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# Holistic UX: Harness Your Library's Data Fetish to Solve the Right Problems

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# User Experience in Libraries

Modern library services can be incredibly complex. Much more so than their forebears, modern librarians must grapple daily with questions of how best to implement innovative new services, while also maintaining and updating the old. The efforts undertaken are immense, but how best to evaluate their success?

In this groundbreaking new book from Routledge, library practitioners, anthropologists, and design experts combine to advocate a new focus on User Experience (or 'UX') research methods. Through a combination of theoretical discussion and applied case studies, they argue that this ethnographic and human-centred design approach enables library professionals to gather rich evidence-based insights into what is really going on in their libraries, allowing them to look beyond what library users say they do to what they actually do.

Edited by the team behind the international UX in Libraries conference, *User Experience in Libraries* will ignite new interest in a rapidly emerging and game-changing area of research. Clearly written and passionately argued, it is essential reading for all library professionals and students of Library and Information Science. It will also be welcomed by anthropologists and design professionals working in related fields.

**Andy Priestner** manages Cambridge University's pioneering FutureLib innovation programme, employing user experience and design thinking to develop new library services across the university. He is the founder of the UX in Libraries Conference and provides training and consultancy on the subject to institutions across Europe.

**Matt Borg** was an academic librarian at Sheffield Hallam University for fourteen years, during which time he was responsible for a new research-based approach to user experience. He is now a Solutions Expert at ProQuest's Ex Libris, where he works to bring new technology to libraries across Europe, as well as a freelance trainer in UX techniques.



# **User Experience in Libraries**

Applying Ethnography and  
Human-Centred Design

**Edited by**

**Andy Priestner and Matt Borg**

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## **Preface and acknowledgements**

We came up with the idea of this book at the 2014 LILAC conference, by which point we had already started to promote the inaugural UX in Libraries conference planned for the following year. There was some trepidation at the thought of putting together a book as well as the conference given how groundbreaking and interactive we were planning the latter to be – to say nothing of our respective day jobs. As soon as we started talking about such a tome, we realised how valuable it would be to gather together great stories about UX in libraries – stories which would advocate for more ethnography and design thinking, encourage discussion and debate, and help kick-start library UX projects, big and small. Whether we have achieved our aim or not we will have to wait and see, but the contributors to this volume remain convinced that in today's highly complex library and information world we must adopt user experience research methods to observe, listen to and question our users if we are to understand them more fully and offer services that they need.

We are hugely grateful to all of our contributors, not only for their mindful chapters, but also for their patience – suffice to say we embarked on this book in different jobs to the ones we have now. Thanks also to Dymphna Evans for readily agreeing to publish the book and immediately recognising the need for it in the library literature. One person whose name should probably be on the cover alongside ours is Marisa Priestner, who proved indispensable as eagle-eyed second proofer, queen of reference checking and manuscript preparation – thank you!

### **Matt's acknowledgements**

I'd like to thank those I've worked with in all walks of my professional life. Thanks to Andy for being a genuine friend, supporter and collaborator. Above all, thanks to my family; Rachel, Dylan and Oz. You are, as they say, the best.

### **Andy's acknowledgements**

I'd like to thank Bryony Ramsden who I hold directly responsible for igniting my ethnography flame, and Donna 'force of nature' Lanclos for fanning it. Grateful thanks also to everyone who made UXLibs such a success, especially Georgina

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Cronin who shared most of the pain. I'd also like to thank her and Ange Fitzpatrick for starting the UX journey with me, for singing with me in the office and for otters. As for Matt – back atcha fella!

Matt Borg  
Andy Priestner

## Contributors

**Andy Priestner (editor)** is a freelance trainer and consultant specialising in user experience, social media, storytelling, marketing, communications and team-building, working with libraries (academic and public), universities and the private sector in the UK and mainland Europe. He originated the UX in Libraries conference after embarking on several ethnographic research projects at Cambridge University's Judge Business School, where he was Head of Information & Library Services between 2007 and 2015. His interest and expertise in user experience has most recently led to his appointment as manager of Cambridge University Library's FutureLib innovation programme, which employs ethnography and human-centred design to explore and deliver innovative new services and products across Cambridge's many libraries. This is his second co-edited academic volume; the first, with Elizabeth Tilley, was *Personalising Library Services in Higher Education* (Ashgate, 2012). Andy was President of the European Business Schools Librarians Group (2014–2015) and Chair of the Business Librarians Association (2006–2010). He is a trained LEGO Serious Play facilitator and blogs regularly as 'Constructivist'.

**Matt Borg (editor)** is a librarian, trainer, geek and troublemaker. For over 14 years he worked in academic libraries in a variety of roles. At Sheffield Hallam University he was an academic librarian, where he coded and designed the library website and was a lecturer in the Business School on information management. He also co-created the Information and Creativity in Libraries conference (I2C2). His passion for UX enabled him to initiate a research-based approach to user engagement at Sheffield Hallam, focusing on interaction with library tools. This led to a number of talks and keynotes on the topic, and an invitation to collaborate with Andy by joining the organising committee for the UX in Libraries conference. In September 2014 he moved to ProQuest Workflow Solutions. He works with libraries across Europe on library technologies including discovery systems and library services platforms. Previous academic publications include chapters on responsive web design for libraries ('Best of Both Worlds' in *M-libraries 4: From Margin to Mainstream*, Facet, 2013) and information literacy and discovery systems (*The Road to Information Literacy: Librarians as Facilitators of Learning*, IFLA, 2012). Matt is also a part-time freelance



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**Andrew D. Asher** is the Assessment Librarian at Indiana University Bloomington, where he leads the libraries' qualitative and quantitative assessment programs and conducts research on the information practices of students and faculty. His most recent projects have examined how 'discovery' search tools influence undergraduates' research processes, how students locate, evaluate, and utilise information on research assignments, and how university researchers manage and preserve their research data. From 2008–2010, Andrew was the Lead Research Anthropologist for the Ethnographic Research in Illinois Academic Libraries (ERIAL) Project (<http://www.erialproject.org/>), a two-year study of student research processes at five Illinois universities and the largest ethnographic study of libraries undertaken to date. An ethnographer and anthropologist by vocation, Andrew holds a PhD in sociocultural anthropology from the University of Illinois at Urbana-Champaign, and has written and presented widely on using ethnography in academic libraries, including the co-edited volume, *College Libraries and Student Cultures* (ALA Editions, 2012). He is also currently writing a methodological handbook for librarians on developing and implementing anthropological and other qualitative research methods in libraries.

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on the topic, as well as her engagement in professional organisations. She currently serves as a facilitator and curriculum designer for the Association of College & Research Libraries' Assessment in Action initiative. At IU, Carrie advocates for information literacy assessment across the curriculum to ensure the libraries' centrality to disciplinary discourse and student learning. Carrie's own research areas of interest include the review and reward of librarians' teaching, student-centred learning for library instruction, and critical information literacy. Carrie received her Master of Library Science degree from Indiana University.

**Leah Rosenblum Emary** is an American librarian who has worked in libraries in Brussels, Berlin, San Francisco and San Diego. Her main research interests are information literacy, user-centred design in libraries, and scholarly communication. She is now an Academic Liaison Librarian at York St John University in the UK, where she lives with her husband and two sons.

**Nicola Grayson** has worked in academic libraries since 2005. In 2012 she secured a post at the Alan Gilbert Learning Commons which is part of the University of Manchester Library. Nicola is currently a part of the Learning Development Team, responsible for developing the award-winning 'My Learning Essentials' Open Training Programme. She focuses on academic skills and broader student support in her work, designing and delivering workshops, and is also responsible for the library's team of 'Student Rovers' and their research. In 2015 Nicola completed her doctorate in the subject area of philosophy and her research centred heavily on the communication of ideas in the works of Immanuel Kant. In her current position she contributes to key library and strategic projects and works generally to promote and sustain student skills support at the University of Manchester.

**Paul-Jervis Heath** leads the design studio at Modern Human, a design practice and innovation consultancy. He and his team of researchers, designers and technologists apply human-centred design to imagine future services and meaningful digital products. He is a designer and innovation consultant with 17 years' experience of helping companies make fundamental changes to their business by combining design thinking with business strategy and cutting-edge technology. He has led design on a wide variety of projects including in-car information systems for driverless cars, smart home appliances, future libraries and retail stores of the future, as well as many multichannel services and digital products. Paul works closely with the University of Cambridge on their FutureLib programme, which explores the future of academic libraries at the institution. He continues to be involved in designing future libraries around the changing needs of their patrons through a variety of design and strategy projects.

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**Rosie Jones** has worked in academic libraries since 2001. In 2011 she moved into a specialist role, project-managing the development and implementation of the award-winning Alan Gilbert Learning Commons at the University of Manchester Library. After the success of this project her remit grew to planning, initiating and managing a wider range of complex library projects covering all library spaces and any plans for library management of a learning and study space. She is now Associate Director of Library Services at Liverpool John Moores University, where she continues to develop her expertise in this area through the new Copperas Hill development, an ambitious project to create a community for learning and knowledge in the heart of Liverpool city centre.

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often brilliant human beings who might use them and because – until now at least – it hasn't involved writing any biographies at all.

**Bryony Ramsden** is a Subject Librarian at the University of Huddersfield, and has worked in libraries since the late 1990s. She was research assistant on the first phase of the 'Library Impact Data Project' (<https://library3.hud.ac.uk/blogs/lidp/>) which proved a correlation between library use and level of degree attained. She has also worked as a research assistant on an internally funded library project investigating post-occupancy informal learning space use. The results of the project led to her current research for her PhD on user behaviour in academic libraries, which utilises ethnographic methods to collect the data from a number of universities.

**Matthew Reidsma** is the Web Services Librarian at Grand Valley State University in Allendale, Michigan. He is the co-founder and Editor-in-Chief of *Weave: Journal of Library User Experience*, a peer-reviewed, open access journal for Library User Experience professionals. He is the author of *Responsive Web Design for Libraries* published by ALA TechSource, and the forthcoming *Customizing Library Vendor Tools for Better UX* from Libraries Unlimited. He speaks about library websites, user experience, and usability around the world. *Library Journal* named him a 'Mover and Shaker' in 2013, which led to many unfortunate dance-related jokes in the Reidsma household. He writes about libraries and technology at <http://matthewreidsma.com>.

**Elizabeth (Libby) Tilley** has successfully managed both a science library and an arts library at the University of Cambridge and has been regarded, in both places, as an expert in the subject. This expertise has come about by being embedded in the life of the discipline, observing what students and researchers 'do', and subsequently leading and adapting library services to better suit user need. A PGCE from an earlier life, librarianship qualifications, and being a Fellow of the Higher Education Academy have contributed to her focus on teaching in addressing the user experience. She currently also manages the School of Arts and Humanities libraries at Cambridge. However, [tea@three](mailto:tea@three) at the English Library remains her self-confessed number-one opportunity for building relationships with students. A recipient of tea and cake commented recently: 'Thank you for being such a good listener and discussant; I really appreciate your sense of humour and taste in cakes.' It's clearly all about the stories.

**Bea Turpin, Deborah Harrop, Edward Oyston, Maurice Teasdale and John McNamara** were all colleagues at Sheffield Hallam University and members of the learning centres redevelopment project team. This team, along with others, was responsible for the redevelopment project which radically changed and updated the way learning centre spaces function and feel. The team was also responsible for developing the evidence-based approach which underpinned the project. Edward and Maurice led the project, provided the strategic vision and, working with John in the Estates department, ensured the project's successful implementation. Bea and Deborah led the research into learners' preferences.



David Jenkin, Design Director at Alexi Marmot Associates (AMA), worked in a collaborative way with the SHU team to develop the learning centres. He is a highly experienced architect known for his design and planning of interior space. His skill is as an enabler, matching the complex and changing requirements of users to the building design, recognising the need to be pragmatic whilst maintaining a vision for possible future needs.

**Margaret Westbury** is the Librarian for Wolfson College, University of Cambridge. She has worked in a variety of libraries and library services during her career, including the Bill & Melinda Gates Foundation, the University of California at San Diego, and Jones International University (a 100% online university) in various capacities, most of them technology related. She has a passion for UX, using social media and creating usable library spaces, and is keen to find ways to make the academic libraries relevant for twenty-first-century researchers. She is currently working on a PhD in technology-enhanced learning which explores the implications of new educational technologies on library services and spaces.

## 4 Holistic UX

### Harness your library's data fetish to solve the right problems

*Matt Borg and Matthew Reidsma*

Dirk Gently's Holistic Detective Agency. We solve the *whole* crime. We find the *whole* person. Phone today for the *whole* solution to your problem. (Missing cats and messy divorces a speciality.)

—Douglas Adams, *Dirk Gently's Holistic Detective Agency*

A few years ago, the University of Michigan's Library in Ann Arbor, Michigan, photographed students holding signs they had made describing their ideal library (University of Michigan, 2012). Many of the photographs seem silly at first glance, but most asked for comfortable study spaces, free hot chocolate or coffee, or social opportunities (Figure 4.1).

As librarians, the desire to help is built into our profession. It forms part of our working life, our interactions with people, our professional training, our continuing development. It even features as part of Ranganathan's laws.

The Michigan Library's 'ideal library' photos remind us that the types of 'help' we often think of giving to our users – tutorials, better access to licensed material, more and better books, wayfinding – are only part of the picture. Many of the students' requests, from 'hammocks in the library' to 'free desserts' to 'soothing music', are all expressions of a desire to be free from worry. Our users may not understand right away that one research database is better suited for their project, but they feel strongly about the comfort of the chairs they sit in or the availability of caffeine within the library walls.

The requests of these students, far from being flippant, are just as valid as the ones we intuit from our professional expertise. In fact, we'd argue that they are more important. In order to help our patrons, we need to rely less on our 'expert intuition' and move to a model of 'expert listening'. By thoroughly listening to our patrons, we can gain a more holistic view of their needs. While we might not install hammocks in front of the new coffee bar's fireplace, we can certainly understand the anxiety our patrons feel and work to help put them at ease.

If we can use data from a number of sources and really listen to our patrons, we can better understand the *whole* of their experience. Like the eponymous detective Dirk Gently in Douglas Adams's novel, to truly help we need to see the *whole* patron. We need to solve the *whole* problem, and fully see how the patron moves through the *whole* library.



Figure 4.1 University of Michigan students' 'ideal library'  
Source: Matthew Reidsma.

In this chapter we'll share our real-life examples from Sheffield Hallam University in South Yorkshire and Grand Valley State University in Michigan, in which we have tried to improve our patrons' *whole* experience.

### The data has been here all along

In seventeenth-century London, data wasn't something that too many people worried about. Records were expensive to keep, and those that did exist often were in handwritten ledgers unknown to everyone but those who added the entries. However, at the beginning of the seventeenth century, officials in London began keeping records of the burials of those who had died from the plague in an attempt to better understand and prepare for outbreaks. These 'mortality rolls' were recorded weekly, and by the 1630s deaths other than those due to the plague were being recorded.

Although the data was collected to help understand and prepare for outbreaks, it doesn't appear that the parish clerks in London ever did much to fulfil this goal. But nearly 50 years after parishes began regularly reporting mortality rolls, a middle-aged haberdasher named John Graunt began analysing the data himself. His book, *Natural and Political Observations Made Upon the Bills of Mortality* (1662), would change the world forever, creating the modern fields of public health and demography.

By looking at a few decades' worth of data, Graunt produced the first 'life table', which let Londoners know their chances of surviving to different ages. In addition, he catalogued 81 causes of death in four major categories. By seeing these different causes of death all laid out, others began asking the questions of how to prevent many of these types of deaths, leading to the birth of epidemiology (Schultz, 2014).

Graunt took data collected to serve a limited purpose – understanding the plague’s reach – and used it to get a bigger, more holistic picture of the public health of Londoners. Rather than make assumptions about the life expectancy of Londoners, he listened to the data. He was an *expert listener*, and his work went on to help countless people.

In libraries, we can follow Graunt’s example by co-opting the data we’re already collecting to get a more holistic view of our interactions with patrons. By shedding our assumptions and intuition, and letting what we hear from our patrons and the data they create guide us, we can make improvements that will help our patrons.

Chances are, you already have available in your library most of the data you need to make a better experience for your patrons. At Grand Valley and Sheffield Hallam, we have worked to bring together four different strands of data to give us our holistic view.

### **1. Qualitative data**

To understand our patrons’ needs, as well as their challenges and frustrations, we need to hear from them. Setting up interviews with patrons can be challenging (not to mention time-consuming). John Graunt couldn’t have compiled all of the data he needed by himself, so he used available data that would give him enough of what he needed to get his job done. In libraries, while we might not always have the time for interviews with our patrons, we already have some ready data that will do the trick, in the form of emails, tweets, chat transcripts, and reference desk and telephone questions, that can serve as surrogate interview data.

Your library no doubt has a number of ways your patrons can connect and get help. Grand Valley has a prominent live chat button, email, and phone number posted on every web page, in every system. In addition, Springshare’s LibAnalytics software is used to keep track of all questions asked at the service desk or the main library phone. Our liaison librarians also record their reference consultations and instruction sessions.

At Sheffield Hallam students and academic staff contact the library in the traditional ways, and the library records telephone, email and reference point interactions. Sheffield Hallam operates a converged service in the library – there is one contact point for information technology (IT) and library help – so there are a lot of ‘calls’. The system used to track all of these contacts gives the librarians access not only to issues that are assigned to them, but also an overview of all the enquiries that are coming in.

Other communication points are available to students at Sheffield Hallam, such as the library Twitter account or through the ‘Have Your Say . . .’ initiative (Sheffield Hallam University, n.d.). These are also collected, curated and analysed.

Most libraries have some sort of method for keeping track of questions. Like the parish clerks, we all hope to use this data to make things better for our patrons, but it’s rare that any system has yet been put in place. Fortunately, you don’t need a complex tracking system to benefit from this data. You just need to set aside a little time to regularly read it all.



Reading through the email, chat, phone, desk, and reference questions that come through the library every week will give you a good understanding of what your patrons are trying to do, as well as the problems they have. (Most of what you read will be negative. You'll need a thick skin, since frustrated patrons are generally not concerned with hurting the feelings of someone who designed the system they are using.)

This does not give you the kind of targeted information you might get from crafting specific interview questions about, say, your discovery layer or your catalog's request buttons. But this disadvantage has an upside in that you'll be seeing exactly the sorts of things that your patrons are already struggling with. Of course, it's worth noting that a lot of this data will contain a heavy dose of your users' attitudes and opinions about things, which don't always correlate well to how they behave. So tempering what you learn from this qualitative data with some other data points can help you build a more holistic view of your users' experience.

## 2. Quantitative data

The collected qualitative data gives us a good sense of what is going wrong with our library services, but that isn't always the whole picture. By capturing quantitative data of how each of our systems is actually being used, we can better understand not only what struggles our patrons have, but also where things are working.

The easiest form of quantitative data to collect is website analytics. Google Analytics or other services, such as Reinvigorate.net, can give you a thorough understanding of where your website's visitors come from, what they do on your site (and for how long), as well as what kinds of tools they are using (computers, tablets, mobile devices, watches, etc.). Both Sheffield Hallam and Grand Valley use Google Analytics on the library website and the other tools patrons use, such as the discovery layer, interlibrary loans, the OPAC, and more.

In addition both universities have used online heat map tools to better understand visually how our patrons interact with our site (Figure 4.2). Both also use Google Analytics Event Tracking to map what elements our patrons interact with. While event tracking takes a little additional set-up, the insights gained are well worth the effort. At Grand Valley, within a few months of adding event tracking to Summon, our discovery service, we were shocked to learn that over 50% of the clicks on each page of results were on the first three items. It turns out that the folks at Serials Solutions were interested too, and they soon dropped the default number of results per page from 25 to 10, before moving to an 'infinite scroll' in version 2 of Summon.

The benefits of getting usage data out of your online systems is great, and setting the systems up requires almost no effort. But capturing quantitative data about physical services can be more challenging. At Grand Valley, our UX Manager for physical spaces has student workers do a traditional head count twice an hour in our libraries. But rather than simply recording people, they do behavioural mapping, recording sound levels, whiteboard usage, and whether folks are working primarily alone or in groups. This is a bit more time-consuming, but having this



Figure 4.2 Heat map of Grand Valley website showing where users click

Source: Matthew Reidsma.

data helps to give us a more complete picture of how our patrons use not only our services but also our spaces. This also directly benefits our patrons, since we have digital kiosks throughout the library that give at-a-glance updates on available seating and rooms in the different parts of the building (see Felker, Bloom and Earley, 2014).

Sheffield Hallam have also run a number of research projects to generate similar data (explored in detail by Harrop, Turpin et al. in Chapter 14).

### 3. *Search strings*

One of the most common tasks on our library websites is searching – for books, articles, movies, and help. When we think about our search tools, it is often in a very disconnected way, since we often divide up the different tools that are appropriate for different types of results and think of them as separate experiences: the catalog, the discovery layer, the database A-Z list, the vendor database. But our users don't experience the library website that way. Where we see individual tools, our users see a holistic search platform.

This is evident when you look at some of the things that users type into the search boxes on your site. They will search for library-specific information, like hours or locations, in your discovery layer, and for PubMed keywords in your catalog. By analysing these search strings, you can add to your understanding of how your patrons expect your site to work.

Both Grand Valley and Sheffield Hallam use Summon as the discovery layer. At Sheffield Hallam, a review of the search queries showed that there were a high

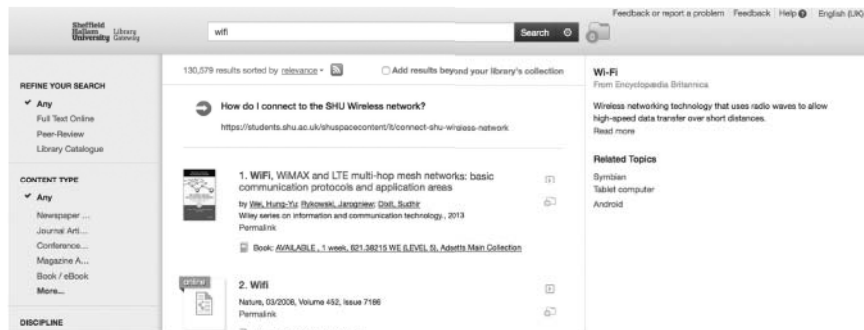


Figure 4.3 Summon Best Bet

Source: Matt Borg.

number of searches in the discovery layer for ‘connect to wifi’. Summon allows for the use of keywords to trigger suggestions that are returned to the searcher at the top of the search results, so now a search for ‘connect to wifi’ can take the user direct to the VLE (virtual learning environment) page on how to connect to the university Wi-Fi (see Figure 4.3).

At Grand Valley, we weren’t happy with how either Summon or our catalog recorded and presented search query data, so we built some custom JavaScript tools that live in each of our systems and accurately record the search terms that our patrons enter (Reidsma and Luckenbaugh, 2012, 2013). This allows us not only to get an overview of what folks are searching for, but also to do so across different systems.

#### 4. Usability testing

While almost all libraries have access to the first three categories of user-generated data, not everyone conducts usability tests on their library tools. The perception among many librarians that do not do usability testing is that you need a lot of specialised tools, a dedicated lab, and a one-way mirror. Both Grand Valley and Sheffield Hallam have been running (almost) monthly, formal usability tests for over three years. Although these can take a little bit of planning and bribery (£5 café vouchers at Sheffield Hallam, a free t-shirt at Grand Valley), we can assure you that all you really need is a computer and a willing patron. (Technically, you don’t even need these. Grand Valley regularly tests paper prototypes, and when desperate, Matthew has tested designs on his father, who calls him at least twice a week with his computer stuck in full-screen mode.)

Enough ink has been spilled about usability testing in libraries, and Matthew has already written about the how and why of usability testing at Grand Valley (Reidsma, 2011a, 2011b). But the main benefit is that you are able to watch a real



live person work through common tasks, giving life to the other three types of data. At Grand Valley, one of the most important things we look for during usability testing isn't even on the screen. While running the tests, Matthew pays close attention to the emotional state and facial expressions of the patron who is completing tasks. More than what they say aloud, watching their discomfort or frustration clarifies the whole experience users go through when using our tools.

One of the most important parts of this sort of usability testing is to make sure that you are asking the participants to undertake tasks that are *meaningful* to them. Asking them to use the library website to find an archaic journal article, available in print only, on the subject of camera film sold in the US in 1983 isn't going to produce helpful results. Usability test questions and scenarios are written in partnership with liaison librarians, so we have real questions from actual assignments within the university. Library websites and discovery systems are for students, not information professionals.

### **Connecting the data**

If you've spent a little time looking over this mound of data about your users, you have probably already found a few things that have surprised you. Maybe requesting items isn't as easy for your patrons as you thought, or maybe there is a confusing label here or there that you hadn't noticed. Looking at all of these different sources of patron-generated data helps to piece together a more holistic view of the library, and gets you out of a system-focused organisational view.

Before jumping in and changing labels or trying out a new way of requesting items, take a moment and think through everything you know about the task from a user's perspective. At Grand Valley, we like to draw out user journeys on a whiteboard or foam board so that we understand all of the steps it might take for a patron to get from point to point. For instance, you might have found a label that was stumping people at a certain point in requesting an item, but that same term may appear elsewhere: at another point along the way, in the help section of your site, or in automated emails generated by library systems. Simply changing that one label may create other problems along the way if you don't step back and take a holistic view of the patron's journey.

Of course, don't expect to get the user journey right if you're starting from how you expect your patrons to use your tools. At Sheffield Hallam, we promote Summon as the starting place for all searches. It is top and centre of the library website. We also have other rich academic sources of information that we want our students to use, and these are co-located on the library website. We included digital film and TV recordings in the Summon index, so they are searchable. We also use 'placeholder text' in the Summon search box to give an indication of what they are likely to be able to do. Initially, this just said 'Find books, articles and more . . .'

In one of our usability tests, we asked students to find a video of the Olympic Games. The journey we had in our minds, the journey that had been shaped by our 'expert intuition', was that students would just type 'Olympic games video' or similar in the Summon search box. They would then find a load of useful results,



select one from the list presented, and watch the video. They really didn't. Not at all. Out of the six users that month, none of them used the Summon box.

Instead, they tried various other sections of the website. Most of them ended up in the subject guides, where we had left the default search box in place. This is a search just of the subject guides. But the students diligently typed 'Olympic video' in the search box, only to find no relevant results. Cue frustration – from both the students and us!

The simple, quick and effective fix was to change the placeholder text to read 'Find books, articles, video and more . . . .' We ran the usability tests the following month and asked the same question to make sure that we had fixed the issue. All students that time used the Summon search to find and view their video. Win!

It's also beneficial to note exactly what you know about the problem, so that you have a baseline to measure against. For instance, if you know that 40% of your patrons aren't making it past the link resolver to get to a full-text article, you'll want to make sure to test any changes you make against that baseline so you can see if you've improved things for patrons.

### **Making changes**

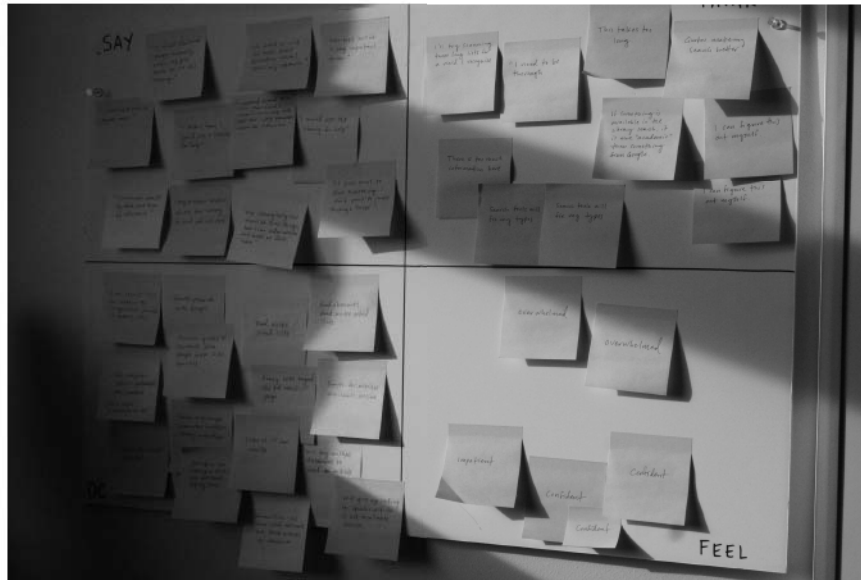
At Sheffield Hallam and Grand Valley, we used the same techniques to move beyond this point. Once we understood the patron's task holistically and had a baseline to measure from, we came up with several possible changes that might improve the user's experience. But rather than approach these as 'design solutions', we kept things flexible, and thought of them as design hypotheses. This keeps us from getting locked in to a particular solution, and instead lets us try out different solutions to find the best one for our users.

Once we've made a change, we start over again, watching our familiar data channels for information on how the change affects our patrons' experiences. Rather than a one-time task, at Grand Valley and Sheffield Hallam we are constantly engaged in this cyclical review. This helps us keep on top of how new changes are being received, as well as identifying new areas of need.

### ***And now for the hard part***

Reviewing all of this data takes a lot of time. It also takes a lot of time to digest it all and see the patterns over time. At Grand Valley, all of the raw UX data (including the different types identified here) was made available to anyone in the library through a shared Evernote notebook. Matthew also invited everyone to observe the monthly usability tests, and posted short summaries on his blog after each review (Reidsma, 2015). But processing several years' worth of usability test data, website analytics, emails, comments, reference questions, and more can be hard, even when it's the main focus of your job. So Matthew created a few tools for quickly sharing the information that folks needed to know.

First, he made an 'empathy map', for which he took quotes from 3 years of usability tests and grouped them according to what patrons said, did, thought, or



*Figure 4.4* Grand Valley empathy map

Source: Matthew Reidsma.

felt during the tests (Figure 4.4). From this map he further distilled the data down to three simple personas, or archetypal patrons (Figure 4.5). The personas helped keep staff focused on the needs of actual patrons, by putting a human face on a lot of disparate data.

One of the ways this was achieved at Sheffield Hallam was to share the usability testing with all the library staff. Everyone on staff was invited to a ‘Usability showcase’ that included free tea and coffee. Here the anonymised videos from that month’s usability testing were shown, the fixes that had been implemented were described, and there was a chance to talk to other people about real-world user cases being uncovered. Involving people in this way was hard. It wasn’t just a case of sending a calendar invite – Matt and others had to go and talk to people and explain why it would be interesting and useful for them to come. Getting fellow library staff to actually see the frustrations and confusion that the library systems were generating for users enabled them to develop a level of empathy and understanding that made it much easier to embrace subtle changes to the systems.

### ***Making it stick***

Making a great user experience is a long process, and while we’ve shared with you techniques and tricks we’ve learned over the years for improving our users’ experiences, it will take time to get the kinds of results we’ve had. That is because the

## AMANDA MCGUIRE SCIENCES UNDERGRADUATE



20 years old // Biomedical Sciences major // Grand Rapids, MI



"Full-text online is very important to me. I don't have time to request things."

### NEEDS

- Concerned with the quality of her sources. Checks recency, impact factors, and reads abstracts to determine relevance.
- Only interested in sources with full-text online.
- Has a few strategies that worked in the past, and tries those for each new project. Unsure where to start research on unfamiliar topics.
- Confident she can figure things out on her own without asking for help. Prefers to use self-service help if available.
- Overwhelmed, busy, and impatient.

### SERVE BY

- Make it easy to start new research, whether on a broad or narrow topic.
- Show abstracts, impact factors (citation counts, journal names, authors & affiliations) where possible in results lists.
- Offer self-service help, as well as research guidance.
- Remove barriers to doing quick research, including redundant or extra steps, page load speeds, and unfamiliar navigation patterns.

## MARCIA PITTMAN GRADUATE STUDENT



24 years old // Education - Higher Ed // Grand Rapids, MI



"I need to make sure that my research is thorough."

### NEEDS

- Concerned with the quality of sources. Reads works cited lists, evaluates results based on date and relevance.
- Starts research with subject-specific databases.
- Often feels overwhelmed, but likely to ask for help or use online help tools.
- Needs access to abstracts, impact factors, and other metrics to help her quickly evaluate the quality of resources.
- Will request an article through Document Delivery that looks useful for her research if it is not available online.

### SERVE BY

- Providing easy access to advanced search tools and subject-specific databases.
- Making it easy to request items that we do not have access to through MeL or Document Delivery.
- Offer self-service and in person help, as well as research guidance.

Figure 4.5 Two sample Grand Valley personas

Source: Matthew Reidsma.

most important part of making this process work is integrating it into the culture of your library. When we write about the process, it looks like magic. But it only looks like magic if you aren't in the meetings, and you aren't writing the constant emails nudging folks along, and you aren't there for years and years repeating the same mantra over and over again. If you just read about the system and the changes that can come, you'll just see the magic.

So you'll need to dedicate some time to reviewing all of your data, and to listening to it more than you listen to your own professional intuition. You'll need to share this information with your colleagues in a variety of ways, but in the end it will pay dividends. The way that users interact with the library has changed dramatically at both Grand Valley and Sheffield Hallam from really listening to patron needs, but it has taken time.

But perhaps that is to be expected. As the magician Teller once said, 'Sometimes magic is just someone spending more time on something than anyone else might reasonably expect' (Jones, 2012).

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