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Signage by Design: A Design-Thinking Approach to Library User Experience

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Abstract

Signage is a powerful visual tool for communication and a crucial component of the library user experience. Signage can welcome, guide, instruct, and delight users, helping them navigate the complex information world of any library. In practice, however, signage can be problematic, revealing tensions between various stakeholders, and contributing to visual noise through information overload; this often leads to signage blindness, library anxiety, and confusion. This article explores how libraries can use a design-thinking approach to improve the user experience in physical library spaces, particularly with respect to signage, based on our experience at the UTS Library, a university library in Australia that serves the University of Technology Sydney (UTS). We found that a design-thinking approach that uses the processes of empathy, problem definition, solution ideation, prototyping, and testing, can help libraries make significant and meaningful changes that can be adopted at relatively low cost.

Introduction

Aimlessly wandering through library aisles and browsing bookshelves can be a pleasurable experience, but when one is new to a library, the maze of floors and the variety of resources can be daunting, and we rely on signs and visual clues to help us find our way. Libraries are “growing organisms” (Ranganathan, 1931), and in our digital age, users can find them more complex and confusing than ever before. Even regular visitors to a library need help to inform and guide them through the continual changes that a library undergoes. This assistance is often provided through signage, which must be regularly reviewed and updated (Polger & Stempler, 2014).

Despite or perhaps because of this, signage is an issue that proves challenging for libraries. Barclay and Scott state that “if there is one truism about library signage, it is that most of it is not very good” (2012, p. 37). Similar sentiments are echoed by White, who identifies poor visual communication as “a practice that librarians commonly cling to” (2010, p. 23), contributing to a poor user experience. Unprofessional, inconsistently designed, and negative signage creates a poor user environment, with “do not,” “prohibited,” and “no talking” signs scolding users rather than helping them use the library productively. Furthermore, bad signage can also turn away users, wasting their time and the time of library staff in answering queries that could be easily addressed with better signage. In fact, White (2010) declares that having no signage whatsoever is better than bad signage.

Literature Review

Library signage is one of many “touch points” (Schmidt, 2010) in a library, which are “any interaction the user has with library service” (Hahn & Zitron, 2011, p. 28). Such touchpoints can easily turn into “pain points” (Schmidt, 2010, p. 20), or places of contact that can leave users feeling “confused, aggravated, or disappointed” (Schmidt, 2010, p. 20). Library staff, workshops, and the library’s website are also examples of touch points. Though a single sign may only be a small part of

a user's library experience, the fact "that the library has considered the impact that this one sign has on people's perceptions of the library is a good indication that it is also considering the impact of more significant touchpoints, such as programming and services" (Schmidt, 2015, p. 25). Poor signage, however, can trigger library anxiety, a term coined by Constance Mellon to describe feelings of fear, uncertainty, and worry when visiting the library (McPherson 2015, p. 317).

Effective signage contributes to a user-friendly environment, and can "help users move throughout buildings more efficiently and accurately and may reduce questions at service points" (Bosman & Rusinek, 1997, p. 81). It has been found that library users may experience a "fear of appearing 'stupid' and revealing ignorance by asking questions" (Coker, 1993, p. 27), which can be a psychological barrier to requesting assistance. More recently, library anxiety has been found to have a paralyzing effect, which can prevent users from "approaching a research assignment rationally and effectively and can influence a student's ability to complete assignments" (McPherson, 2015, p. 318). Signage can help to reduce this uncertainty, fear, and confusion. Carlile suggests combating issues of library anxiety by providing "visual guidance through better signage, wording directions and instructions in jargon-free terminology, and having staff wear name-tags" (2007, p. 138). Together, these elements allow users to feel more comfortable about using the space, finding information, and locating resources.

Library signage serves two broad purposes: "informing library users and trying to influence their behavior" (Serfass, 2012, p. 5). It is important to help users to feel comfortable and confident in using the library to achieve this. Polger and Stempler argue that library signs are "living documents" (2014, p. 67), and must adapt and change as the library does. Librarians undertake responsibilities around designing signage, brochures, informational handouts, web pages, and promotional and instructional documents every day as part of their jobs. Hence, "librarians are in the business of graphic design, even if they have not been formally trained in design" (Wakimoto, 2015, p. 172).

Signage also acts as an *affordance* to the resources in a library—affordances are features in the environment that "indicate the potential for a behavior, but not the actual occurrence of that behavior" (Maier, Fadel & Battisto, 2009, p. 397). An affordance, according to Gibson, "points two ways, to the environment and to the observer" (1979, p. 141), and in this sense, library signage is a key affordance in the library user experience. Library signage is there to help users to use the library, which could be anything from assisting a user in navigating the library collection, to explaining how to use a self-check loans machine. The role of the librarian is to connect people to information, and according to Schmidt and Etches, signs can be seen as tools to achieve this, and hence their design falls well within the scope of library work (2014, p. 71).

Improving wayfinding is something that librarians can easily have control over. Mollerup calls this *wayshowing* and it "includes all activities and implements that make a location navigable: identifiable, understandable, memorable, and accessible" (2013, p. 50). Signage is an integral part of this wayshowing; changes to signage can be prototyped, refined, and implemented in a relatively low-cost manner, reducing library anxiety and increasing positive attitudes.

Human wayfinding behaviors are affected by three factors: "differentiation of the environment, visual access, and complexity of the spatial layout" (Li & Klippel, 2012, p. 23). Li and Klippel argue that the layout complexity of an environment has the most significant impact on human wayfinding behaviors, and that even in areas with low layout complexity, a "misleading sign made participants choose the wrong bookshelf" (2012, p. 36). Too many signs and signs dense with information can also cause information overload, for, in a sense, signage can be considered the filters we use to sift through the information in our environment. When that information seems too much, Clay Shirky argues that "it is not information overload; it's filter failure" (Asay, 2009). Hence, signage failure is a type of filter failure.

Godfrey suggests that the same usability principles that are applied to library websites are also relevant to other forms of library communication, such as signage, for "by avoiding library jargon, using personal and friendly language, and reducing unnecessary text, library communication becomes usable, useful, and clear" (2015).

Apart from recommending that libraries create a brand identity and use a consistent visual language on all signs, Schmidt and Etches (2014) re-work Brown's (2002) classification of the types of signage and propose five types. This article uses these classifications of signs—directional, identification, instructional, regulatory, and informational (Schmidt & Etches, 2014), and uses examples from UTS Library and the literature to present evidence for how these signs can be improved in all libraries.

Context and Approach

UTS is an inner-city university with more than a dozen buildings in varying architectural styles, built across several decades. These buildings are not within a campus per se, but located on busy streets in the city amongst several tourist destinations, resulting in a lot of people traffic. Students and academics often struggled to locate campus buildings and the classrooms. Consequently, the university implemented large, standardized signage throughout the university and inside buildings. This signage system was not sufficient for the library's purposes due to the complex nature of the library's resources.

Around the same time, the UTS library retrieval system went online in July 2014. This on-site, underground, automated storage and retrieval system uses radio frequency identification to store low-use items from the library collection. The system stores roughly 450,000 items, while a further 200,000 remain on the physical library shelves. This system, although allowing UTS to retain its print collection on-site, is not browsable. In preparation for its implementation, UTS Library staff were faced with the task of not just enhancing its online discovery tools using a design-thinking approach, as detailed in Booth, Schofield, and Tiffen (2012), but also reconfiguring the library spaces and redesigning all the signage. Simultaneously, as described in Tiffen and England, we envisioned the library as a "place of collaboration, social engagement and creativity, staffed by individuals who are approachable, personable, and unique" (2011, p. 238). Existing signage did little to support this vision, as evidenced by the increased number of help desk inquiries.

Since 2012, the UTS Library has also appointed an artist-in-residence to, in the words of our university librarian, "ask questions of us that we'd not ask of ourselves and to consider aspects of the library and its progress from a [visual] artist's perspective" (Booth, 2016). The first of our artists-in-residence, Chris Gaul, aimed to show that interfaces for exploring and browsing library collections, both physically and online, "can be creative, delightful tools that encourage playful exploration and serendipitous discovery" (Gaul, 2013b). The UTS Library also intended to represent a culture of creativity, as described in Chan, Crosbie and Williams, where "the visual identity will become synonymous with the experience of the library... [bringing] the university together as a hub of knowledge, culture, and collaboration" (2015, p. 2).

Alhamdani describes design thinking as "an inventive process of thinking backwards from people... that leads to design a product, a service, or else is based on the conclusions of the knowledge gathered in the process" (2016, p. 80). Razzouk and Shute assert that design thinking "engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign" (2012, p. 330). A key aspect of the process involves empathizing with the user, which the Stanford's design school describes as "the centerpiece of a human-centered design process" (Hasso Plattner Institute of Design, 2013, p. 2). Amiel and Reeves argue that "design-based research calls for practitioners and researchers to engage in long-term collaborations" (2008, p. 33), while Serfass recommends that one staff member should be assigned to oversee signage (2012). In our case, the communication officer at the library, also a trained librarian, was the coordinator of this project and engaged with all the stakeholders including library staff, students, academics, and university staff at various stages of the redesign process. A number of academics were also consulted from various departments, including researchers from the library and information science discipline and from the design disciplines.

We adapted the design-thinking process as follows, to suit an academic library:

1. **Empathy:** To understand the needs of our users, including students, academics, university staff and members of the public, we conducted observations (Curedale, 2013), library sweeps (Given & Leckie, 2003), shadowed users, engaged in conversations, and conducted interviews. This approach provided us with rich contextual information and a more insightful understanding of the library user experience than the numerous surveys that had been conducted in the past.
2. **Definition:** The information we gained from the empathetic approach, above, was used to define the problems we found that were related to signage or could be solved with signage. We conducted a signage audit by photographing signage found throughout the library and mapping them to a table organized according to the categories outlined by Schmidt and Etches (2014, p. 83). We also identified touchpoints that lacked sufficient signage.
3. **Ideation:** Based on the mapping as above, library staff engaged in brainstorming sessions that were not only fun in terms of group cohesion, but also resulted in several non-traditional signage ideas. These brainstorming sessions also involved some students working part-time at the library, who offered a valuable student perspective with a lot of

reflexive humor from their own experiences. The resulting solutions we arrived at had a conversational tone to them. Although this was not common practice in previous signage, we decided to prototype the more playful ideas for testing, as it was in line with our vision for the library being seen as less authoritarian and prescriptive. We also removed signs that were duplicated, redundant, or caused an information overload.

4. **Prototyping:** We prototyped a range of signs on printed paper. First, we addressed common printed signage around the library, followed by hanging identification signage, and wayfinding signage last. By beginning with low-cost printed signs, we had the freedom to experiment with fonts, colors, and placement before deciding on a final design. Updating signs in this way allowed us to implement gradual changes over a period of two years, with continual user input throughout the process. This made the process more manageable, and, over time, helped us arrive at signage that worked for all our users.
5. **Testing:** As the testing was in parallel to the prototyping on account of the low-cost and low-stakes solutions (unlike product testing, for example), we simultaneously engaged in a process of prototyping and testing that informed each other in a continuous process. Once there was enough user input to decide on a sign, we proceeded to make more fixed signage that was professionally produced.

Implementation

This section details the design-thinking process we adopted as described above. Given and Leckie argue that identifying usage patterns within library spaces is useful in matching “information services to users’ information behaviors, or to redesign the social activity space of libraries” (2003, p. 366). We identified, through user observations and signage sweeps on every floor, that there were a number of issues within the physical library spaces. This was done in a process similar to Given and Leckie’s (2003) library sweeps, wherein we conducted timed walks (or sweeps) through the library space, and documented a range of user behaviors taking place, including signage-related behaviors. This provided a valuable method for investigating questions about how our users interact with the signage. As part of this process, library staff observed, shadowed, and had informal conversations with users over a period of several months in 2013–14. We tracked reference desk queries using RefTracker and were able to use statistics from the application to assess the changes in the number of queries about particular library topics.

We observed that students were regularly visiting the information desk with questions that the staff believed they had already addressed in various signs throughout the building. These included locating spaces, services, and resources within the building, such as: finding the printing room, printing, locating a water fountain, finding parts of the library collection, locating group study rooms, finding library workshops, and ordering books from our automated library retrieval system.

The sheer number of inquiries and evidence of confusion amongst our users led us to examine our assumptions about how we expected users to find that information. It was at this point that we discovered that many of the inquiries we received were about wayfinding or how-to processes to interact with library systems. We also identified that some of the recent changes in the library spaces were not implicitly addressed in our current signage. Thus, some of the confusion was caused by the very signage that was aimed at reducing this confusion.

We conducted a signage audit to identify the scope of the issue, in which we photographed every sign in the library and created a spreadsheet. Such an inventory of all signs throughout the library allowed us the opportunity to evaluate “a multitude of issues relating to language, design, branding, and overall aesthetic” (Stempler & Polger, 2013, p. 122). The first phase of the project examined common printed signage, before examining permanently fixed signage in the second phase. This allowed us to observe the effects of low-cost changes and test these to receive feedback before implementing more permanent changes.

As part of the signage audit, every sign in the library was photographed, annotated, and placed in a spreadsheet and classified in the following categories: directional, identification, instructional, regulatory, or informational. Each sign was also evaluated in terms of its usefulness. Does it serve its intended purpose, and is it clear and easy to understand? [\[1\]\[#N1\]](#) Figure 1 provides an example of how our signage audit was formatted.

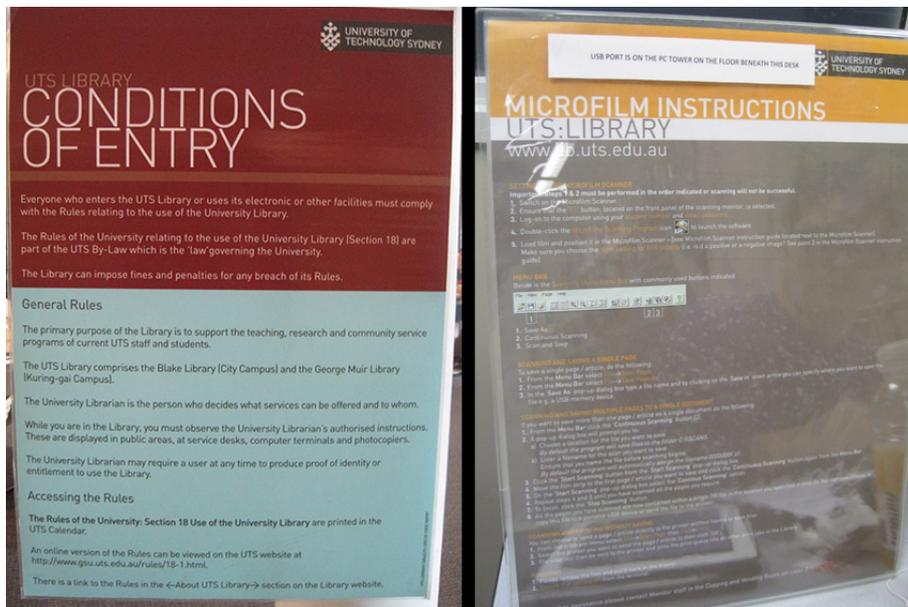
Sign Name	Type	Location	Text	Usefulness	Update or Remove	Brand
Exam Results	Informational	Enquiries & Loans Desk, Level 2	Exam Results: "Take control, clear your fines online" You can now pay your library fines online by logging into My Library @ www.lib.uts.edu.au Fines over \$49 may prevent you from accessing your results.	Useful information to communicate when students are borrowing items at the Enquiries & Loans Desk.	Update	UTS logo to be updated. Font to be standardised.

[\[w/weave/images/12535642.0001.501-00000001.png\]](#)

Figure 1. All signs were recorded and evaluated using the following categories: name, type, location, text, usefulness, whether to update or remove the sign, and whether it utilized the library branding appropriately.

The signage audit revealed the following issues:

- Too many signs, some of which were reactionary or temporary responses to an inquiry that occurred years ago.
- Signage introduced at different points in the library’s history, resulting in inconsistent branding, terminology, and style.
- Poor information design, with too much text laid out in a confusing and convoluted manner, such as in Figure 2.
- Multiple signs referring to the same information, leading to information overload.
- Many signs were simply old, and looked faded, untidy, and unprofessional.

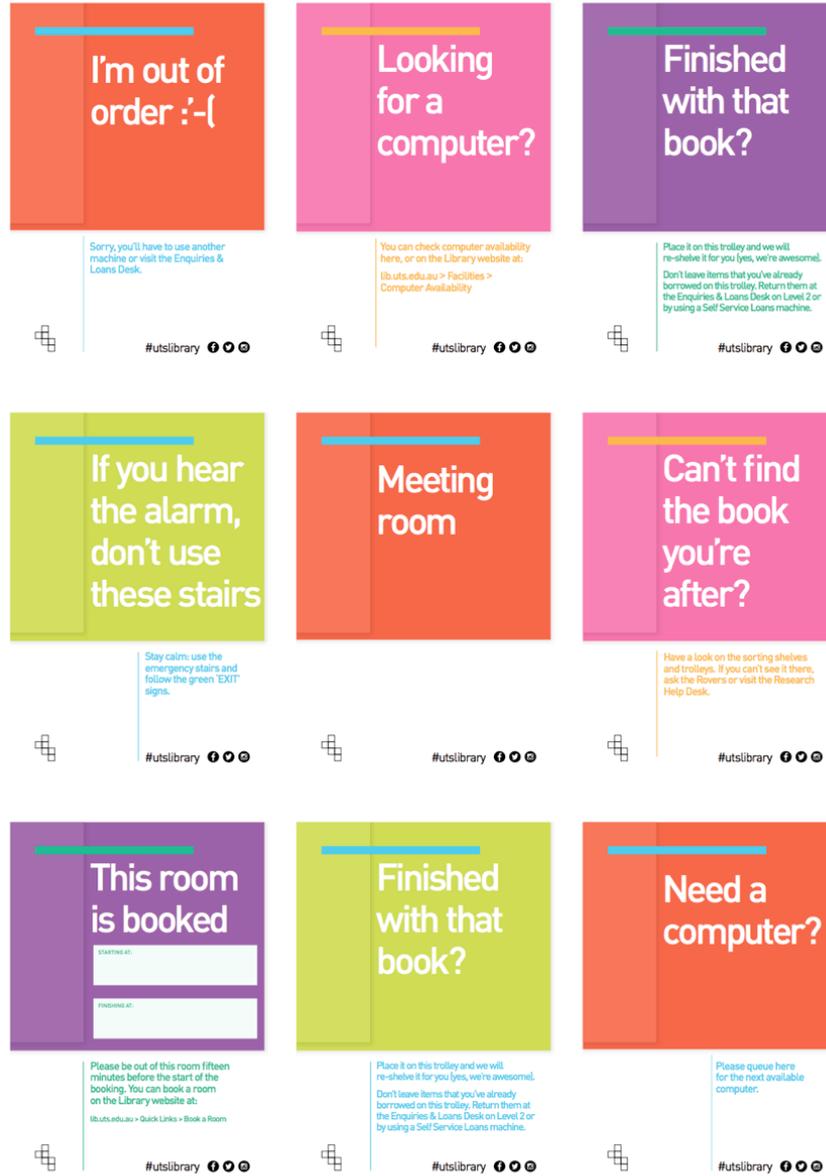


[\[w/weave/images/12535642.0001.501-00000002.png\]](#)

Figure 2. An example of two problematic signs. They use inconsistent colors and fonts, contain too much information, and the content cannot be scanned quickly.

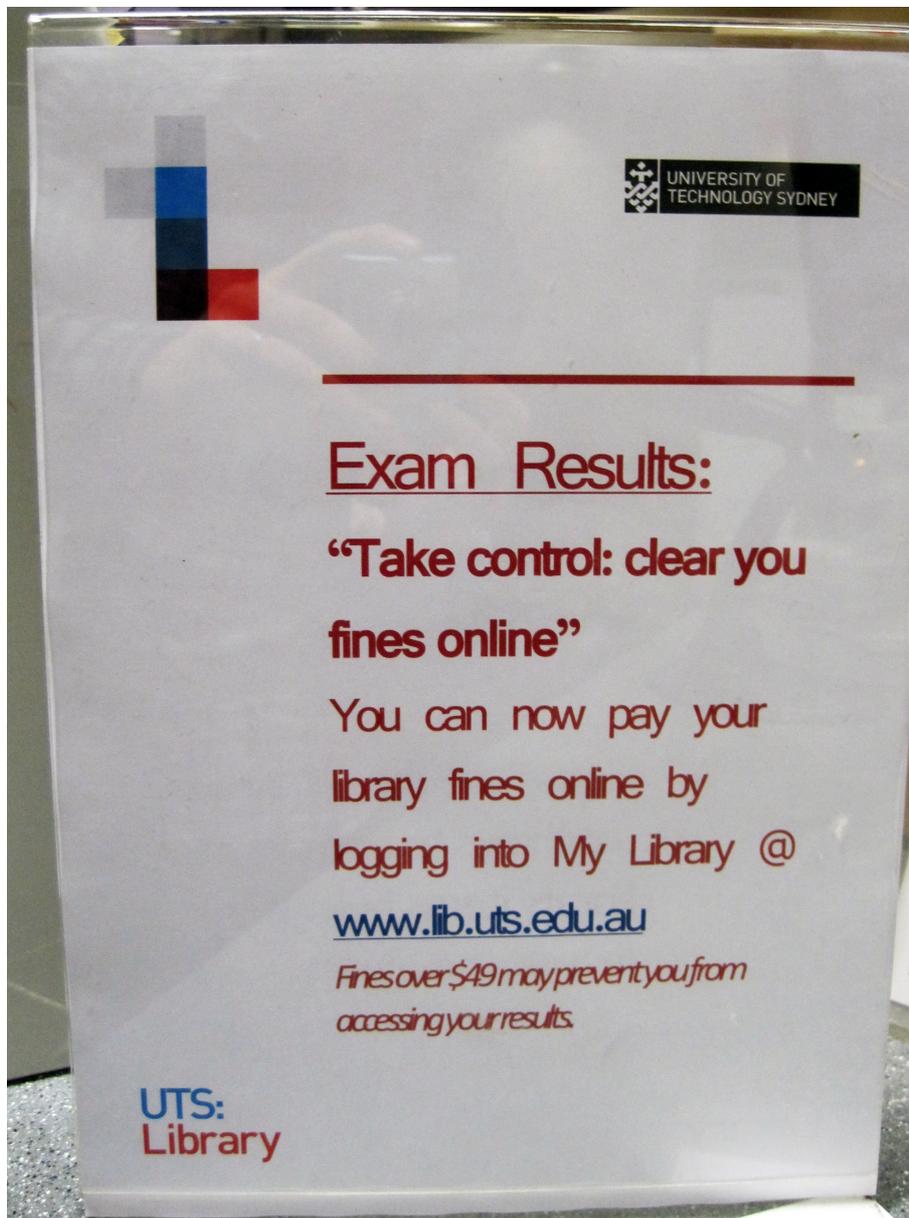
Based on the issues identified above, seventeen of the fifty-four kinds of common printed signs could be removed immediately—either they were no longer relevant, contradicted another sign, or the information was already addressed elsewhere. One paper sign had been up for ten whole years, according to the date in the footer.

We developed a simple template for printed signs, with a range of complementary background colors and a clear typeface (fig. 3). Figure 4, a confusing and poorly formatted sign, is redesigned in Figure 5.



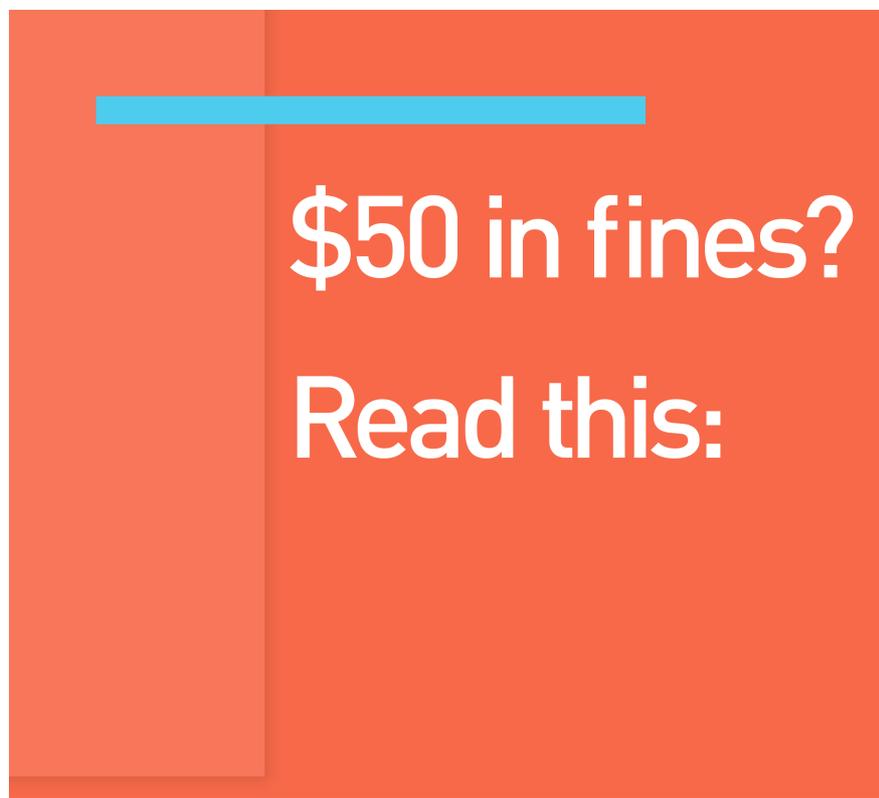
[\[w/weave/images/12535642.0001.501-00000003.png\]](http://w/weave/images/12535642.0001.501-00000003.png)

Figure 3. A selection of new signs implemented with a consistent visual style, brief messages, and colors corresponding to the floor.



[/w/weave/images/12535642.0001.501-00000004.png]

Figure 4. While this sign uses the library colors and some brand elements, the information is poorly conveyed with a poor choice of typeface.



Library fines of more than \$49 may prevent you from accessing your exam results and may affect your re-enrolment or graduation.

You can pay fines here at the Enquiries & Loans Desk, or through MyLibrary on the Library website.

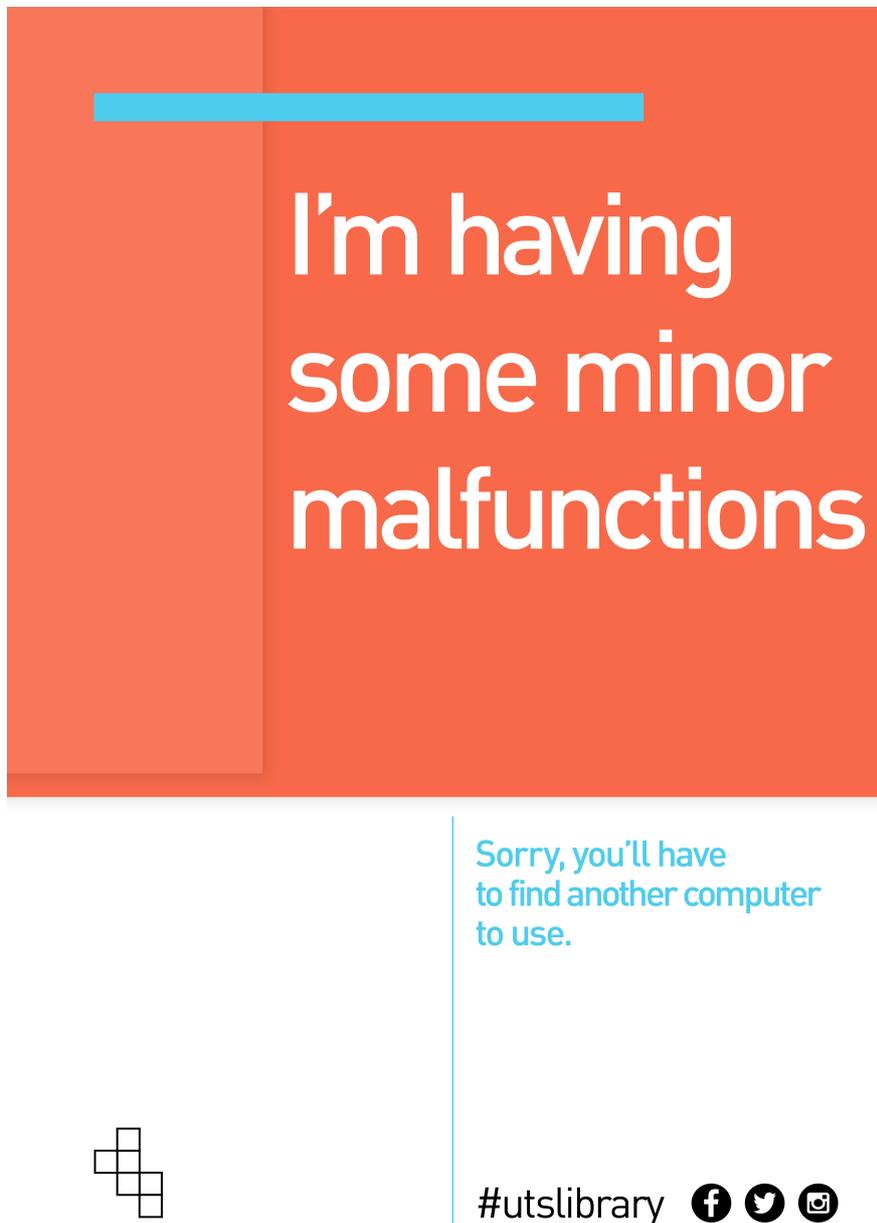


#utslibrary   

[\[/w/weave/images/12535642.0001.501-00000005.png\]](#)

Figure 5. The redesigned version of the sign in Figure 4. The critical information, previously the final sentence, has been flipped to the top of the sign.

All the new signs are divided into two parts—with an important, attention-grabbing message in a large type, and then further detail for those willing to read on (fig. 6). At the bottom of each sign we added our social media hashtag #utslibrary and icons for Facebook, Twitter, and Instagram. Students actively engage with the library on social media, and many of our signs sparked positive conversations amongst students who photographed the signage and posted it.



[\[w/weave/images/12535642.0001.501-00000006.png\]](#)

Figure 6. The sign's key message is communicated with a brief amount of text in a large font, followed by more information below.

In keeping with Schmidt and Etches' classification (2014), the following discussion is mapped to their five categories as mentioned earlier. We propose a sixth category: fun and delightful signage, which we implemented to reduce library anxiety and encourage a positive user experience.

Directional

Directional or wayfinding signage helps users "get from where they are to where they want to be" (Schmidt & Etches, 2014, p. 83). Brown suggests that library signage should not be wholly responsible for guiding users, and that "wayfinding should be considered [even] when developing the architecture for the building" (Brown, 2002, p. 95). Although the UTS Library building was purpose-built as a library (Peake & Wilschefski, 1989), our users were still encountering a number of issues locating certain features of the library. In our study, we found that wayfinding signage at UTS Library served the following purposes:

- Helps a user to orient themselves upon entering the library and to work out where they need to go next.
- Find the area in the library that is relevant to their visit (a group study room, a training room, a silent study area, and so on).

- Helps a user to locate specific parts of the library collection, including print and other media.
- Helps the user locate facilities such as bathrooms, computers, printers, and water fountains.

A key consideration is where a sign should be placed, hence the library sweeps and user studies described earlier were essential in allowing us to consider the physical locations where users may require information. Serfass calls these “decision points” (2012, p. 5), and argues that identifying these is particularly relevant for directional signage. Similarly, Barclay and Scott use the term “bump point” to identify areas “where people routinely stop or slow down as they decide which way to go next” (2012, p. 37). Library staff typically find it challenging to adopt a user-centered perspective, so conducting ethnographic research was essential in making informed design decisions that addressed the needs of our users. Fortunately, this form of user research can be performed relatively quickly and at low cost—simply observe your users in action. Despite this method’s informal structure, ethnographic observations “should still be systematic, careful, and well documented with notes, sketches photographs, or raw video footage” (Martin & Hanington, 2012, p. 120).

We did this through a meticulous process of observing, shadowing, and documenting our users, their queries, and their navigation through the library over several months. The bump points were mapped to the library floor plans before any new signage was implemented. Figure 7 demonstrates the final signage and information required by users entering each floor, which we identified through observations and interviews.

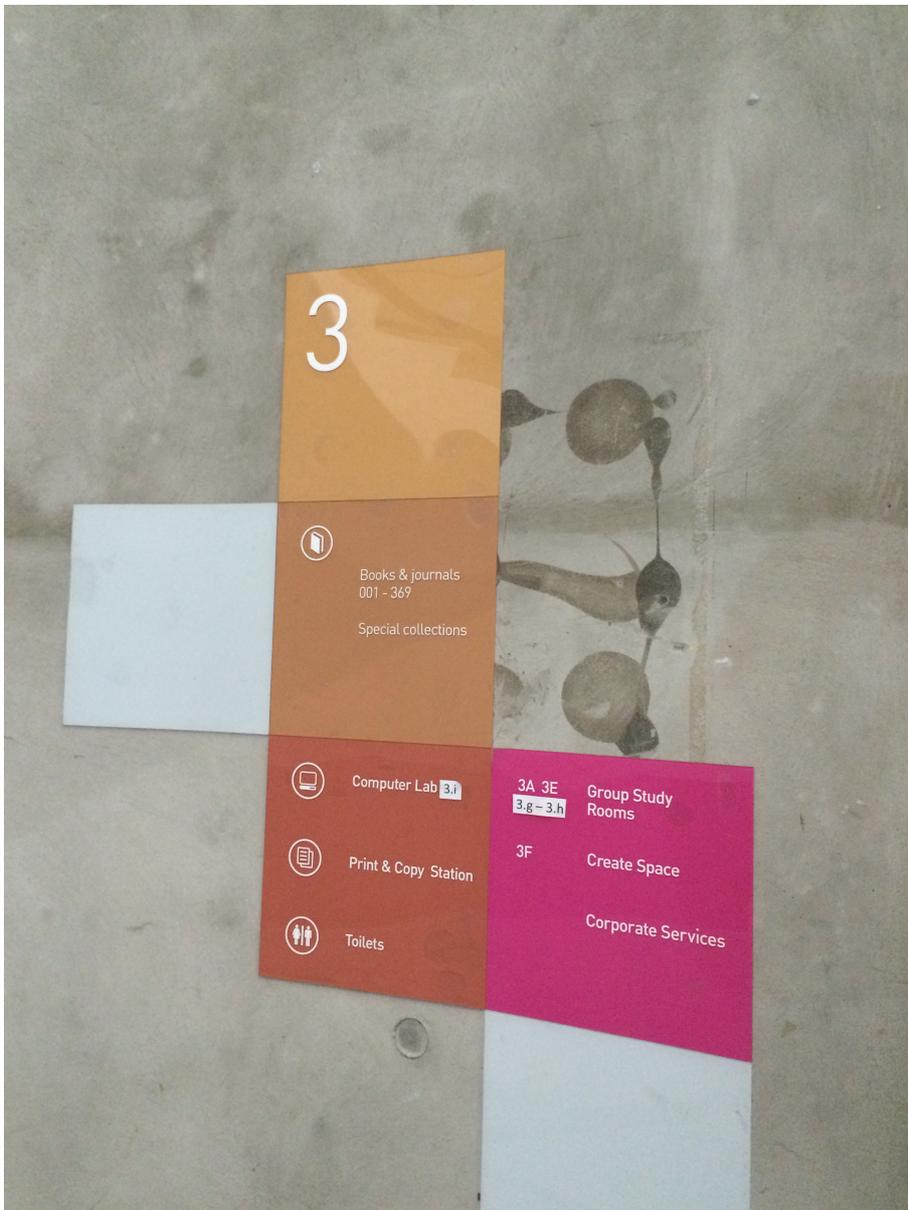


[\[/w/weave/images/12535642.0001.501-00000007.png\]](http://w/weave/images/12535642.0001.501-00000007.png)

Figure 7. The library directory is prominently visible on each floor. Floors are assigned different colors and call number ranges are clearly labeled.

The placement height of wayfinding signage was also found to be an issue. Many signs were hanging from the ceiling, well above eye level and ignored by users. When we began to experiment with new wayfinding signage, we used temporary, printed signs mounted on portable stands to test placement before implementing final signage.

Being a university with a large international student cohort, it was also necessary to make the signage universally comprehensible, and hence floor numbers needed to be highlighted prominently at doorways, stairs, and elevators, and not just in the directory and at floor/elevator entrances. They also needed to follow a consistent design. This had not been especially clear in the previous iteration of wayfinding signage, which is shown in Figure 8.

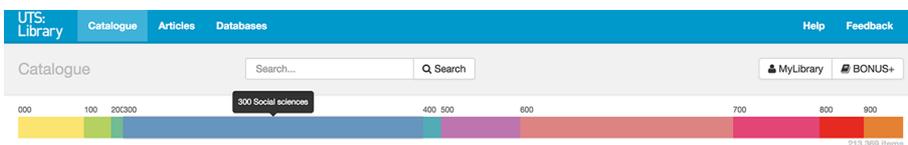


[\[w/weave/images/12535642.0001.501-00000008.png\]](#)

Figure 8. This wayfinding sign was professionally designed and on brand, yet wasn't conveying information effectively and was pasted on top of the space vacated by an even older sign. There is no clear hierarchy of information, and the text is too small to read from a distance.

Identification

UTS Library uses the Dewey Decimal System to classify its book and journal collection. In 2013, the Collection Ribbon (fig. 9) was introduced to the online library catalog, inspired by our artist-in-residence Chris Gaul's work in developing ways to visualize library collections. The Collection Ribbon is a colored ribbon that assigns colors to different subject ranges. This is a functional feature, too, as clicking on the different colors allows a user to refine their search results by subject area, enabling them to discover new materials. This feature was designed to simulate a browsable way to look at the collection, like walking through a traditional library aisle. In addition, a "Shelf View" design was incorporated into the catalog to show the books adjacent to any individual book on the physical shelves.



[\[w/weave/images/12535642.0001.501-00000009.png\]](#)

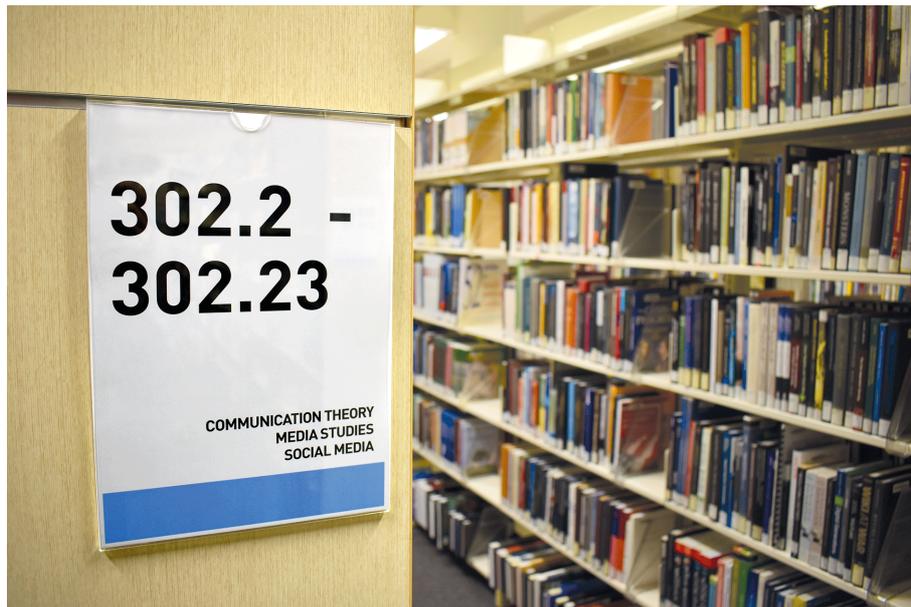
Figure 9. The interactive "Collection Ribbon" is visible at the top of UTS Library's online catalog (2016).

Hahn and Zitron found that call number classification “confuses students where they do not have the context and frame of reference whereby they can apply this number as corresponding to the location of a book on a shelf” (2011, p. 32). The addition of posters that assign a broad subject to call numbers has been found to assist first-year students who are unfamiliar with the library (Hahn & Zitron, 2011). The call number itself is the most crucial element of the sign for a known search, but subject headings and material lists help to encourage browsing and discovery (Stempler, 2013). The same study found that “a color-coded stack signage system has helped users orient themselves and find materials in a library with high layout complexity” (Stempler, 2013, p. 512).

Woodward suggests that libraries consider how they might adapt elements of the bookstore model to attract users “in the same way bookstores have developed sophisticated strategies to attract customers” (2004, p. 20). Due to the size of library collections, and the counter-intuitive ways in which they are often organized, Woodward argues that “effective signage and logical arrangement often make it easier to find materials in a bookstore than in a library” (2004, p. 118).

We took these ideas into consideration and decided to introduce topic headings (different from the Dewey Decimal Classification classes) on our call number signage to make the stacks in our physical library easier to browse (fig. 10). These topic headings match our students’ study areas, which makes it easier for users to browse and discover items in the subjects of their interest or related items—or stumble upon something entirely different elsewhere. This was a collaborative effort with input from our liaison librarians, as they were familiar with the terms most useful to students studying at our university.

Using the Collection Ribbon from our library catalog, we were also able to assign colors to the call number signage. For example, items in the 300s (social science) are blue, shown in Figure 10. This simple visual clue aids navigation and provides a hint to users unfamiliar with the layout of the collection. Figure 11 shows the transition from one topic area to another, demonstrated by the change in color.



[\[w/weave/images/12535642.0001.501-00000010.png\]](#)

Figure 10. Call number signage uses topic headings to allow for greater discoverability of materials. The colors from the Collection Ribbon are used as a visual clue to assist students locating items.



[\[w/weave/images/12535642.0001.501-0000011.png\]](#)

Figure 11. The transition from yellow to green communicates the change from the 00s (computer science/information & general works) to 100s (philosophy and psychology).

When auditing signage, it is important to be critical and question the rationale behind all signage. At UTS Library, a particular row of computers is reserved for community members—alumni members, day visitors, and independent researchers. Originally named “G-Row,” the meaning has become unclear over time and in 2016, it was the only row of computers to be specifically named. A library’s signage system must be flexible enough to allow for changes in resources, services and facilities. In this instance, many staff members referred to the row as “G-Row,” yet the name had no meaning and was unnecessarily confusing for users. Signage should “help create a meaningful experience for its patrons” (Polger & Stempler, 2014, p. 68), and librarians must be able to acknowledge when something is no longer working. A simple sign stating “This row is for community members” to indicate that the computer was available to those who were not UTS staff or students, was created and is now being used to designate the appropriate row. We found it valuable to be wary of statements such as “that’s the way it’s always been. Questioning the status quo and asking whether there was a better way of doing something led to a number of unexpected changes that significantly improved the user experience at our library.

Instructional

Instructional signage helps users to better utilize the library. This is also one of the most common types of poor signage; when a user encounters an issue, helpful staff members are quick to prepare a handmade sign explaining the correct procedure. These accumulate. And become outdated. And cause clutter. Schmidt and Etches argue that paper signs are often put up because something isn’t working very well (2014, p. 86). Instead, librarians should address the core issue, which will improve the visual environment and make the library more pleasant to use. This idea is supported by Mollerup, who argues that user instructions can sometimes be seen as “repair design for poorly designed products that cannot themselves explain how they should be used” (2005, p. 15). Creating a professional-looking version of the same sign does little to address the underlying issue. Brown suggests that “most library policies and instructions for complicated procedures should be presented to users by word of mouth or in a handout or flyer, rather than a sign” (2002, p. 93).

Printing is a common but often complicated procedure at academic libraries, and UTS Library’s own Print & Copy Room proved to be a problematic user environment. Staff members at the library’s reference desk receive many inquiries about printing and copying services, and as part of this study, we shadowed users and observed the room to uncover why. The room appeared to be thoroughly signposted, with many different signs explaining how to add money to your account. Yet, there was little consistency to these instructions, with many signs created at different points in time and using different terminology and language. A key piece of information—that users can print from their laptop or mobile device, not just the library computers—was not to be found on any of the signage. The library’s website did not provide information about this either, instead listing printing costs, how to add money to your account, and where to get help. Clearly, there was a wealth of information available about printing, but not necessarily the information users actually needed to print and copy.

All existing signage was removed, and the following strategies were implemented to address this issue of information overload:

- Rewriting the page on the library’s website to include clear sections on “printing from a library computer” and “printing from your laptop, tablet or phone” (UTS Library, 2016).
- Developing a handout for the reference desk on printing from your own device, which was given to students who were not using library computers.
- New, simplified signage in the Print & Copy Room that clearly explained how to add money to your account, how to print, and how to copy.

An amusing, and simple, solution also became apparent through our observations—there were large queues of ten or more students forming to use the one stapler available. This example illustrates the value in critically observing user environments in action. We added a few extra staplers in the room and the issue was solved.

Regulatory

Regulatory signage aims to enforce rules and influence user behavior and is typically the most challenging type of sign to implement. Schmidt suggests that most or all regulatory signs should be removed as they do not apply to most users and are usually not effective anyway (Schmidt, 2015). It is not surprising to find users appearing confused when entering a space covered in signage proclaiming rules, regulations, and instructions. By cultivating a positive library experience, users “may feel more confident and comfortable with using the library” (Carlile, 2007, p. 138), which encourages continued use of the library.

Controlling noise levels is a challenge faced by most libraries. The silent floor at UTS Library was found to be completely covered in regulatory signage, all of which was largely ignored by users. Signs such as “No smoking,” “Text, not talk,” and “Quiet environment” were found on every column in silent study areas, creating visual clutter and a poor user environment. There was also inconsistent terminology, with “quiet environment” and “silent zone” used in the same areas, shown in Figure 12. Words such as “environment” and “zone” are unnecessarily complicated, particularly when the signs refer to the entire floor.



[\[w/weave/images/12535642.0001.501-00000012.png\]](#)

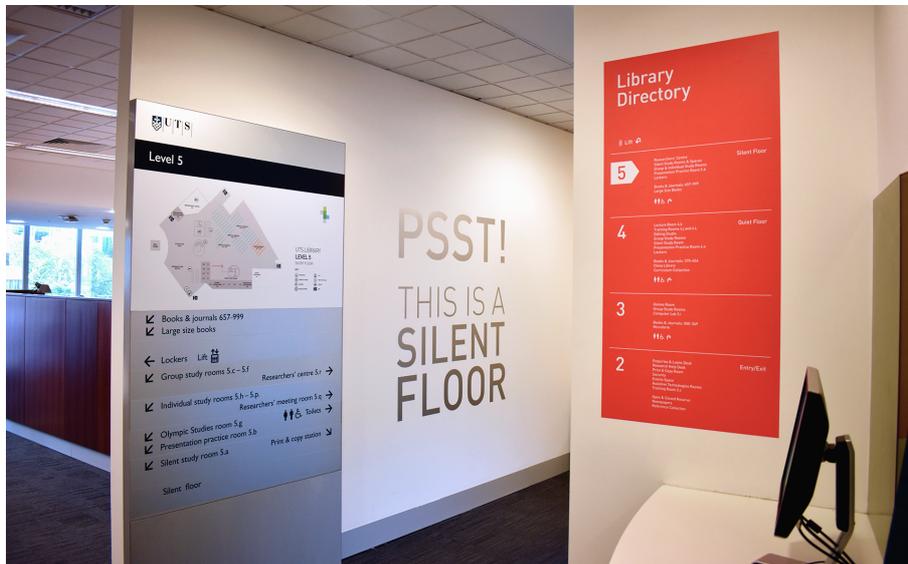
Figure 12. A number of old-fashioned and unhelpful regulatory signs, which were removed after the signage audit and subsequent analysis.

Rather than regularly “reminding” users, we decided instead to focus on the three access points to the silent floor—an elevator, a front stairwell, and a rear stairwell. This sign went through many iterations, and library sweeps were conducted to evaluate the success of the signs by assessing noise levels. A number of abandoned designs are shown in Figure 13. The final sign we decided on is seen as users arrive at the silent floor: “PSST! This is a Silent Floor” (fig. 14). Note that “psst” is used instead of “shh”; it’s not a command, but is more of a playful aside. This is, in fact, an instructional sign, but is enacted like a demonstrative sign, which doesn’t regulate users who are already following the rules. A reflective silver color is used rather than black to prevent the sign from appearing too officious or confrontational. Library staff have since noticed a marked decrease in noise levels after the signage was implemented.



[\[w/weave/images/12535642.0001.501-00000013.png\]](#)

Figure 13. Ineffective noise level signs that were prototyped and tested. The first sign, in particular, requires too much thinking and is unclear.



[\[w/weave/images/12535642.0001.501-00000014.png\]](#)

Figure 14. Our final, effective noise signage, seen immediately upon reaching the silent floor.

Informational

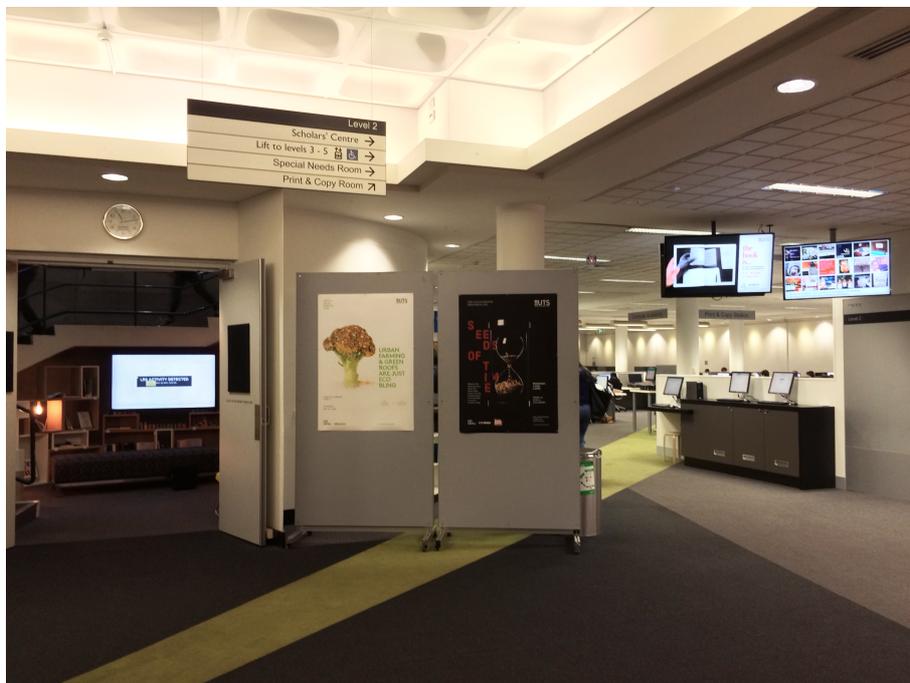
Informational signage need not only tell users about things that they are seeking information on, but can also tell them things they may have never known about. Figure 15 provides an example of communicating key information to library users at an appropriate time.



[\[w/weave/images/12535642.0001.501-00000015.png\]](#)

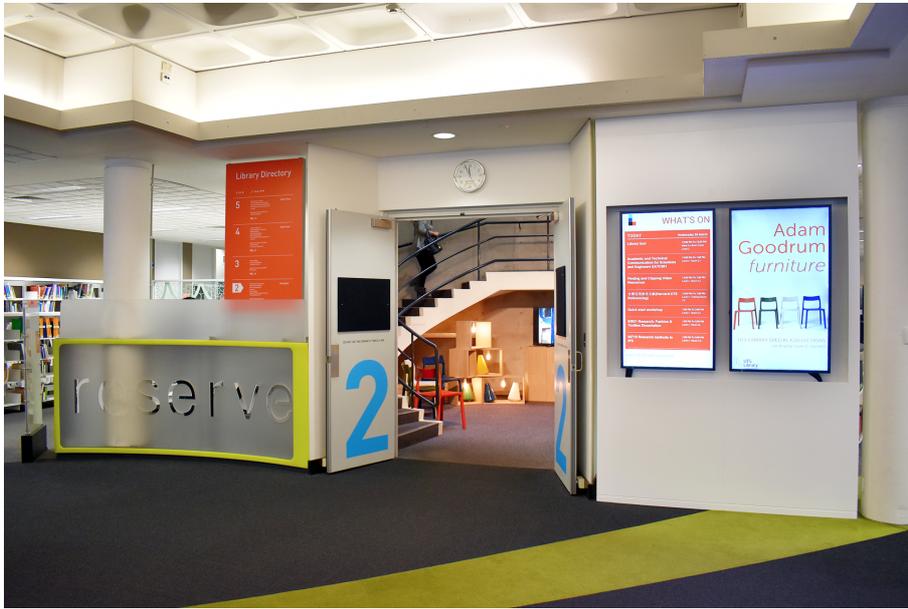
Figure 15. Informational sign close to the group study rooms, which is placed at a bump point where users might be wondering whether they can book a study room.

The library foyer is an important first impression. We found that this space was not being utilized appropriately, with a range of signs not at eye level (fig. 16). A common challenge was conveying that the ground floor is actually Level 2, which is especially important when users need to move between levels. Establishing the floor the users were in within the building whether they were entering or moving through the building was accomplished through large floor numbers installed near the front stairwell, rear stairwell, and near the elevator. These are also color-coded to create another layer of visual identification for users. A directory has also been installed to the left of the stairs to allow students to orient themselves before moving to another floor, shown in Figure 17.



[\[w/weave/images/12535642.0001.501-00000016.png\]](#)

Figure 16. Library foyer before any signage work. Directional signage is well above eye level and ignored by users. Poster boards displaying promotions and events look old-fashioned and untidy.



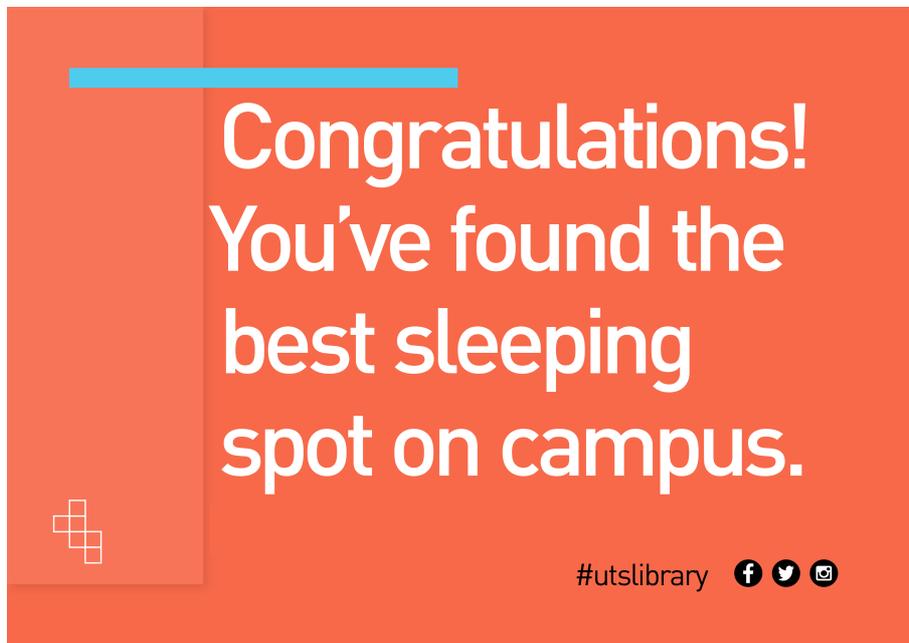
[\[w/weave/images/12535642.0001.501-00000017.png\]](#)

Figure 17. The library foyer as of early 2016. Two digital displays have been introduced at eye level, showing today's library workshops (informational), as well as exhibitions and other promotions. A directory board is seen on the left-hand side.

Fun & Delightful

We propose a sixth category of signs, which are those that do not serve a direct purpose in helping users to understand the library, but rather reinforce a positive environment with humor and “illustrate a culture of playfulness, creativity, and authenticity” (Chan, Crosbie & Williams, 2015, p. 3). We saw this as a key aim of our audit and redesign—we wanted to be surprising and subvert users' expectations of library signage. Using humor, where users may typically expect a harsh or even mean instruction, engenders goodwill and gives users more confidence in using the library. Furthermore, incorporating humor into our signage allowed us to convey important information in a way that is fun, rather than authoritarian.

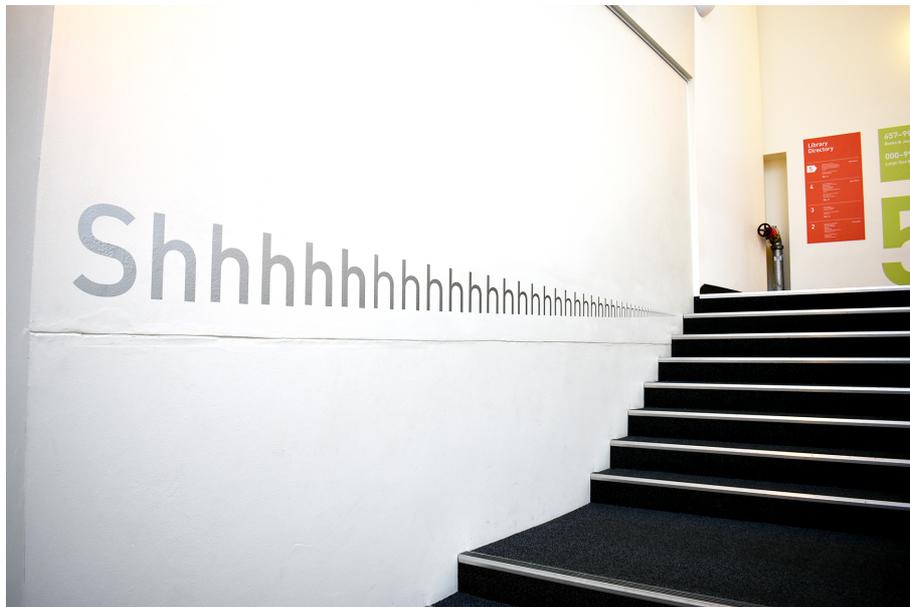
A popular place for our students to sleep is in an informal bean bag area underneath a stairwell, but most students did so with a guilty feeling, as they did not really know why the bean bags were there. The sign shown in Figure 18 was placed in the area to encourage and normalize sleeping in this designated space. The implied meaning is that the space is in fact intended for users to sleep in, and that this behavior is an acceptable use of the library. In this example, library anxiety is reduced by clarifying any uncertainty about the use of the space. This sign has also been the subject of numerous mentions on social media channels, where students have advised others that the library is a great place on campus to have a nap!



[\[/w/weave/images/12535642.0001.501-00000018.png\]](#)

Figure 18. This sign is a playful acknowledgment of a common user behavior.

With the success of new signage to reduce noise levels on the library's silent floor, we decided to introduce a playful "Shhhhhhhhhhh" sign wrapped along the stairwell (fig. 19). This is not intended to be taken seriously, but still serves as a useful reminder about the appropriate use of the silent floor.



[\[/w/weave/images/12535642.0001.501-00000019.png\]](#)

Figure 19. A playful take on a regulatory sign.

The UTS Library has regular rotations of book displays and exhibitions. We observed that students were not borrowing items from the collection that were on display, despite many showing an interest and examining the books. After speaking to a number of students, we realized that students viewed the display as a static one, rather than something that they could interact with and borrow from. We included the sign "Borrow the one you love" (fig. 20) on our book display to encourage students to borrow directly from the display.



[\[w/weave/images/12535642.0001.501-00000020.png\]](#)

Figure 20. Users are encouraged to pick up books from any of our displays and borrow them. We change their location in the library catalogue to “On Display” to assist access—this also allows us to evaluate how effective the display is, as we can see the number of books that have been borrowed.

Another project by UTS Library’s artist-in-residence, Chris Gaul, saw our return chutes “transformed into a playful and useful way for visitors to reflect on the books they have just finished reading” (Gaul, 2013a). The return chutes originally reflected three sets of call number ranges, 000–349, 350–650, and 651–999. This seemed to users like we were making them do our work of sorting the returns; however, this sorting served no useful purpose as the items would then be mixed before being checked in. The introduction of the labels in Figure 21 provided an unexpected moment of reflection for users returning materials.



[\[w/weave/images/12535642.0001.501-00000021.png\]](#)

Figure 21. UTS Library’s return chutes. Credit: Chris Gaul

In summary, all of our playful and delightful signage has made the library a fun place to visit and has improved the library user experience. By using signage to convey our library’s personality, we help to reinforce an image that is not authoritarian but rather user-focused and accessible. Students have been receptive to these signs, too, as is evident from the dozens of photos posted by students to social media channels of all of our new signage.

Conclusion

This paper demonstrates how the design-thinking process can be utilized to guide the development of library signage as a key aspect of the library user experience. Often neglected and poorly maintained, library signage is an important touchpoint for users that can be made more useful, and,

as we have argued, offers an opportunity to reflect the library's personality. The examples throughout this paper are demonstrations of how we have addressed a number of issues experienced at UTS Library. The design principles behind these solutions, however, are universal and can be applied to any library. This approach simply requires a thoughtful focus on your users and their library experience when designing signage.

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Notes

1. This measure was borrowed from Abby Covert's Information Architecture Heuristics: http://abbytheia.com/wordpress/wp-content/uploads/2012/04/poster_readable.jpg [http://abbytheia.com/wordpress/wp-content/uploads/2012/04/poster_readable.jpg]. ♣ [#N1-ptri]

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