citation would be needed (U6, G0). As one undergraduate was scrolling through a long list of results, he told the interviewers that he wished he could just “save” each item that interested him so he could look at all saved items more in-depth later (U1).

When locating a physical book in the library, many users explained that they write the book’s call number on paper and look for a call number guide or ask for assistance once they entered the library (U1, U3, U7, U2, F1). Others noted they would request a book rather than look for it (G0, G2, U8). Yet no users opted to use (or even knew of) the online call number guide linked from the catalog entry. Essentially, to locate a physical book, users are relying on paper artifacts rather than available online resources.

All of these cases speak to a need for a central repository or account to efficiently manage articles, citations, and results for easy access later.

“Sometimes if it’s really really important and I’m paranoid [that I will lose the downloaded article], I’ll just copy the link and email it to myself.” U4

5. MANY USERS HAVE A FEW DISTINCT RESOURCE NEEDS WHEN ENTERING THE LIBRARY

Many of the participant meetings in the MDA Library began with a search for an available computer. Often the search was lengthy and involved walking through several of the rows of PCs and Macs in the Learning Commons and ARC (G1, U4, U5, U7, G2, U8). In one interview, the investiga-

tors and participant were kicked off of a computer when a student with a reservation arrived (U8). That participant remarked, “Welcome to my world,” and the interview ultimately resumed in one of the library training rooms.

While some participants needed an available computer, others were simply looking for a quiet place to work on their laptops or tablet (U2, U5). Again, the investigators and participants walked around on several floors looking for a remote Quiet Zone or even Business Zone table at which to conduct the interview.

Users spoke of two other common scenarios. In one, users enter the library with a call number (on paper) to locate a physical book (U1, F1, U2, U7). In the second, users visit the library simply to print a paper or resource (G2, U6, U2, U7, U5).

“On Tuesday I will come to school earlier so I can go to the library to print something.” G2

Each of these needs – to find an available computer, to find a quiet place to work, to locate a book, and to print—can inform design decisions on the UH Library website’s homepage, and particularly its mobile layout.

Affinity Diagram

WHAT IS AN AFFINITY DIAGRAM?

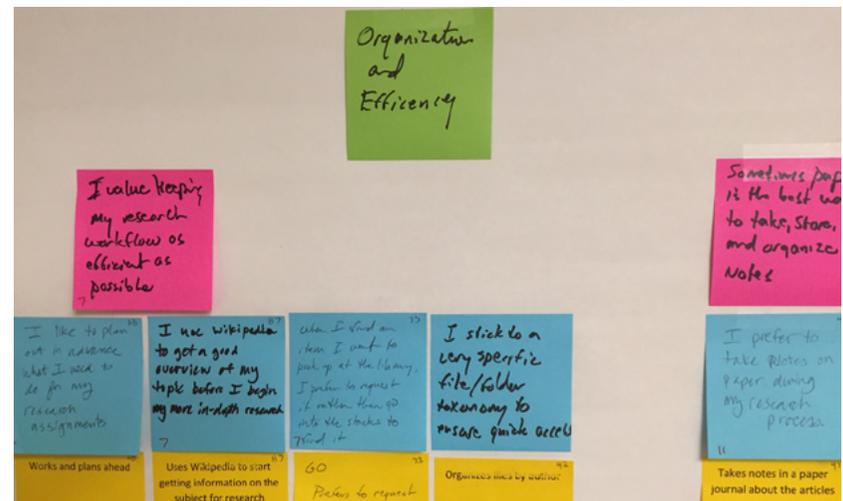
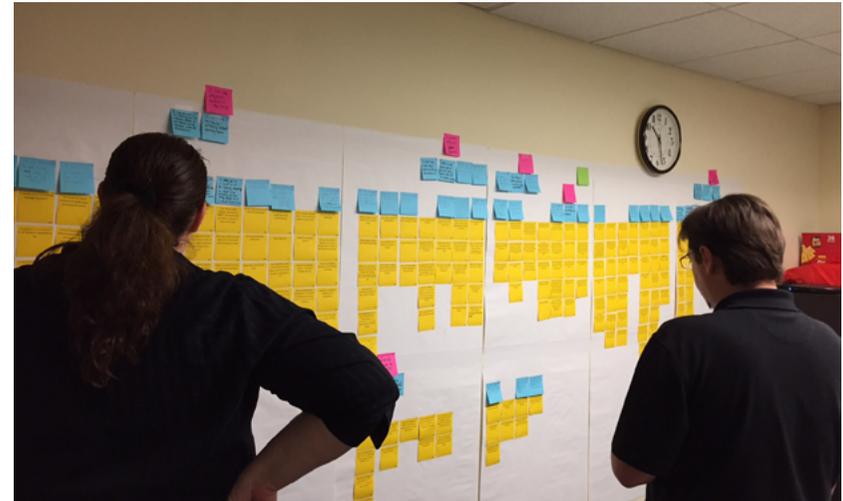
At its most basic, an affinity diagram is a tool used to organize ideas, grouping them according to relationships or “affinities.” This helps articulate high-level themes from data on a project. The process for building an affinity is not unlike grounded theory in qualitative research, where observed patterns evolve into stable categories throughout an ongoing analysis of data.

When applied to user research, an affinity diagram is a way to organize insights and observations across a user population into a single visual hierarchy. A diagram is typically built with post-it notes and arranged in four levels across a wall(s).

The objective of an affinity diagram in a contextual inquiry is to identify user needs. As low-level insights and ideas are grouped, labels are assigned that articulate a consolidated user need. These needs are then grouped into a higher level need, which themselves are grouped under a theme. User needs in an affinity are articulated by the research team in the voice of the user.

The hierarchy is typically represented on post-it notes with colors that correspond as follows:

- **Top Level:** Theme
- **Second Level:** Consolidated user need (often articulated in the voice of the user)
- **Third Level:** Individual user need (always articulated in the voice of the user)
- **Fourth Level:** Ideas, insights, and observations (referred to as “notes”) from user interview interpretation sessions



Affinity Diagram *(continued)*

THE AFFINITY DIAGRAM SESSIONS

The diagram was built over four 1-2 hour sessions on *April 8, 9, 10, and 16*. Stakeholders from Liaison Services, Cherie Turner and Ashley Lierman participated in the first session when the bulk of the 361 notes from the interpretation sessions were organized. Web Services continued the process, adding and refining the remaining levels over the next three sessions.

This report includes the top three levels of the affinity on the pages that follow. The fourth level--notes taken from the interpretation sessions-- can be viewed in a separate document available from Web Services. A few of these individual notes have been pulled out and featured on the following pages as examples.



Affinity Major Themes

DISCOVERABILITY OF RESOURCES

1. The Libraries' resources are really useful, I just wish they were easier to discover
2. I have some misconceptions about library resources and services
3. I'm not sure how to take full advantage of the Libraries' resources
4. If I hit a roadblock in the middle of my research, I often don't know what to do next
5. I won't take the steps I need to get to the best resources because I'm impatient
6. I know my way around resources and results
7. I often look to other services to learn and do research
8. I know how to try several methods to get the item I need

VALUING PHYSICAL SPACES & THEIR RESOURCES

1. I like the physical spaces in the library
2. I am very familiar with the physical spaces in the library and I take advantage of them often
3. I often come into the library to print
4. I like and use the physical space, but I'll do more focused work at home

INFORMATION OVERLOAD

1. There is just too much information on the homepage
2. I wish search results were presented in a way that helps me sift through all of the potential resources

ORGANIZATION & EFFICIENCY

1. I value keeping my research workflow as efficient as possible
2. I like to conduct my research in stages
3. I prefer to have a well-established, consistent protocol for organizing files and citations
4. I would appreciate a simpler way to go from checking my assignments to using the Libraries' resources
5. I keep backups of everything I do
6. I like to multi-task during my research
7. I like to focus on one thing at a time during my research
8. I have a full schedule and utilize every minute in the library
9. I appreciate that the path to research is clear from the homepage

COLLABORATION & EXPLORATION

1. I browse online and in physical spaces for inspiration
2. I look to people to help me with my research or schoolwork
3. I use alternative ways to communicate/collaborate

LACK OF CONFIDENCE & TRUST

1. I fear a communication breakdown
2. I don't trust some online services
3. I've had inconsistent experiences in the library's physical space or with services

RESOURCE MEDIUM IS IMPORTANT TO ME

1. I prefer using physical resources in my research or when seeking instruction
2. I prefer certain devices to conduct research

User Needs by Theme

Discoverability of Resources

1. THE LIBRARIES' RESOURCES AND SERVICES ARE REALLY USEFUL. I JUST WISH THEY WERE EASIER TO DISCOVER.

- I wish I had been exposed to library services/research tips/subject librarians earlier in my schooling
- I don't take advantage of the learning zones

2. I HAVE SOME MISCONCEPTIONS ABOUT LIBRARY RESOURCES AND SERVICES

- I associate OneSearch with articles and the Catalog with books
- I don't understand all the options for accessing physical items
- I have some misconceptions about online access

3. I'M NOT SURE HOW TO TAKE FULL ADVANTAGE OF THE LIBRARIES' RESOURCES

- I am unaware of what resources the library has to offer
- I wish I knew what types of resources were the most appropriate for my research
- I use the databases in ways that seem to give me the best results . . . but my perceptions may not be accurate

4. IF I HIT A ROADBLOCK IN THE MIDDLE OF MY RESEARCH, I OFTEN DON'T KNOW WHAT TO DO NEXT

- There was so much information on a page I didn't understand, I didn't know what to do next.
- I don't know what to do if I get an error. I want to know what to do next.
- I am frustrated when I do keyword searches and the results aren't relevant

5. I WON'T TAKE THE STEPS NEEDED TO GET TO THE BEST RESEARCH BECAUSE I'M IMPATIENT

- I will change what tools I use and my workflow to avoid having to log in.
- I will change what resources I use in my research if there seems to be too many steps to get there
- I expect to find the items I need on the first page of a search result

6. I KNOW MY WAY AROUND RESOURCES AND RESULTS

- I like lots of search results and lots of options for research
- I don't really need to download things very often
- I've got the website's URL memorized, so I just type it in
- I like to use a different workflow for different types of research
- I like what OneSearch covers, and I use it most of the time

User Needs by Theme *(continued)*

Discoverability of Resources

7. I OFTEN LOOK TO OTHER SERVICES TO LEARN AND DO RE-SEARCH

- I find online videos to help me learn how to use new technology tools
- I use Google to initiate my research

8. I KNOW HOW TO TRY SEVERAL METHODS TO GET THE ITEM I NEED

- If I can't find what I'm looking for, I know where else to go and get it.
- I know there are several methods for acquiring items

Interpretation Session Note

Didn't understand the different types of tools, what they're used for, or the information that each one is capable of processing or bringing back (U3)

User Needs by Theme *(continued)*

Valuing physical spaces and their resources

1. I LIKE THE PHYSICAL SPACES IN THE LIBRARY

- I appreciate the physical spaces of all the libraries
- I like to come to the library as it's a place where I can focus on my research without distraction
- I appreciate the library offering different learning zones

2. I AM FAMILIAR WITH THE PHYSICAL SPACES IN THE LIBRARIES AND I TAKE ADVANTAGE OF THEM OFTEN

- I am very familiar with the layout of the physical library

3. I OFTEN COME INTO THE LIBRARY TO PRINT

- I may print at home or at the library, depending on what I'm printing or how many pages it is.
- I prefer to print at the library

4. I LIKE AND USE THE PHYSICAL SPACE, BUT I'LL DO MORE FOCUSED WORK AT HOME

- I do most of my important work at home

Interpretation Session Note

Likes a lot of table space to spread out her materials; likes having information arranged physically in front of her (U7)

User Needs by Theme (*continued*)

Information Overload

1. THERE IS JUST TOO MUCH INFORMATION ON THE HOMEPAGE

- It's hard to find the information you need on the homepage. Links are very small and dropdowns have too many options.
- I don't find the tiny gallery to be useful

2. I WISH SEARCH RESULTS WERE PRESENTED IN A WAY THAT HELPS ME SIFT THROUGH ALL OF THE POTENTIAL RESOURCES

- I like my search results separated by resource type
- I wish I could tell what resources I've looked at or previously saved in my research process
- I like when the one or two facets I use to narrow my searches are easier to find

Interpretation Session Note

Wishes he could log into One-Search and save things for later, get to things easily, see a search history, and continue where he left off (U1)

User Needs by Theme *(continued)*

Organization & Efficiency

1. I VALUE KEEPING MY RESEARCH WORKFLOW AS EFFICIENT AS POSSIBLE

- I prefer to request an item I want rather than go into the stacks to find it
- Even though my workflow is inefficient, because it's familiar it saves me time and effort

2. I LIKE TO CONDUCT MY RESEARCH IN STAGES

- I like to plan out in advance what I need to do for my research assignments
- I use Wikipedia to get a quick overview of my topic before I begin my more in-depth research

3. I PREFER TO HAVE A WELL-ESTABLISHED, CONSISTENT PROTOCOL FOR ORGANIZING FILES AND CITATIONS

- I prefer a very specific folder/file taxonomy and will rename files to fit into it
- I would like a quick and easy way to capture and manage citations that doesn't disrupt my research workflow

4. I WOULD APPRECIATE A SIMPLER WAY TO GO FROM CHECKING MY ASSIGNMENTS TO USING THE LIBRARIES' RESOURCES

- I wish all my classes used the same LMS (Blackboard) as it is easier for me to find everything in one place. It also

helps if they all followed the same layout.

- I use Access UH to get to the things I need for my classes
- I start my research in Blackboard because that's where my classes are. I would like easy access to the library homepage

5. I KEEP BACKUPS OF EVERYTHING I DO

- I would like to save files on more than one device and be able to take between home and where I do my research
- I want to be able to access my saved research from anywhere
- I want to save my research on the computer I'm currently working on
- I wish I had more space to save my files locally
- When I want to back up my work or save a document or link for research later, I first think to email it to myself or create a hardcopy

6. I LIKE TO MULTITASK DURING MY RESEARCH

- When determining what's relevant, I like to jump between search results and source content
- When I am searching for source materials I like to open up everything that seems relevant in multiple tabs and go from there

User Needs by Theme *(continued)*

Organization & Efficiency

7. I LIKE TO FOCUS ON ONE THING AT A TIME IN MY RESEARCH

- I like to examine at one source at a time rather than jump around between sources

8. I HAVE A FULL SCHEDULE AND UTILIZE EVERY MINUTE IN THE LIBRARY

- I have a very full schedule with a lot of commitments and I take advantage of every minute
- When researching for an assignment, I also spend time working on outside interests

9. I APPRECIATE THAT THE PATH TO RESEARCH IS CLEAR FROM THE HOMEPAGE

- I like that the search box is the first thing I see on the homepage
- I like being able to go straight to databases I know the names of or have used before successfully

Interpretation Session Note

Goes through 4 to 5 pages of search results, opening anything that looks relevant in new tabs; keeps open up to 20 tabs (U1)

User Needs by Theme *(continued)*

Collaboration & Exploration

1. I BROWSE ONLINE AND IN PHYSICAL SPACES FOR INSPIRATION

- I like browsing in environments with a lot of stimulating images and content (i.e. Amazon, physical stacks in the Architecture & Art Library)
- I like to browse because it takes my research in unexpected directions
- I like to scan articles for keywords or images to determine relevancy of articles for my research
- Finds tiny gallery useful or informative
- I use sources I find as inspiration for my graphic design work. Since citations aren't important, I don't really need a system for saving or keeping track of them.
- I use research to get inspiration in developing visual art

2. I LOOK TO PEOPLE TO HELP ME WITH MY RESEARCH OR SCHOOLWORK

- I like to take classes to learn how to use software that is new to me
- I continue to take advantage of subject librarian resources that I found about through their outreach efforts
- I prefer to ask people for help

3. I USE ALTERNATIVE WAYS TO COMMUNICATE/COLLABORATE

- Uses multiple tools to save and share resources with collaborators and teams

- I like texting from my desktop because it's a lean way to communicate personally and it is less disruptive to my workflow. I even seek out apps that allow me to do that
- I use Facebook for academic, political and professional activities (other than just for personal social interaction)
- I use Facebook primarily for social interaction, if at all

User Needs by Theme *(continued)*

Lack of Confidence & Trust

17. I FEAR A COMMUNICATION BREAKDOWN

- I worry about a potential language barrier when re searching

18. I DON'T TRUST SOME ONLINE SERVICES

- I have privacy concerns
- I don't trust the accuracy of online services. They often don't seem to reflect the availability of resources
- I often rely on outside databases and search services because I don't entirely trust that UH Libraries provides access to everything I need

19. I'VE HAD INCONSISTENT EXPERIENCES IN THE LIBRARY'S PHYSICAL SPACE OR WITH SERVICES

- The service desk has given me incorrect/not useful information
- I get frustrated when the book I want is supposed to be in the stacks but isn't
- I walk around in the LC or ARC to find seating/available computer. Sometimes there is an available computer but no chairs.
- I wish the cell phone signal in the library was stronger because being able to get a signal dictates where I do my research in the bldg.

Interpretation Session Note

Doesn't trust the status of books on OneSearch; doesn't trust that the book will be on the shelf (G2)

User Needs by Theme *(continued)*

Resource Medium is Important to Me

1. I PREFER USING PHYSICAL RESOURCES IN MY RESEARCH OR WHEN SEEKING INSTRUCTION

- I photocopy sections of books and print them out
- I use print books to learn how to use software that is new to me
- I'd rather buy a book or print pages than check one out so I can write in it
- I'd rather buy a book rather than use an e-book
- I prefer the feel of a physical book than staring at a screen
- I prefer to read hardcopies of articles rather than read off a screen/display

2. I PREFER CERTAIN DEVICES TO CONDUCT RESEARCH

- My usage of mobile devices for research is limited or non-existent. I only use mobile for checking statuses, due dates and communication about assignments
- I don't like to bring a laptop to campus. I rely on the availability of computers on campus or use my own light weight device.
- I use technology devices/tools to help me do my work for effectively
- I like using an iPad for research

Interpretation Session Note

Uses phone for help in locating items for times she can't remember call number, or doesn't write it down (F1)

Personas

Personas are fictional user types that embody characteristics, behaviors, and needs observed through research activities such as a contextual inquiry. They help project team members and stakeholders develop a shared understanding of who the product's users are and what they might need in a variety of scenarios.

Eleven participants led to four major and two minor personas--three undergraduates, two graduate students, and one faculty member. With such a small sample and select participant pool, the investigators do not intend for the personas to reflect the needs and behaviors across the entire user population. However, they do represent observed patterns across a segment of UH Libraries users. In addition, because only one faculty member expressed interest in the study and was subsequently interviewed, the faculty persona is kept intentionally brief, informed not only by the faculty participant interview data, but by data from other users that aligned with the faculty member's needs and behaviors.

One of the lead investigators, Robert Newell, developed the following personas from the notes, insights, and sequence models generated during the inquiry's interpretation sessions. Some of the personas' demographic details are informed liberally by those of the actual participants, with embellishments when useful. Newell drew from a number of sources to select the personas' data points and visual layout (Holtzblatt & Beyer, 2005; Brown, 2011; hesketh.com, 2010).

Overview of Major Personas



JOSH

Undergrad, Economics

Knows Google and high school reports, but wants to learn the ropes to get a good grade and that internship

“I’m pretty good at researching a topic. If I want the latest take on it, I’ll go to Google. When I need a book I try the library. I mean, what else is there?”



SYLVIA

Undergrad, Graphic Design/
English

An explorer who gets inspiration browsing online and in the stacks

“I tend to approach research assignments pretty broadly. I like to let what I find take me in interesting and unexpected directions. It’s not the most efficient, but I think it adds a lot of value to my work. It also gives me ideas to explore outside of school.”



ANIL

Undergrad, Environmental
Engineering

Enthusiastic and goal oriented, he’s quick to adopt new research tools and strategies

“The library has been huge for me. Subject librarians help me out all the time, and the research guides point me to great databases. I’m always in MDA, whether it’s in a Quiet Zone or at the Honors College.”



SOPHIA

Grad Student, Sociology

Committed, resourceful researcher who makes the most of her time

“A lot of the library’s services are quite efficient, and I really appreciate that. I can get to or request most of what I need online. This makes my trips to the library quick and productive, and that helps with everything I’m juggling right now.”

Josh McDonald

Knows Google and high school reports, but wants to learn the ropes to get a good grade and that internship



“I’m pretty good at researching a topic. If I want the latest take on it, I’ll go to Google. When I need a book I try the library. I mean, what else is there?”

ABOUT JOSH

Josh moved around a lot as a kid (his father works in energy) but spent his last year of high school at St. Thomas. He chose UH to join his friends and because he likes the city. He tries to do as much schoolwork as he can on campus during the week so he has his weekends free to enjoy at his parents' house.

PERSONAL STATS

- 19 years old
- 2nd semester freshman
- Economics major
- Lives in Calhoun Lofts

JOSH'S GOALS

This Semester

- Get more required classes out of the way
- Keep grades up
- Land a summer internship

After Graduation

- Work as an analyst for a consulting firm

HIS RESEARCH PROCESS

As he's just starting out, Josh still does what worked for him in high school. Josh logs in to AccessUH to check email and see what's due on Blackboard. Next, he starts searching keywords in Google, which primarily pulls up popular articles, blog posts, and commercial sites. He'll use these as sources and mine them for keywords for future searches. He's quick to abandon a source if it's confusing to access or the page loads too slowly. He's diligent at gathering citation info, but always uses MLA, the preferred choice in his high school English classes.

From there he'll go directly to the UH Catalog by typing in the URL and bypassing the UH Libraries' website homepage. He checks out physical books, but often gets confused navigating the online options. As he scans content it's unclear to him whether it's full or partial text. His papers draw from both popular and scholarly work, but, while he may technically understand the distinction, he's not sure why it's important.

HOW HE USES THE LIBRARIES

- Accesses resources and services through Google
- Looks up books directly through the Catalog
- Studies and hangs out in the Learning Commons
- Engages with online learning modules for class
- Prints materials and assignments at MDA

WHAT FRUSTRATES HIM

- Does not like rigidity of learning modules his professors use
- Unsure how to approach research in college
- Wishes UH Libraries resources were easier to find from Blackboard
- Learning Commons gets crowded, hard to find a free computer

Comfort with Technology



Research Skills



Sylvia Fuentes

An explorer who gets inspiration browsing online and in the stacks



“I tend to approach research assignments pretty broadly. I like to let what I find take me in interesting and unexpected directions. It’s not the most efficient, but I think it adds a lot of value to my work. It also gives me ideas to explore outside of school.”

ABOUT SYLVIA

Sylvia grew up in League City and chose UH because she liked its friendly, down-to-earth environment. She also appreciates Houston’s supportive Arts scene. Between her part-time job, her classes, and personal design projects that tend to take up her whole weekend, she’s trying to catch exhibits at the Menil or HMFA. Oh, and she produces a weekly online radio show.

HER RESEARCH PROCESS

She’ll start with a search on a topic in OneSearch, identify an interesting book, and browse the stacks in the Architecture & Art Library where it is located. She’s drawn to images, and will often browse Amazon.com instead of the library catalog, switching back to the catalog when she finds something that piques her interest. She’ll take notes in a journal rather than on a computer. A video, a music score, anything can be source material, and she finds searching by format really useful.

Researching a paper topic can often give her ideas for personal projects or public discussions. If she runs across an interesting Shakespeare quote, she’ll post it on Facebook to start talking about it. Or, she’ll use a collection on Houston history as a premise for an episode of her radio show.

PERSONAL STATS

- 22 years old
- Junior
- Graphic Design major, English minor
- Lives with a roommate inside the Loop

SOPHIA’S GOALS

This Semester

- Get good grades
- Get into the BLOCK undergraduate design program
- Build her portfolio

After Graduation

- Work for a publishing company

HOW SHE USES THE LIBRARIES

- Searches for materials by format for her design projects
- Browses both MDA and Architecture & Art stacks by topic
- Browses the digital library and online exhibits for ideas
- Uses the physical space for design projects
- Uses A/V resources for her radio show

WHAT FRUSTRATES HER

- Hard to search by format
- Prefers image-based browsing experience (like Amazon)
- Sometimes can’t find a quiet space in the library to spread out her materials

Comfort with Technology



Research Skills



Anil Chandra

Enthusiastic and goal oriented, he's quick to adopt new research tools and strategies



“The library has been huge for me. Subject librarians help me out all the time, and the research guides point me to great databases. I’m always in MDA, whether it’s in a Quiet Zone or at the Honors College.”

ABOUT ANIL

Anil grew up in SugarLand, where his parents moved from Mumbai. He was drawn to UH's diversity and the small university feel of the Honors College. His scholarship made the decision easy.

Anil is engaged in one commitment or another every moment of the day. School projects are woven between volunteer events, skills development classes, his RA duties, and tennis at the Rec Center. He finds his busy life incredibly rewarding and he loves learning new things.

HIS RESEARCH PROCESS

Anil checks upcoming assignment due dates in Blackboard through the notifications feature he set up. Next, he'll get a quick overview of an unfamiliar topic by looking through popular sites like Wikipedia. He picks up keywords and goes to OneSearch or a database. He'll use the peer-reviewed filter as soon as he can find it.

Anil copies potentially useful sections from articles into a Word document with a URL for future reference and citation info. If he's on a library computer, he'll save this document and any downloaded articles on a thumb drive.

He has adopted many of the research strategies and resources a liaison introduced him to in a freshman English class. He's bookmarked research guides and will often rely on them or search for new ones. He also periodically reaches out to liaisons for guidance.

PERSONAL STATS

- 20 years old
- Sophomore
- Environmental Engineering major
- In the Honors College
- RA in Cougar Village

ANIL'S GOALS

This Semester

- Maintain 4.0 GPA
- Lead project for volunteer organization
- Learn AutoCAD
- Land summer fellowship

After Graduation

- Peace Corps in Africa
- Work for government agency like the EPA

HOW HE USES THE LIBRARIES

- Bookmarks and uses Research Guides
- Seeks out subject librarians
- Searches math and science databases
- Checks out books
- Does schoolwork in Quiet Zones and Regent's Reading Room in MDA
- Prints materials and assignments in MDA
- Conducts research on volunteer group projects and post-grad opportunities

WHAT FRUSTRATES HIM

- Sometimes can't find a quiet place in MDA to study

Comfort with Technology



Research Skills



Sophia Huang

Committed, resourceful researcher who makes the most of her time



“A lot of the library’s services are quite efficient, and I really appreciate that. I can get to or request most of what I need online. This makes my trips to the library quick and productive, and that helps with everything I’m juggling right now.”

ABOUT SOPHIA

While Sophia got accepted into several US graduate programs, she chose UH for its financial support. Her family has been in the country for two years, and her husband works as an analyst for an oil & gas company. While she frequently commutes 40 minutes by bus to campus to attend class and work as a research assistant, Sophia performs much of her schoolwork at home. She weaves academic work into her daily and weekend routines with her family. Whether on her iPad during her commute or reading the New York Times Sunday morning, Sophia is always thinking about research.

PERSONAL STATS

- 32 years old
- 2nd year PhD student in Sociology
- Married with 3-year-old daughter
- Taiwanese citizen

SOPHIA’S GOALS

This Semester

- Maintain 4.0 GPA
- Get more than one article published
- Complete literature review for professor

After Graduation

- Professorship or post-doc, or job with a public policy research firm

HER RESEARCH PROCESS

Sophia usually starts at the UH Libraries website homepage, where she often looks to multiple resources. She’ll search for books through OneSearch and request what’s available rather than locate them in the stacks. For articles she goes straight to a specialized database, usually Web of Science. “Times Cited” is her quick metric for research quality, and prefers to sort that way when she can.

She uses Endnote, and likes in Web Science that she can send citations to her account straight from the item record. She usually tries to store full-text of articles in Dropbox so she can access them on her iPad during her long commute.

HOW SHE USES THE LIBRARIES

- Performs literature reviews
- Investigates journals as possible submission targets
- Uses ILL to retrieve sources for herself and her professor
- Requests books from the catalog
- Prints papers and articles in MDA
- Seeks help with quantitative analysis tools
- Quick visits to MDA between classes to pick up books and use ARC computers

WHAT FRUSTRATES HER

- Availability status of items is not always accurate online
- No efficient way to digitally store and access resources
- Lacks confidence in One Search
- Concern about conducting research in her second language

Comfort with Technology



Research Skills



Stuart the Working Professional

Transitioning careers through a professional-track graduate program



PERSONAL STATS

- 42 years old
- 1st-year graduate student in construction management
- Lives with wife and two kids in Pearland
- B.A. in Business Administration 20 years ago
- 10 years as a real estate agent

GOALS AND LIBRARY USE

Stuart wants to leverage his real estate experience and previous degree to get into construction project management. Because it's been so long since he was in school and his program relies on industry-led rather than scholarly research, he uses Google almost exclusively. He's not familiar with UH Libraries resources other than the Catalog, and has never accessed the UH Libraries website through the homepage. He likes to use MDA as a homebase between classes, but doesn't stay long. He's always running off campus to show a property.

Comfort with Technology



Research Skills



Amy the Assistant Professor

Managing information-rich resources for her classes, her research, and her affiliations



PERSONAL STATS

- 33 years old
- From Milwaukee, Wisconsin
- 4th year on Computer Science faculty
- Sponsors a mobile app development club
- Co-teaches a summer software design program through the Honors College

GOALS AND LIBRARY USE

Amy is hoping to earn tenure in the next two years and build the software design community at UH. She is always gathering and sharing sources for her research, the app-building group, her classes, and the summer program. She juggles her information workflows with multiple document management systems, including Dropbox, SharePoint, a wiki, and Blackboard. She chooses Google Scholar over OneSearch, noting, "it just doesn't cover all the databases that Google Scholar does or the industry whitepapers I'm looking for."

Comfort with Technology



Research Skills



Possibilities for Future Personas

As noted earlier, this study is limited by its focus on a small sample of users conducting research on campus and the direction they chose to lead the investigators during the interview. As a result, while these personas are grounded in rigorous qualitative research, they certainly do not represent the entire spectrum of users that engage with UH Libraries or its website.

The Libraries could benefit greatly from investigating other potential user types with unique resource and service needs and constructing personas from the findings. The following are just a few that have been discussed informally or have been addressed by research projects at other libraries:

- Donors
- External researchers who access Special Collections
- Reference and instruction staff
- Alumni who continue to be patrons
- Faculty in specialized fields
- International students with language acquisition needs
- Users with disabilities
- Professional candidates
- Health science professionals
- Other librarians

Personas could prove valuable across many departments. Not only do they give insight into user needs both online and in the physical space, but they also give colleagues a shared language with which to discuss how to design and build a unified user experience.

Appendices A-C: Interview Guides

The interviewers followed separate protocols for undergraduate, graduate student, and faculty participants. They were based heavily on the interview guides used in the contextual inquiry conducted at North Carolina State University for their website redesign in 2010.

The NCSU protocols, however, relied solely on engaging participants with pre-determined tasks. The investigators of this study believed that one of the signature objectives of a contextual inquiry is to observe users perform actual tasks that they need to complete in their real lives. Pre-determined tasks may yield unreliable data, as each participant may have different competencies or familiarities with certain types of research based on area of study.

The investigators amended the protocols to encourage participants to conduct actual research or recall an actual research project during the session. Edited versions of the tasks in NCSU's protocols served as backup questions when participants could not provide a real-life research scenario.

Appendix A: Undergraduate Interview Guide

1. INTRODUCTION AND FRAMING [5 MINUTES]

- a. I work in the Web Services department at UH Libraries. Thanks for your time today! We'll spend about the next hour talking about your experiences as a UH student and library user.
- b. I'd like to emphasize that I did not design the current web site for the library, so nothing you say today will hurt my feelings. You can be completely open and candid with me. This is about us in Web Services learning from you so we can help the library better serve the UH community.
- c. Please stop me at any point if you have questions.

2. WARM-UP AND BACKGROUND INFORMATION [2-6, 25 MINUTES]

- a. Could you tell me a bit about yourself...
 - ii. Where are you from?
 - iii. Where are you living now?
 - iv. What made you decide to come to UH?
 - v. Interest or hobbies?
 - vi. What does a typical Saturday look like for you?
 - vii. What are some of your goals for this semester?
 - viii. What are your aspirations after graduation?

3. COMPUTER USAGE

- a. Can you take me through your typical online routine? What's the first device you usually use to go online? And where do you go first?
- b. Do you have any other favorite websites?
- c. Where do you typically do work on your computer and where do you usually spend time online?

- d. In an average week, how many hours would you say you typically spend online? Approximately what percentage of that time is spent on school or work?

4. ACADEMIC INFORMATION

- a. What is your major, or if you haven't declared yet, in what areas are you most interested?
- b. What interests you about that field of study?
- c. How would you describe the teaching style of your professors?
- d. Walk me through a typical Tuesday for you.
- e. Describe a typical assignment for a class in your major. How do you approach that task?

5. LIBRARY INFORMATION

- a. How would you describe the MD Anderson Library to a friend who has never been there?
- b. How often do you go to the library? How often do you go to the library website?
- c. You walk into the MD Anderson Library. Where is the first place you typically go? Have you gone to the library web site before walking in the door?
- d. What do you do there? How long do you stay?
- e. What do you usually bring with you to the library?
- f. What frustrates you about using the library?
- g. When was the last time you talked to a librarian? What was the conversation about?

Appendix A: Undergraduate Interview Guide *(continued)*

6. LIBRARY WEBSITE INFORMATION

- a. When do you go to the library website? What do you do when you're there? (Take participant to site)
- b. What immediately draws your attention? Why?
- c. Reaction to Tiny Gallery?

7. OBSERVATION OF WORK [25 MINUTES]

- a. Can you walk me through a research project you are currently working on?
ALT: You've been given an assignment to write a research paper on the impact of climate change on our global food supply with at least 4 sources cited throughout the paper.
 - i. How long do you have for this assignment? When did you start? (**ALT:** You have two weeks for this assignment. When do you typically start?)
 - ii. What is the first thing you do?
 - iii. How would you find and review resources to determine the sources you want to use?
 - iv. What is the thing that makes (would make) you most nervous about the assignment?
 - v. How would you cite your sources in the paper?
- b. Have you recently done a project (or are currently working on one) where you have had to learn software or get technical assistance to complete? (i.e. podcast, excel, power point, etc.)
ALT: One of your professors has asked you to record and edit an HD video as part of an assignment. Where would you go to learn how to do this? What tools would you use?
- c. Do you remember the last book you found for an assign

ment? Could you walk me through your steps?

ALT: You need to find a book called Team of Rivals by Doris Kearns Goodwin for a US History class. How would you do that?

- d. Let's say you need to find an article in a specific journal related to your research topic. How would you find that article?

ALT: You need to find an article by Neil McLatchie on the effects of violent video games on aggressive behavior. You don't have the exact title of the article, but you know it's in the journal Psychological Science. How would you find it?

8. WRAP UP [5 MINUTES]

We've reached the end of the interview.

- a. Do you have any reactions the *amount* of information you were exposed to throughout the searching process today?
- b. Do you have any reactions to the *layout* of how information was presented to you throughout the searching process today?
- c. Thank you very much for sharing with us how you conduct your research. Do you have any questions for us?

Solicit reactions to the amount and layout of information throughout the searching process.

Appendix B: Graduate Student Interview Guide

1. INTRODUCTION AND FRAMING [5 MINUTES]

- a. I work in the Web Services department at UH Libraries. Thanks for your time today! We'll spend about the next hour talking about your experiences as a UH student and library user.
- b. I'd like to emphasize that I did not design the current web site for the library, so nothing you say today will hurt my feelings. You can be completely open and candid with me. This is about us in Web Services learning from you so we can help the library better serve the UH community.
- c. Please stop me at any point if you have questions.

2. WARM-UP AND BACKGROUND INFORMATION [2-6, 25 MINUTES]

- a. Could you tell me a bit about yourself...
 - ii. Where are you from?
 - iii. Where are you living now?
 - iv. What made you decide to come to UH?
 - v. Interest or hobbies?
 - vi. What does a typical Saturday look like for you?
 - vii. What are some of your goals for this semester?
 - viii. What are your aspirations after graduation?

3. COMPUTER USAGE

- a. Can you take me through your typical online routine? What's the first device you usually use to go online? And where do you go first?
- b. Do you have any other favorite websites?
- c. Where do you typically do work on your computer and where do you usually spend time online?

- d. In an average week, how many hours would you say you typically spend online? Approximately what percentage of that time is spent on school or work?

4. ACADEMIC INFORMATION

- a. What is your area of study? Or what are you doing your thesis, dissertation, or capstone research on?
- b. What interests you about that field of study?
- c. How would you describe the teaching style of your professors?
- d. Walk me through a typical Tuesday for you.
- e. Describe a typical assignment for a class in your area of study. How do you approach that task?

5. LIBRARY INFORMATION

- a. How would you describe the MD Anderson Library to a friend who has never been there?
- b. How often do you go to the library? How often do you go to the library website?
- c. You walk into the MD Anderson Library. Where is the first place you typically go? Have you gone to the library web site before walking in the door?
- d. What do you do there? How long do you stay?
- e. What do you usually bring with you to the library?
- f. What frustrates you about using the library?
- g. When was the last time you talked to a librarian? What was the conversation about?
- h. If Teacher or Faculty: Have you ever placed materials on reserve at MDA? If not, what is your protocol for reserving, or directing students to, specific sources?

Appendix B: Graduate Student Interview Guide *(continued)*

- i. If Teacher or Faculty: Have you ever placed materials on reserve at MDA? If not, what is your protocol for reserving, or directing students to, specific sources?

6. LIBRARY WEBSITE INFORMATION

- a. When do you go to the library website? What do you do when you're there? (Take participant to site)
- b. What immediately draws your attention? Why?
- c. Reaction to Tiny Gallery?

7. OBSERVATION OF WORK [25 MINUTES]

- a. Can you walk me through a research project you are currently working on?
ALT: You've been given an assignment to write a research paper on the impact of climate change on our global food supply with at least 4 sources cited throughout the paper.
 - i. How long do you have for this assignment? When did you start? (**ALT:** You have two weeks for this assignment. When do you typically start?)
 - ii. What is the first thing you do?
 - iii. How would you find and review resources to determine the sources you want to use?
 - iv. What is the thing that makes (would make) you most nervous about the assignment?
 - v. How would you cite your sources in the paper?
- b. You're beginning to plan your Masters Thesis/Doctoral Dissertation. What are the first steps you take?
- c. Have you recently done a project (or are currently working on one) where you have had to learn software or get tech-

nical assistance to complete? (i.e. podcast, excel, power point, etc.)

ALT: One of your professors has asked you to record and edit an HD video as part of an assignment. Where would you go to learn how to do this? What tools would you use?

- d. Do you remember the last book you found for an assignment? Could you walk me through your steps?

ALT: You need to find a book called Team of Rivals by Doris Kearns Goodwin for a US History class. How would you do that?

8. WRAP UP [5 MINUTES]

We've reached the end of the interview.

- a. Do you have any reactions the *amount* of information you were exposed to throughout the searching process today?
- b. Do you have any reactions to the *layout* of how information was presented to you throughout the searching process today?
- c. Thank you very much for sharing with us how you conduct your research. Do you have any questions for us?

Solicit reactions to the amount and layout of information throughout the searching process.

Appendix C: Faculty Interview Guide

1. INTRODUCTION AND FRAMING [5 MINUTES]

- a. I work in the Web Services department at UH Libraries. Thanks for your time today! We'll spend about the next hour talking about your experiences as a UH student and library user.
- b. I'd like to emphasize that I did not design the current web site for the library, so nothing you say today will hurt my feelings. You can be completely open and candid with me. This is about us in Web Services learning from you so we can help the library better serve the UH community.
- c. Please stop me at any point if you have questions.

2. WARM-UP AND BACKGROUND INFORMATION [2-6, 25 MINUTES]

- a. Could you tell me a bit about yourself...
 - ii. Where are you from?
 - iii. Where are you living now?
 - iv. What made you decide to come to UH?
 - v. Interest or hobbies?
 - vi. What does a typical Saturday look like for you?
 - vii. What are some of your goals for this semester?
 - viii. What are your aspirations after graduation?

3. COMPUTER USAGE

- a. Can you take me through your typical online routine? What's the first device you usually use to go online? And where do you go first?
- b. Do you have any other favorite websites?
- c. Where do you typically do work on your computer and where do you usually spend time online?

- d. In an average week, how many hours would you say you typically spend online? Approximately what percentage of that time is spent on school or work?

4. ACADEMIC INFORMATION

- a. What is your field of study and concentration?
- b. What interests you about that field of study?
- c. What are some of the major research tasks that you would encounter in an academic year?
- d. How would you describe your teaching style?
- e. How would you describe yourself as a researcher?
- f. You're considering incorporating podcasts and other multimedia materials into your classes next semester. How would you learn more about creating these materials?
- g. Walk me through a typical Tuesday for you.

5. STUDENT PERCEPTIONS

- a. What are some of the biggest challenges that you see your students encounter?
- b. What areas do you believe most students could use assistance in to develop stronger research and writing skills?

6. LIBRARY INFORMATION

- a. How would you describe the MD Anderson Library to a friend who has never been there?
- b. How often do you go to the library? How often do you go to the library website?
- c. You walk into the MD Anderson Library. Where is the first

Appendix C: Faculty Interview Guide *(continued)*

place you typically go? Have you gone to the library web site before walking in the door?

- d. What do you do there? How long do you stay?
- e. What do you usually bring with you to the library?
- f. What frustrates you about using the library?
- g. When was the last time you talked to a librarian? What was the conversation about?
- h. Have you ever placed materials on reserve at MDA? If not, what is your protocol for reserving, or directing students to, specific sources?

6. LIBRARY WEBSITE INFORMATION

- a. When do you go to the library website? What do you do when you're there? (Take participant to site)
- b. What immediately draws your attention? Why?
- c. Reaction to Tiny Gallery?

7. OBSERVATION OF WORK [25 MINUTES]

- a. Can you walk me through research you are currently working on? (While they are leading the demo, try to incorporate these questions)
 - i. What is the first thing you do?
 - ii. How would you find and review resources to determine the sources you want to use?
 - iii. How do you manage your sources?
- b. You are planning to start the semester by bringing your classes to the library for an introduction to academic research. How would you start planning this session?
- c. There's an article you want students in one of your classes to read. How do you make it available to them?

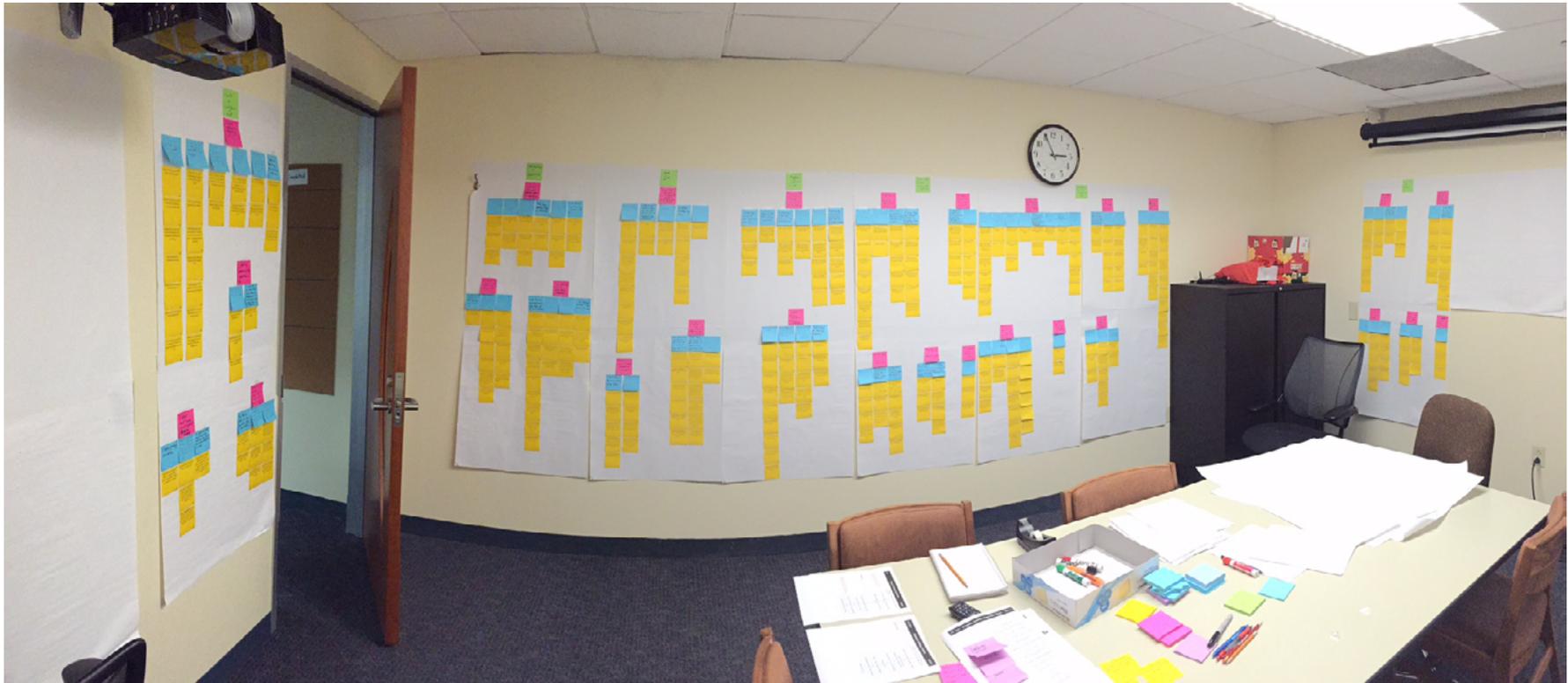
8. WRAP UP [5 MINUTES]

We've reached the end of the interview.

- a. Do you have any reactions the *amount* of information you were exposed to throughout the searching process today?
- b. Do you have any reactions to the *layout* of how information was presented to you throughout the searching process today?
- c. Thank you very much for sharing with us how you conduct your research. Do you have any questions for us?

Solicit reactions to the amount and layout of information throughout the searching process.

Appendix D: Completed Affinity Diagram



Appendix E: References

Beyer, H., & Holtzblatt, K. (1997). *Contextual design: defining customer-centered systems*. Elsevier.

Dempsey, L. (2014, November). *Thinking about Technology . . . Differently*. Speech presented at LITA Forum 2014, Albuquerque, NM.

Holtzblatt, K., & Jones, S. (1993). Contextual inquiry: a participatory technique for system design. *Participatory design: principles and practice*. Hillsdale, NJ: Erlbaum.

Holtzblatt, K., Wendell, J. B., & Wood, S. (2004). *Rapid contextual design: a how-to guide to key techniques for user-centered design*. Elsevier.

Kolko, J. (2015, February). *How to Use Empathy to Create Products People Love*. Speech presented at the Designing for Digital Conference, Austin, TX.

Makri, S., Blandford, A., & Cox, A. L. (2006). Studying Law students' information seeking behaviour to inform the design of digital law libraries. Presented at: 10th European Conference on Research and Advanced Technology for Digital Libraries 2006 (ECDL2006), Alicante, Spain.

Notess, M. (2004). Three looks at users: a comparison of methods for studying digital library use. *Information Research*, 9(3), 9-3.

Raven, M. E., & Flanders, A. (1996). Using contextual inquiry to learn about your audiences. *ACM SIGDOC Asterisk Journal of Computer Documentation*, 20(1), 1-13.