



**Walking a Mile in the User's Shoes: Customer Journey Mapping as a Method to Understanding the User Experience**

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Abstract

This paper introduces using Customer Journey Maps (CJM) in libraries and the role mapping can play in visualizing the user’s journey in order to help library staff better understand and optimize the user’s experience. The purpose of this paper is to demonstrate the importance and relevance of the mapping process for any library user experience. The paper will also review findings from the Reed College Library use of mapping during our own review of services and resource usage.

Introduction

Performing any task in a library or information ecology takes time, effort, and a good deal of decision making. Customer journey mapping is a tool that helps service providers understand the steps required to perform a given task. The mapping process can provide valuable insight into what it’s like to walk in the user’s footsteps. The Customer Journey Map (CJM) can be used to highlight pinch points along the way so library staff can find ways to alleviate frustration or confusion that a user may encounter along the way.

About the CJM

What is it?

A CJM is a visual representation of the user journey and experience of using a service or space (Marquez & Downey, 2015; Stickdorn & Schneider, 2011). The map visualizes the user journey from start to finish on a task, in order to highlight and understand the various stages, steps, and touchpoints a user must pass through in order to complete a task.

Mapping is a commonly used tool in the service design methodology. Service design is a user-centered approach that involves looking at actual user behavior in the context of where services are provided and involving the user to help in refining and creating services (Marquez & Downey, 2015). Library “services do not operate in a vacuum, but rather in tandem with other established services” (Marquez & Downey, 2015). The purpose of using the service design methodology is to look at the entire service ecology from the user’s perspective in order to understand how the service works and to then refine or create new services that better match user expectations (Marquez & Downey, 2015).

## Why is it Important?

### How the User Sees the Library, or the Library as a System

Library spaces are “ecologies with the attendant constraints, expectations and rituals” (Bell, 2002, p. 4). Understanding and improving the library user experience must attend to this larger ecology and should not be limited to just looking at how patrons use the website or catalog or how they browse the stacks. Just as the experience of our users does not stop after using just a single channel<sup>1</sup>, when we create and assess services, we must also look at more than just single channels (Polaine, 2013). Instead, we must view the library as a complete system with many working, interactive parts and consider how users navigate within the whole system. This can be challenging for many reasons, not least of which is because libraries are organizational entities with long histories. The library is not only a complex ecological system, but is also an *inherited ecology*, with the various histories of both the users and the library itself interacting to co-create the system that is built up over time and passed on to new staff, who must address not only the existing state of affairs, but must also understand how entrenched this state of affairs may be.

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<sup>1</sup> A channel is any method a user takes to interact with a service. In the case of a library, a user can use a web channel to find a research database or she can use the catalog to retrieve a call number to find a book in the library. When using the reference desk, she may opt for the online chat service versus going to the reference desk to get information related to a research task.

As with all organizations, structure and policies are developed and built up over time so that library staff tend to inherit well-established guidelines on how work is performed from their predecessors. The original intent may be lost to history, but often becomes accepted as the status quo. If the current staff is not mindful of this and does not bother to question why things are the way they are, the current inheritors of a library’s tradition can fall into the status quo trap (Hammond, Keeney, & Raiffa, 2006) by accepting and not deciding to alter methods to improve users’ experiences or create efficiencies. Similarly, the hierarchies that exist within the organization are imposed on library spaces and reinforced by organizational behavior and, over time, produce patterns unique to a particular library environment (Meadows, 2008). As such, library staff impose their departmental structure on the services delivered by the library (Gray & Vander Wal, 2012), which can be an impediment to providing superior service.

If librarians look at the various areas of responsibility in the library as products or tasks to complete and not as services we provide, then we miss the focus on the job to be performed. As service providers, librarians need to think of the library holistically and from the user’s perspective because, as Don Norman writes, “in reality a product is all about the experience” (Norman, 2009b, p. 52). Adopting the user perspective allows us to adjust the environment to meet user expectations and thus provide a better overall experience.

For example, IT staff may maintain public printers near the reference desk. When a user experiences problems with a printer and they ask for help at the reference desk, it is not helpful for the reference librarian to respond that they do not know anything about printers and that their job is to only teach people to do research with the library’s resources. The user only sees the person at the reference desk, not the responsibilities officially assigned to that desk or the staff member’s departmental affiliation. Obviously, none of those distinctions matter to the user who just wants to print an article.

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When we look at the library from the user perspective, it is clear that users do not see the various departments or silos in a library. They do not see the bureaucratic barriers between public services, access services, or collections services or the difference between a librarian and a paraprofessional. They see people, books, tables, and chairs. They might see the library in terms of which area of the library has better light or better chairs or where their discipline's books reside, but they do not see the lines of demarcation from the organizational side.

### Role of the CJM

The role the CJM plays is to see and understand the actual experience from the user perspective.

Depending on the level of complexity in the mapping process, the map can highlight "opportunities, pain points, and calls to action" (Risdon, 2011). Mapping gives us a user-centric view of our services and provides an opportunity to witness the experience of completing a task.

Once we see the library as a service and thus as a series of experiences, the task becomes making those experiences - from the user's perspective - as enjoyable and memorable as possible. Because this journey usually takes time, we should strive to make the task or journey as tolerable as possible when time to complete a task cannot be shortened (Maeda, 2006; Norman, 2009). The importance in the map does not lie in the map itself, but in the mapping of the experience (Risdon, 2013). When done right, the CJM "involves all parts of the organization" (Risdon, 2013, p. 104) and can help get library staff "out of the weeds and see the customer experience beyond their silo" (Risdon, 2013, p. 104). The CJM can provide librarians with a sense of the levels of complexity required to complete a task in the library. And not only are the various stages of the task highlighted and documented in order of completion, but the paths taken by different users can highlight patterns of usage.

**What Does It Look Like?**

**Anatomy of the CJM**

There are three sections to the CJM (Figure 1): touchpoints and prompts (section 1, column on the left), the stages (section 2, horizontal section at the top), and the actual journey (section 3, in the middle). The touchpoints represent every physical interaction between users and the library. The stages list various steps a user passes through from the original prompt to start the journey to the completion of their task. The example CJM below (Figure 1) illustrates the stages a user must go through to complete a library task. The initial prompt that sets a user off on their journey can be from a person (e.g. professor or classmate), syllabus, or other. “Other” designates a prompt that began from getting an idea from a movie, an article, or anything else that spurred the user to action. While the particular task is something out of the control of the library, knowing it can help better understand the context or intent of a task (Hinton, 2015). The main section is the actual journey. The circles represent the user coming in contact with a touchpoint. Not all touchpoints are used for every journey and can be removed to clean up the final map. The circles are connected with lines to depict the actual journey. Interactions can also be represented with other icons denoting decision making or possible confusion. While there is no single correct method for creating a CJM, this method can be easily adapted to different scenarios. You may want to adapt it to include user feedback or specific notes as you learn more about the user journey.

**Figure 1.** Anatomy of a Customer Journey Map.

**The CJM in Action**

The CJM is a very flexible tool that can be used across channels. It can highlight movement through a space, completing a task via web interface, or tracking the time required to do something. For example,

searching for, retrieving, and checking out a book appears to be a simple task, but as you dig deeper into the levels of understanding needed to get from start to finish to check out a book, what was once a seemingly simple task becomes an in-depth mission requiring navigating the web and the library, reading maps, and understanding call numbers and the organization of the stacks.

To illustrate, let's take a closer look at the task of finding a book via library kiosk, retrieving the book from the stacks, and then checking it out. The task is depicted in Figure 2 below. Circles depict touchpoints in the library. The user must first know how to use the catalog. After locating the record for the book, she has to write the call number down. Depending on the layout of the library, she must then consult a map and determine the correct location of her call number, and walk to the appropriate location in the stacks. Again, depending on the layout, this may require her to climb stairs, ride an escalator, or take an elevator in order to get to the correct floor. Upon reaching the correct floor, she has to find the correct shelf and interpret the call numbers on the spines of books to find the right book. After retrieving the book, she has to backtrack to the circulation desk to check the book out. Checking the book out is another series of tasks that involves handing over her card to the staff member at the circulation desk.

**Figure 2.** Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Library Kiosk.

The above is a pretty standard task performed in libraries everywhere, but small changes in user behavior may change your map. For example, what happens when the user has a smartphone or other handheld device? In Figure 3 below, the user has a smartphone to access the library catalog to get call number and location information. While the overall task is similar with the same results, the path is different. The emphasis is now on the technological infrastructure and not on maps or library kiosks. The scenario changes if the user has a book put on hold or if there is a self checkout machine.

**Figure 3.** Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Smartphone.

The above scenario is a very typical scenario that users must perform every day in libraries around the world. By thinking deeply about the numerous steps involved in getting a book into the hands of a user, we see the complexity and potential barriers that are involved in this very mundane task. The user must be able to understand how to find a call number in the catalog. She must also be able to read a map to find the correct location of the stacks. When at the right series of shelves, she must then be able to find the correct book by reading spine labels. If there are multiple floors involved, she must also navigate how to get from one floor to the next. By focusing on the actual journey involved to complete the task, we can see the many ways where a user can get confused, headed in the wrong direction, or why they may give up before completing a task.

A CJM can inform us on areas where improvements can be made and demonstrates the complexity of the library ecosystem and how integrated the various departments within a library are. It brings to light the departments a user interacts with and where services cross paths so that the entire library ecology becomes apparent. While library staff may see the library as separate departments, to the user, it is very much an integrated system complete with elements, interconnections, functions and purpose (Meadows, 2008).

**How is it Created?**

The CJM is co-created by library staff (ideally a research team made up of representatives from library departments) and the user. Creating a map can be done in multiple ways, but we will highlight two



methods in this paper. One method asks the user to sketch<sup>2</sup> out the steps of a task. The other method involves physically retracing the steps with the user. Mapping can also be used to outline a process in order to understand how a user thinks and goes about completing a task.

### Sketching the CJM

The first step is for the research team to create a task that a typical user would encounter with the library. In the above example, we asked a user to walk us through how they got a book from the stacks and then checked the book out. The team provides the user with various media for documenting the steps, including sticky notes, sheets of blank paper, notepads, a whiteboard, or even just verbally walking us through the journey<sup>3</sup>.

The research team asks the user to sketch the steps they take to fulfill the task. At this point, the user describes their method for performing the task by drawing it, describing it in text, or creating a mosaic using a sticky note for each step. The user should be encouraged to use whichever description method and tool they feel the most comfortable with. Sketching the journey in this step-by-step way allows the research team and the user to “externalize thought into bodily engagement” (Hinton, 2015, p. 46), turning thoughts into diagrams and actual steps.

At times, users may generalize steps and that is when the research team may need to draw out the in-between steps so each step is fully captured. The research team should prompt the user to verbally describe the steps as they write or draw. For example, if a user writes, “look up call number and then go to stacks,” researchers may want to dig deeper to get a better understanding of the in-between steps or a

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<sup>2</sup> Use of the word “sketch” in this case is not strictly related to the act of drawing, but is used to capture any method a user prefers to convey the steps required to describe the task.

<sup>3</sup> If the user prefers a whiteboard or to verbally share the steps required, the research team will want to document the end result using cameras or an audio recorder that can later be translated into the creation of a graphical map.

fuller description of the steps. Does the user look up the call number on her phone? Does she use a laptop? Does she head to an information desk for assistance? Does she consult a map? Does she consult a friend or librarian or staff to wayfind? How does she capture the call number?

Digging deeper allows the research team to get to what Clifford Geertz referred to as “thick description” (Geertz, 1973, p. 6). Knowing what is on the surface is not enough to understand habits and motivations. The questions above dig deeper and point to behaviors that the library may be able to better accommodate in the future. For example, if a user describes having to look for a piece of paper and a pencil to write down the call number, the research team could ask her why she wants to use paper for this task. Is it easy? Is it fast? Would she rather use her phone for this? Does she know she can send the call number via text? Would she do that if she knew how? Is sending the call number via text a simpler or more complex task? Focusing on this task allows the research team to identify the different options for helping patrons capture call numbers and where problems may arise. Perhaps the library could begin to place more paper and pencils at each kiosk to address the surface problem. But they may also want to figure out a way to text a call number to a patron’s phone or if this service is available already, they could address why patrons don’t know about this option. They may find that the button to send texts from the catalog is hard to find or that the process for sending texts is too complicated. The optimal solution might be to address all or one of these issues. Customer journey mapping helps library staff determine what the best solution is by gaining deeper understandings of patron behavior and using that understanding to develop and revise services.

The other form of capturing the customer journey is to walk with the patron and ask them to verbally describe the steps they take to complete a specific task. This may seem awkward or unnatural to the patron, but the researcher can put the user at ease by carrying the conversation about the steps and actions performed. While the user verbalizes the actions being performed, the researcher should take notes and then create a CJM after the walk.

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Researchers should be aware that certain prompts may lend themselves to one method or the other - for instance, a topic that is more abstract, such as a user's "research process," may lend itself much more to the first method, where the user draws out her own CJM with the help of the researcher. In contrast, some prompts, such as "how do you get a book from the stacks," will benefit much more from actually going out and walking through the process side-by-side with the user, in order to actually experience the process from the user's point of view. Experience with the mapping process will help the researcher determine which method may work better, but flexibility should also be encouraged - if you start with the first method, and it seems hard for the user to articulate her process, think about saying something like "let's get up and have you actually walk me through this process, so I can see exactly what you're talking about."

While there is no one preferred method, the two examples above can give a detailed account of how users move through the library and perform routine tasks. With this information, the research team can find pain points and attempt to fix them with solutions that accommodate multiple user preferences. Unlike a focus group where the group's discussion may be more reaction to a foregone conclusion, the mapping process focuses on the user's experience with a space, a service, or a task. No two users have the same experience (Pine & Gilmore, 2011). That being said, the research team should enter the process with no foregone conclusions and work with the user to create solutions based on actual experience. In the case of the call number, providing an ample supply of scratch paper and pencils and an electronic method for sharing a call number with a phone will suffice. In some instances, the research team may find a barrier that is difficult to overcome, such as a walkway being too narrow to accommodate a wheelchair. In this type of situation, the solution may be more difficult to address, but it is still important to find where there are problems that need solving in order to improve the user experience.

**Outlining a Process**

A CJM can also be used to outline a process. To do this, prompt the user with a question about a process, such as “how do you find a research topic?” or “how do you collect citations during the research process?” and then ask them to outline the steps. The goal with this type of prompt is to both better understand the thought process of users and to tease out the steps they take when completing a fairly ambiguous process. Findings from this type of CJM can be used for many purposes, including aiding in the design of instruction programs and class sessions, research guides, or may point to the need to find or develop new tools for users to help them in their process.

**Turning a How into a Why**

CJMs are extremely helpful in understanding the actual path taken and the overall experience of users. The two methods described above create artefacts about the journey a user takes to perform a task. The key to both methods is the verbal interaction and prompting from the researcher that transforms understanding how a user moves through a space into why a user approaches a task in a certain way (Kolko, 2014). The process of creating the mapping is essential to that transformative understanding (Risdon, 2013).

**Methodology at the Reed College Library**

The ongoing study at the Reed College Library is a multi-year study looking at every aspect of the Library’s space and touchpoints. Our team intentionally chose a service design methodology in order to look at all aspects of the library as services, to include the physical and virtual space. By using service design methodology, the Library User Experience (LUX) group was able to focus on service delivery and

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3 user expectations. The study started in February 2014 and continues as of this writing. This paper presents  
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5 a portion of what we learned in the first year of the study.  
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10 At the outset of the project, the LUX asked students to participate in a long-term study. The student  
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12 volunteers formed the Student Working Group (SWG). The SWG was composed of seven students: two  
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14 freshman, two sophomores, two juniors, and one senior. The SWG composition was intentionally divided  
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16 almost equally across grades. This was so the team heard the different needs of different students. It was  
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18 also key that the students come from a range of majors and not just a single discipline or department. And  
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20 no SWG member was a student library worker, all were chosen from the general student populace. SWG  
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22 members were given a pre-study survey to learn their library use habits. All were regular users of the  
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24 library (between 10 and 40 hours per week), but did not consider themselves expert users of the library.  
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29 The LUX hosted four meetings with the SWG in April 2014. The SWG completed a set of exercises<sup>4</sup>  
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31 geared towards understanding student behavior at Reed College. One of the exercises was creating  
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33 customer journey maps around two prompts: what does your research process look like? And, how do you  
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35 get a book from the stacks? For the first prompt, students worked individually or with a researcher and the  
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37 second prompt was completed verbally in a group setting.  
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### 40 41 42 43 **First Prompt: What does your research process look like?** 44 45

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48 Students were given the option to depict their journey using a variety of tools, (e.g. whiteboard, notepads,  
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50 sticky notes, blank sheets of paper for drawing). The research team prompted them to work alone or in  
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52 pairs. All elected to work independently. Five students chose notepads, one student used a whiteboard,  
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54 and one used sticky notes. Of the five students using notepads, each student numbered their responses to  
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57 <sup>4</sup> Exercises included: service safaris, expectation scenarios, customer journey mapping, and a week in the life diary.  
58 Additional descriptions of the above tools can be found at, <http://www.servicedesigntools.org/repository>.  
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depict a sequence of events. The student using sticky notes wrote each step as a separate sticky note and laid them on a table in order. The student using the whiteboard used a variety of line types to connect the various stages. Dashed lines for all stages covered and solid lines for stages that required a decision to be made. The student using the whiteboard also decorated their journey with drawings of flowers and a “happy bee” at the end of the journey.

**Second Prompt: How do you get a book from the stacks?**

For the second prompt, the LUX group presented the prompt in a discussion-type setting. All members of the SWG were allowed to talk and share their thoughts on the prompt. Because getting a book from the stacks is a very routine task and not as individualized as the research process, we opted for a discussion-based approach in order to share ideas. LUX members took notes during the exercise, which we then shared after the meeting. It is important that more than one person take notes during this type of group discussion because there are a lot of nuances that can get lost if only one person records what happens. It is essential that the notetaking be very thorough and detailed. In addition to recording the words students say, researchers should also look for body language that shows general agreement or disagreement with other participants. This is not the time to jot down general impressions, but rather to thoroughly record what participants say, do, and allude to. The end product was less a traditional CJM and more of a sketch of the pinch points the students encountered along the way.

The power of the service design methodology lies in the conversational relationship between researcher and participant. The flexibility and informal tone of the discussions allowed the LUX to dig deeper during some of the exercises and then to circle back and bring up topics that had been mentioned but not fully addressed in the course of earlier discussions. The findings section captures what was learned as a

result of this digging. As Risdon writes, it is more about the “mapping itself” (Risdon, 2013, p. 104) than the actual map. Insights come through a thorough synthesis of all content and from the process itself.

## Findings

The findings presented here are a result of synthesizing the data generated from the four SWG meetings. By looking at the data, we were able to garner key insights into how the students perceive the Reed College Library and its services.

Participants described a familiar research process. They passed through various phases and used similar tools. It should be noted that the students who participated as members of the SWG were from different years and different disciplines. As they completed their research, students took similar steps when encountering a roadblock, such as doing additional research in a library database or looking for that one “perfect” quote to support a finding. Out of 7 students, only one actually mentioned consulting a subject librarian and that was at the end of the research process.

The SWG students did not think about consulting a librarian in their process. As we dug deeper into this issue, we learned that the librarians were perceived as “adults”<sup>5</sup> who were busy and couldn't be bothered. This perception the students held points to an issue with the library's outreach efforts. Students did not understand the librarian's role or the availability of reference and instruction librarians. A clue as to how the library may be able to improve our outreach efforts was another finding from this first prompt. In response to probing about the students' understanding of the roles and availability of the librarians, it became clear that students needed two things from the library: a clearer understanding of liaison

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<sup>5</sup> This is a term the members of the SWG used in reference to any library staff employee. Per an earlier comment on user perception of the library, all employees in a library are librarians.

responsibilities and more accessible information about the availability of librarians. The students were not sure what librarians could do for them and did not fully understand what a subject or liaison librarian was. The students also pointed to barriers to getting in touch with librarians that the research team did not realize were there. While they could usually find our contact information, they did not know if their questions were appropriate to send to a librarian or what kinds of questions we could help them with. Because our offices are at the end of a long hallway with a “Library Staff” sign on it, they did not feel comfortable heading down the hallway to look for us or to just informally drop by our offices.

A recurring theme from all participants was around wayfinding. Signage, or the absence of signage, did not help the students get to their destination. The participants wanted the website<sup>6</sup> to reflect the physical environment (Polaine, 2013) and be more consistent in naming conventions<sup>7</sup>. When looking at the journey map created for the finding and retrieving a book from the stacks prompt (Figure 4), we see possible areas of confusion around the idea of wayfinding. Being able to find and read a map in the library (see cloud icon in Figure 4) was an issue. Digging deeper into the map issue allowed us to reveal specific ideas that could be potentially helpful.

**Figure 4.** Problem Solving Customer Journey Map for Finding and Retrieving a Book from the Stacks

Maps on all levels of the library are the same (Figure 5). While there are small “you are here” icons, the orientation of the maps doesn’t vary from location to location. One suggestion was to highlight in a red or other colored box which floor a user was on to eliminate any confusion and to help orient the user. Orienting library maps in a way that corresponds to the current location of the user can reinforce where items are located, how to navigate to them, and give patrons confidence in the organization of the

<sup>6</sup> At the time of this SWG mtg, the library was planning for a full website redesign. Certain items mentioned in the course of the discussions were already in the planning stages.  
<sup>7</sup> The library has colloquial naming conventions for various spaces in the library. While never codified, the colloquial naming gets passed on to entering freshmen.



resources (Krug, 2014). This role cannot be accomplished if the user is expending all of her energy deciphering the basic interpretation of the map.

**Figure 5.** Map of the Library

## Conclusion

Customer journey mapping is a very useful and powerful tool and process. Whether used alone or in conjunction with other tools in the service design toolbox, it allows for a conversation around how the library is actually used and provides a method to dig out root problems around ideas of findability and navigation. The CJM, with the proper precision, depicts the various touchpoints and highlights the library departments that a user interacts with when on their journey. The CJM emphasizes and reinforces the idea that the library is an integrated ecology that better serves the user when working together to provide the optimal user experience, regardless of the task being performed.

As discussed above, the library is an inherited ecology. As such, library staff must constantly work to ensure that the library meets or exceeds evolving user needs while being mindful of not becoming entrenched in the status quo. What our patrons need from us changes constantly and we must be vigilant in our efforts to respond appropriately and well. The mapping process and product can reinforce this user-centered focus, and help library staff understand the need to evolve with the behaviors and desires of current users. While staff may often interact with users and have anecdotal evidence of their behaviors and desires, creating a CJM in collaboration with users can help not only to visualize this evidence, but can also help the researchers overcome some of the confirmation bias inherent in working with this type of evidence.

A CJM is also a great tool to open up conversations across departmental lines. As the map crosses various departments and hierarchies, the map can help those departments understand their interconnections and begin to work together to focus on delivering the highest level of service required for a given library ecology.

It is also important to remember that customer journeys take time. Unfortunately, user journeys don’t come with a built-in progress bar for the user to see where she is in the journey. As such, a tool like the CJM can not only help a library research team better understand the motivations for users to undertake a journey, but also record the actual steps taken or required to complete a journey.

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Figure 1. Anatomy of a Customer Journey Map.



Figure 1. Anatomy of a Customer Journey Map.  
306x225mm (72 x 72 DPI)

Figure 2. Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Library Kiosk.

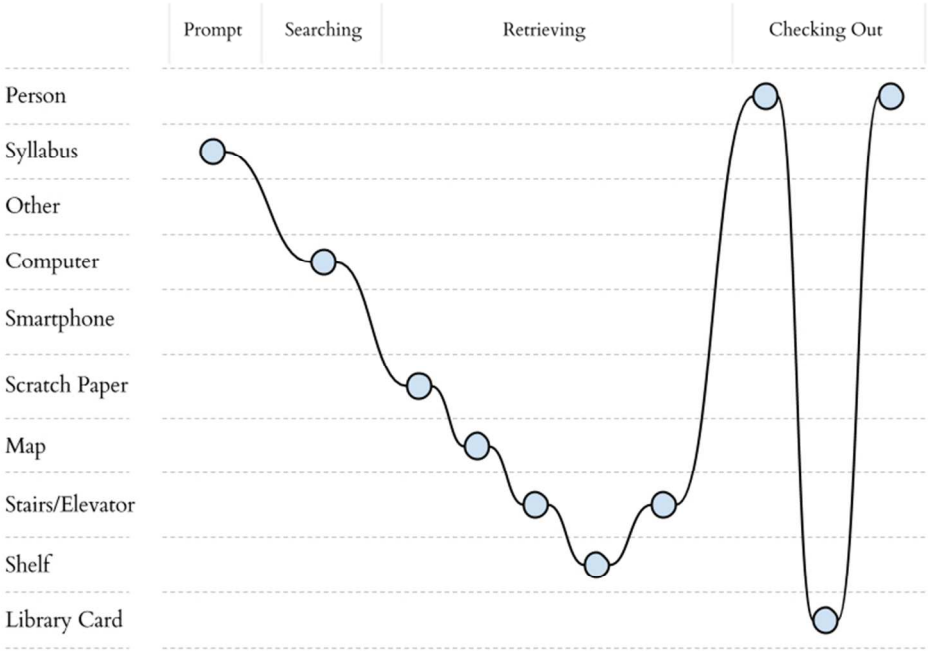


Figure 2. Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Library Kiosk.  
306x225mm (72 x 72 DPI)

Figure 3. Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Smartphone.

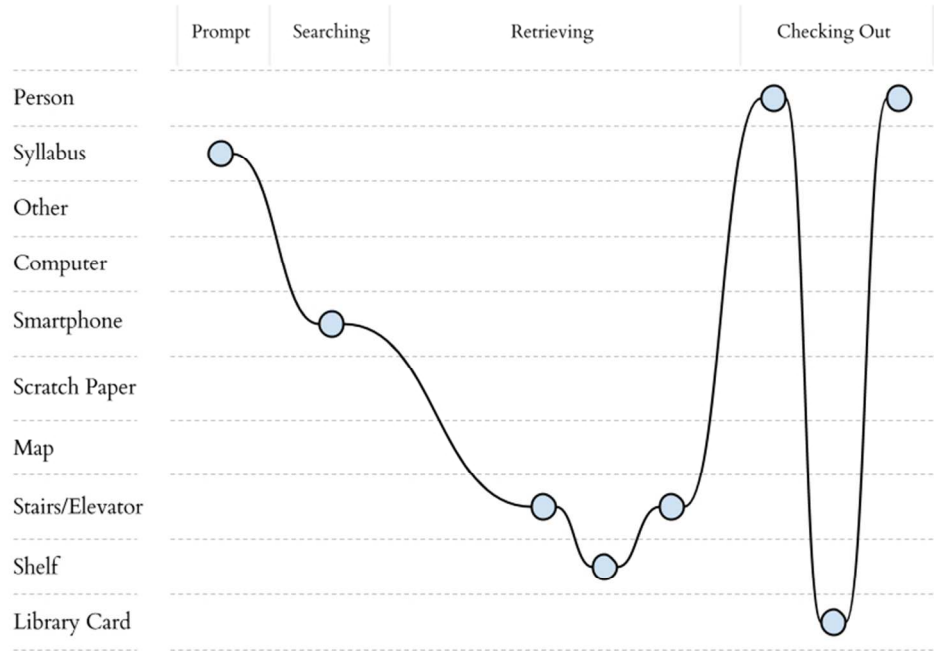


Figure 3. Customer Journey Map for Finding and Retrieving a Book from the Stacks Using a Smartphone.  
306x225mm (72 x 72 DPI)

Figure 4. Problem Solving Customer Journey Map for Finding and Retrieving a Book from the Stacks.

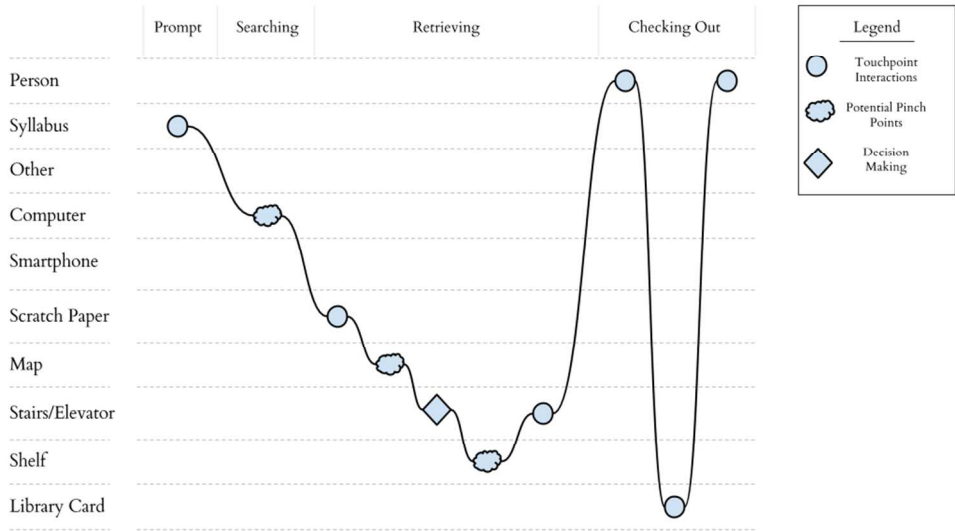


Figure 4. Problem Solving Customer Journey Map for Finding and Retrieving a Book from the Stacks  
378x219mm (72 x 72 DPI)



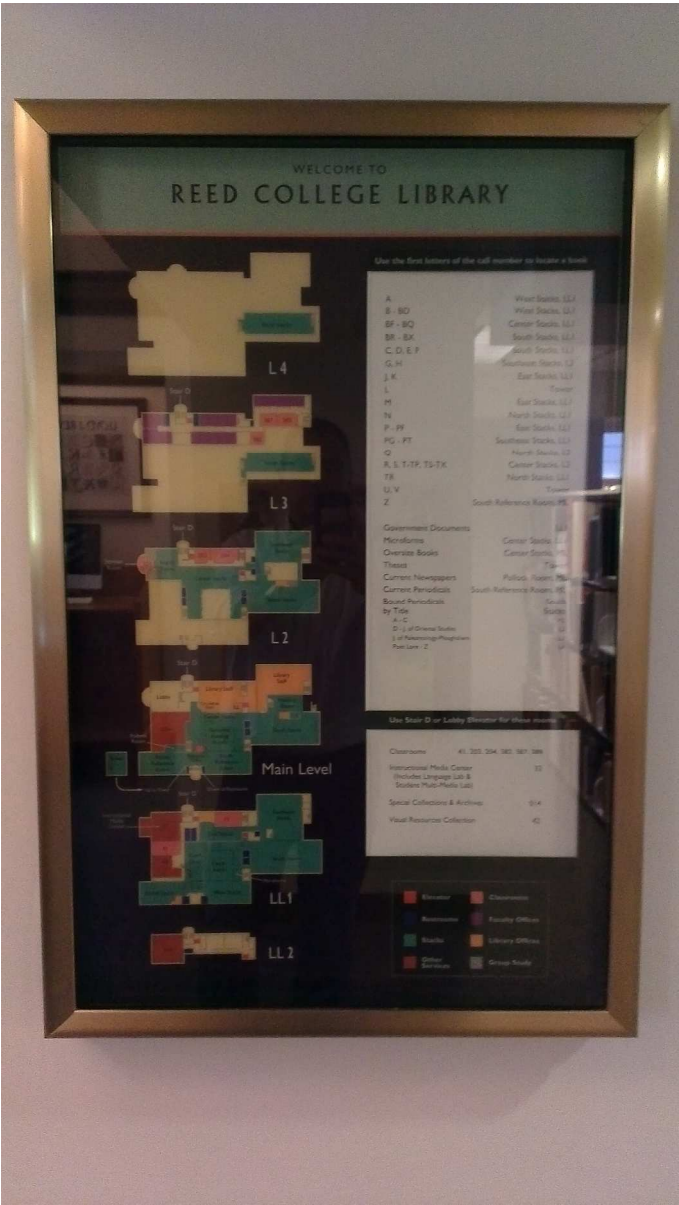


Figure 5. Map of the Library  
649x1151mm (72 x 72 DPI)