Becoming user-centric: implementing a user focus and usability testing for an academic library website

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Abstract

In 2012 Auckland University of Technology Library set out to redevelop its website. Inspired by the work of leaders in the field like Matthew Reidsma and Aaron Schmidt we realised that the virtual space which had become our key contact point with users was increasingly frustrating and turning off those users. The problem was that our website, like many library websites, had been designed by librarians, for librarians, with almost no user input. The challenge for the AUT Library was not just to redesign the website, but to rethink our entire focus to place the user at the centre of everything we do. This paper is the story of a journey of transformational change, from where we were to where we wanted to be. It is a journey into user interviews and user testing, heatmaps, personas and scenarios, responsive and adaptive design, and the meaning of simplicity and beauty in content and design. There is a significant focus on our practice of monthly usability testing, and how the results inform the continual development of the website. Through an exciting and challenging process we believe that we have created a website that is built not for librarians but for users.

Context

Auckland University of Technology (AUT) was established in 2000 and is the newest of the eight New Zealand universities. The University has an institutional heritage of over a hundred years as a provider of vocational education. Today, this heritage is reflected in its core activities: delivering advanced education and producing sought-after graduates; conducting research with impact; and building partnerships with business, industry and the community to advance knowledge. In 2013, there were 27,299 students (19,178 EFTs) and 2,143 FTE staff; and for the second time, the University was included in the top 500 of the QS world university rankings (Auckland University of Technology [AUT], 2013). The University takes pride in its distinctive student-centred approach to tertiary education and this is strongly supported by the Library, where a user-centric focus now underpins our new initiatives.

Figure 1 illustrates how the Library has kept pace with the ever-increasing demand for excellent resources and services that support the university's activities. The high use of the Library website shows it to be a critical service for our users.
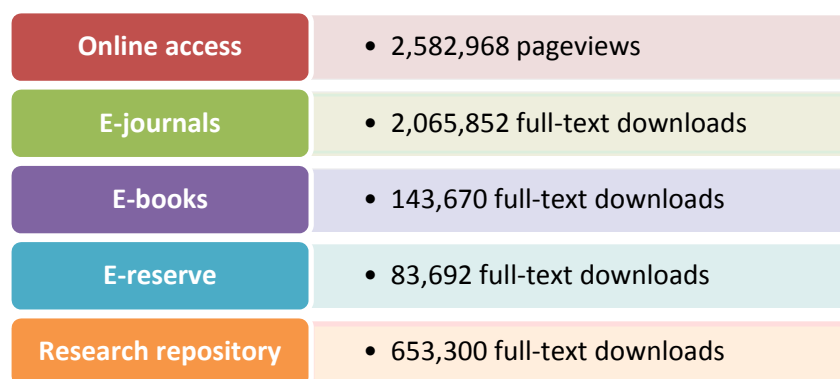
Online access	• 2,582,968 pageviews
E-journals	• 2,065,852 full-text downloads
E-books	• 143,670 full-text downloads
E-reserve	• 83,692 full-text downloads
Research repository	• 653,300 full-text downloads

Figure 1. AUT Library online usage statistics, 2013

In April 2012 when we reviewed client survey feedback on the website, it reinforced the need for a user-centred redesign to achieve greater effectiveness. At that time, the Library website conformed to the look, feel, functionality and branding of the AUT website. The use of the AUT website template limited the ability of the Library to provide a Library site best suited to academic library users. Two significant enhancements to the website were the introduction of the Summon discovery search box in February 2011, and the launch of a separate mobile interface in February 2012.

The website was working well but user feedback suggested there were some problems, such as 'it took me 20 minutes to find an article through the library website' and 'learning how to use the library website for the nth time'. A key internal driver in the redesign of the website was that it should incorporate a much stronger user focus in keeping with our user-centric imperative.

External drivers

While the face of tertiary education is evolving rapidly, students still need access to resources via their library websites. Innovative technologies such as tablets and smart phones have tremendous appeal for students who want to easily connect to and access full-text resources via their mobile equipment, wherever they are and at any time (Anderson, Boyles & Rainie 2012, p. 2-6). Library websites have to keep up with this demand for easy, quick and full access to resources and services and at the same time, be adaptable to future demands. The

key point here is that libraries should be listening to their users and responding to what they have to say, and to the way they say things. Too often, library websites merely reflect the needs and likes of librarians rather than users.

Usability testing and user experience (UX) design in general has been around as long as the internet, and there is now an evident shift to user-focused development and user-centred design of library-specific websites. Librarians have taken up these fields with alacrity, two of the strongest proponents being Matthew Reidsma and Aaron Schmidt, and academic library websites and their users have benefited. There are now good examples of broadly-based academic library website studies which we consulted, such as Kasperek, Dorney, Williams and O'Brien (2011), as well as a recent local example (Howie, 2013), and more focused usability studies of academic library websites (George, 2005; Becker & Yannota, 2013).

Establishing the website redevelopment project

In April 2012, the AUT Library Executive considered two papers that supported the case for a significant upgrade of the library website. Hearne's paper (unpublished, 2012) reviewed the current state of the website, and outlined an opportunity for a major update of the website in collaboration with the AUT Web Centre, with which the Library had developed a strong working relationship. Murdoch's paper (unpublished, 2012) concentrated on the difficulties experienced by users of our website and how these could be addressed. Our website was bursting at the seams with content. There were too many pages, too many words and too many links, particularly on the home page. As librarians, we thought we knew what our users wanted, but this had not been tested through usability studies.

Library Executive approved the establishment of a project group to scope the redevelopment of the website from scratch, incorporating developments in library website best practice, a user-focussed design, responsive web design, and the inclusion of more social media. The redevelopment project was initiated with the objective of improving and enhancing user access to and use of Library services and resources via the website. Our goals were to improve the design, layout and overall usability of the website; to upgrade and significantly reduce the content; and to review and adjust the management of the website to improve processes and procedures. Foremost in our minds was the goal of creating a user-centred website by consulting our users directly, rather than vicariously through our librarians. It was also important to be able to accurately measure the use of elements of the website via a selection of online tools and statistics.

The remainder of this paper describes the process the project group followed. A visual map of the project work breakdown structure, which details the steps in the process, is provided in Appendix A.

What did we do?

We had a fair idea of some of the main issues with our Library website, and on an informal basis some of us had heard feedback from users. But we were aware that we did not really know for sure what people wanted from our Library website or what they thought of it. So we asked them. And the answers, while illuminating, were difficult to hear. Here are a few of the words they used, from a sampling of first year students: 'dark', 'overwhelmed', 'scared', 'nervous', 'lost'.

In the early stages of the project we supplemented this type of research with Google Analytics and a UX Shakedown performed by Influx, a Library User Experience company

(http://weareinflux.com/). The former gave us quantitative data, while the latter provided an expert overview of what the site did well and what it did less well. One of our most useful sources of background data was heatmapping. Figure 2 is an example of the usage patterns shown by one month's worth of heatmapping on our old home page. Red areas represent the most clicks, while blue represent the least.

Figure 2. Heatmap of AUT Library website usage, August 2012.

It is clear to see that the few things used a lot are swamped by the many which are almost never used - and to link that information to the feelings of confusion expressed users. As we began to draw inferences by combining multiple sources of information in this way we also began to talk to real users about what they wanted from their Library website, undergraduate and postgraduate students, and staff. We soon developed a solid understanding of what was expected: users wanted a simple, friendly, unintimidating site that provided quick and easy access to the things they needed the most – search, opening hours, referencing help, and access to a range of help services. In addition they did not want to work through lots of content and they did not understand library jargon.

When we sat down and considered what we had learned the first thing we realised was that we were not going to be able to give our users what they wanted by minor (or even major) changes to our existing website. We needed to throw the whole lot out and start again. While that is somewhat liberating, it is also not ideal. Revolutionary change is never easy and should not be something that is forced on website users unless absolutely necessary. In our case it was, but we needed to make sure we built a new site that was flexible enough to change with changing demands. More importantly we needed usability testing and internal processes in place to ensure that we did not find ourselves in the same predicament in the future.

How did we turn the research and what we had learned into a new website?

Our first step was to create personas to represent the users of our site. The project team developed five personas, each one a representation of real users and their goals, tasks, behaviours and attitudes. An example of one of our primary personas is Ian the Independent Searcher, shown in Figure 3.
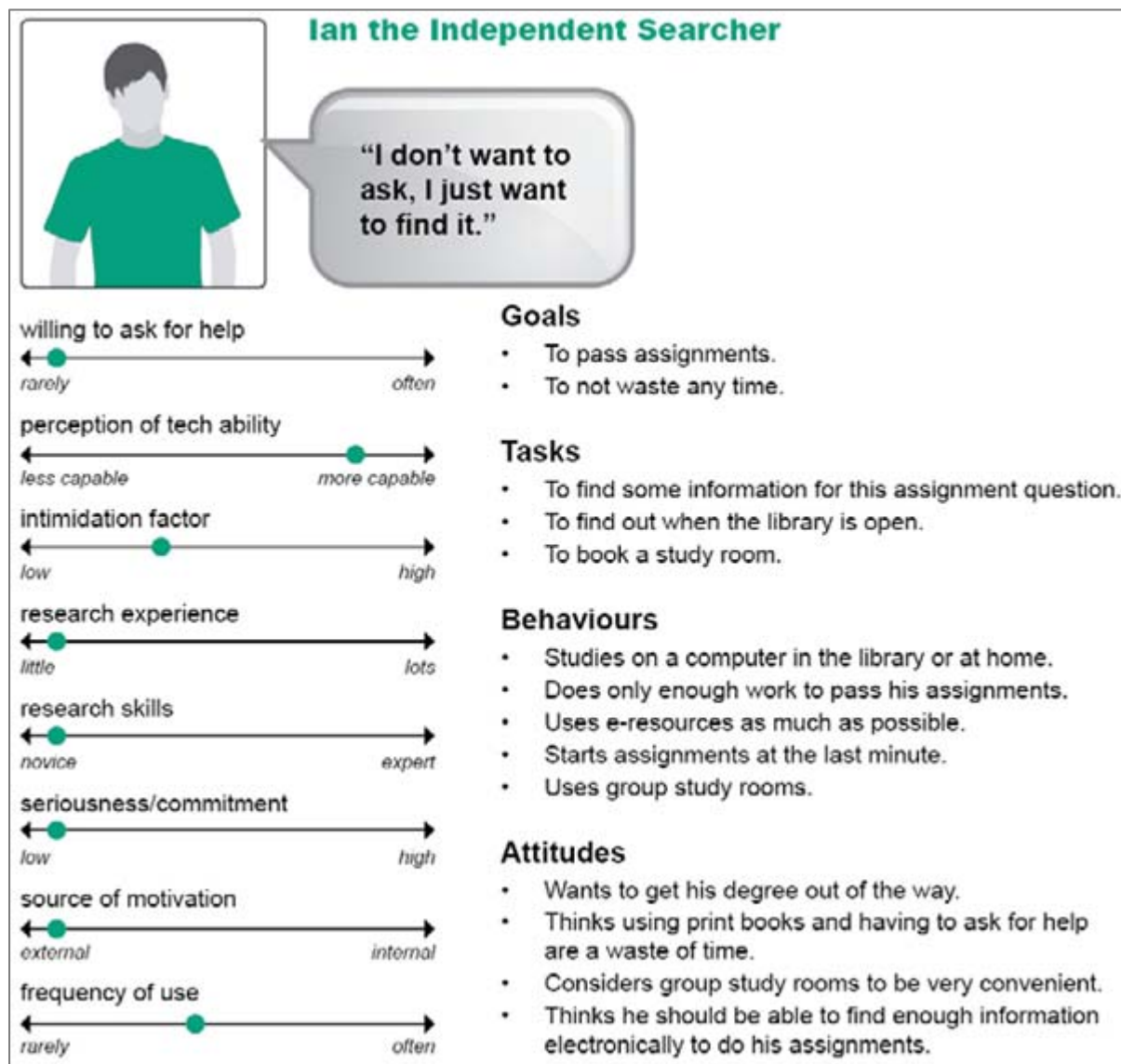

Figure 3. Ian the Independent Searcher.

As can be seen the personas were brief and included just enough information for us to be able to understand the persona's unique goals, attitudes, tasks and behaviours. At the same time they were made easy to relate to through names, photographs and a key phrase. Our other personas were:

- Melissa the Motivated Researcher: 'I work hard to be the best I can be' (primary persona)
- Terry the Task Focused Teacher: 'Reliable support for my teaching means a lot to me'

- David the Disadvantaged Learner: 'Studying isn't easy but with the right support I can do well'
- Stacy the Studious Studier: 'I really want to do well and get the help I need'

The primary personas were those on whom the site would focus, while the secondary personas represented important users whose needs had also to be met by the site.

One of the most important benefits of the personas was helping to create an understanding across Library staff that our users are not like us. This is an easy thing to say, but can be a difficult message to get through. We found this was easier when staff were presented with, and could begin to relate to, 'real' users.

We took each persona on ideal journeys through the new site using scenarios. These fleshed out the way the website would enable the personas to accomplish their goals. Each scenario was then broken down into detailed requirements – the specific content and features that would be needed for the site to work.

The requirements in turn contributed to our work on information architecture and mockups. Before considering any design components we focused on navigation, essential layout and functionality. The result was a comprehensive content registry, site maps and initial wireframe mockups. These were supplemented with a design brief which specified our goals for the site in terms of the emotions it would evoke in users and the 'personality' of the site. We recognised that the greatest weakness in the project team was in design skills, so while we suggested a colour palette, the design brief was deliberately intended to give broad scope for a skilled designer to interpret our goals.

Our original plan was for the University Web Centre to design and build the new website. However we were lucky to be given the opportunity to work with Consortium, AUT's brand agency, on the design phase. Consortium assigned an extremely talented and responsive designer to the project, and it was his work that enabled us to turn our specifications into a fully formed, highly-functional and beautiful design. One of his favourite phrases was 'beautiful and functional is better than ugly and functional'.

At the same time the Consortium project lead challenged us on our work at every stage of the process. Having the chance to reflect on what we had done and why was important, and probably would not have happened had this part of the project not involved an external agency. Although the use of an external designer was reasonably expensive, it was certainly money well spent in the most appropriate area.

Content

Our work on the actual content of the site ran concurrently with much of the requirements, mockups and design work. We reviewed all the content of the existing site, using what we had learned in the research phase to decide what to keep and what to discard. We worked closely with content owners to help them understand the reasons for significantly reducing content and writing it in a way that helped users achieve their goals. The back-and-forth with content owners was crucial to the success of the project – it gave people a sense of ownership, reinforced a new way of producing content, and allowed the project group to spread the message of considering the site from a user perspective.

The AUT Web Centre completed the site build over three months in late 2013. During this time we were involved in functional testing, the loading of content and staff familiarisation. We also started our hands-on usability testing with users. We used Steve Krug's testing

methods (2010, 2014) – perfect for a Library with limited resources. This initial testing enabled us to make a number of minor changes and one major change to the site before the launch in November.

How our new site is different

Focus. The site is now focussed on what is really important for users. The search box is prominent, with a central position on the home page, and at the top of each content page. This prominence is increased by the huge reduction in visual clutter across the site. Opening hours, help ('Ask a librarian') and access to online renewals are in the header. The site is very shallow, with only one level of navigation, so all pages are available from the left hand menu.

Design. The response from users to the design of the site has been overwhelmingly positive. While people's opinions will always differ on colours, what is really important are the emotions that the site elicits in users. From 'lost', 'confused', 'scared' we now hear words like 'I feel at ease', 'it makes sense', 'simple and clean', 'everything I need is right here'. When our users feel like this using our site, their confidence increases. In particular we have tried to create warmth and friendliness through judicious use of appropriate images on content pages. These images were planned and shot by a professional photographer to relate specifically to page users.

Responsiveness. Our site was designed from the beginning not just to work on all devices, but to provide a complete and consistent experience across devices. Use of the site on mobile devices is now at 10% and has been steadily climbing through this year.

New processes

A Website Operations Group has been established and works on the day-to-day maintenance of the website. The group has frequent, brief meetings to keep on top of issues. The group's brief includes running usability testing, advising on structure and design, maintaining content and proposing new initiatives. Major or strategic changes follow a Library process guided by the Associate University Librarian, Digital Information Services.

Monthly usability testing is conducted on the site, ranging from general testing to testing specific features. A range of users at all three campuses are tested. As noted earlier, our testing and review are based on Krug's methods (2010, 2014). In cooperation with other Library groups we have extended usability testing to other parts of the Library's online presence including subject and information guides, and the 'Ask a Librarian' service. Later this year we will conduct testing on our institutional research repository. The benefits of usability testing are clear to see in a constantly developing and improving website.

We ensure content remains up-to-date by using a content calendar with set review dates for each page and feature. These are reviewed by the owner and any suggested changes are run by the Website Operations Group. Our Content Guidelines document outlines this process, as well as our overall approach to content and style.

Social Media Initiative

Once the new Library website was up and running, a sub-group of the Website Operations Group was detailed to work on the Library social media presence. All academic libraries these days make use of social media is one form or another, often in multiple ways. Until that point, in early 2013, AUT Library had made use of social media to a very limited extent.

Bearing in mind that 'simply having a social media presence is not enough to realise the benefits of social media … therefore, the entry into the social media realm should not be without careful consideration and strategic planning' (Choi, 2012), we felt it was very important to roll out new services in a planned way and avoid disjointed or ad hoc development which would not be in keeping with AUT's and the Library's profile.

We began by reviewing how social media was being used by organisations in New Zealand and elsewhere, with a particular focus on why and how New Zealand libraries were using social media channels, and what AUT Library could learn from their experiences. Our colleague Jean Walker consulted both formal studies and anecdotal accounts to identify the common elements involved in the successful implementation of an organisational social media presence, and the most significant challenges, and wrote up her research (unpublished, 2013) for Library Executive to consider.

She found that the two reasons often cited by New Zealand academic libraries for the use of social media were to publicise library services (Clunies-Ross, 2013; Gallagher, 2013; Wenman & Wallbutton, 2013) and to provide an online help service (Wan, 2011). These are valid reasons and clearly, growing a social media presence had the potential to raise our library's profile and build customer relationships at a low cost (Chan, 2012). This was where our customer base was already active and where users could be searching for answers to their information questions. This first became common on Twitter, and has been dubbed 'twoogling' (Ndandani, 2013).

As well as an incremental roll out of selected services, we included goals and objectives for both Library social media in general and the project specifically. We wanted to develop Library staff who were trained, resourced and empowered to use social media effectively; to develop effective guidelines and ensure that staff understood and used them; and we wanted to conduct user research to guide the implementation of social media.

A considerable amount of work was done on refining our understanding of users and what they would be looking for in terms of content from Library social media. Work on how to engage with users, and how to quantify different types of engagement was also undertaken. We constantly kept in mind the reasons why students would want to access our social media, and in doing so, we hoped we would give them reasons to keep coming back.

One objective was that AUT Library should have some social media services up and running during 2013. This objective turned out to be overly ambitious – we eventually launched our three pilot channels Twitter, Facebook and Instagram in June 2014. Progress has been slow but steady in terms of attracting 'likes' and 'followers' to our channels. Posting and responding has been of a high standard and managed very capably by a team of 15 library staff.
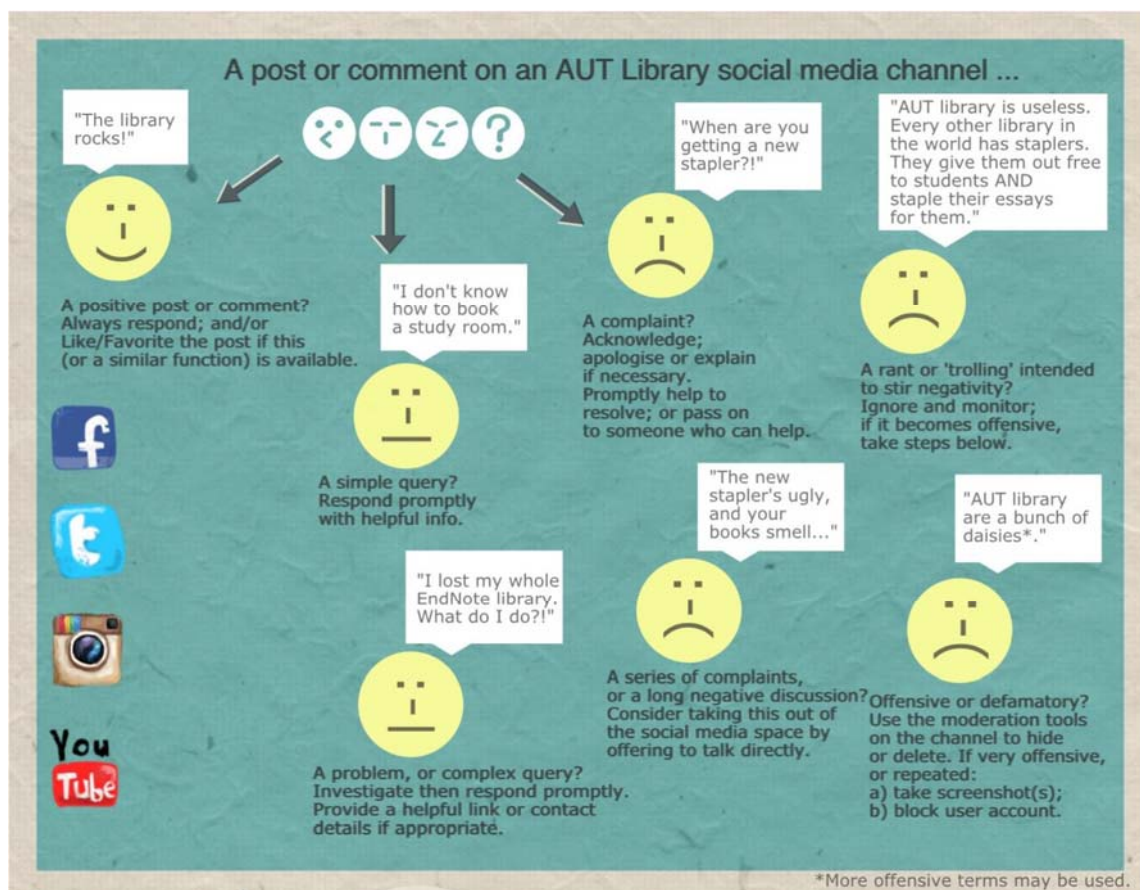
Figure 4. Response Workflow to comments or posts on an AUT Library social media channel (unpublished, Walker, 2013).

The next steps will involve more focussed research about our social media users in order to develop a clearer sense of who they are and how we can target them effectively. This will continue to inform our social media strategy, including our decisions about tools, content and the practical guidelines required for running our social media channels. We will continue to experiment and learn to communicate in a new, more natural and informal way in a professional context.

Future

We are looking forward to some exciting changes over the next few years that will impact on our Library website. The first is a migration from Voyager, our integrated library management system to a new, next generation library services platform. Hand in hand with this will be a move from our current discovery service, Summon, to a new discovery service. There will be no more OPAC – the one-stop discovery search box will dominate the Library website. Secondly, we will be introducing new collections and services for users, including our Library special collections, which will be available from the home page. We will also increase our focus on reporting and analytics, and on access to open access items.

Conclusion

This paper has described how we focussed on our users and incorporated usability testing into the redevelopment of our library website. Our goal was to better connect with our users, to collaborate with them on refining our services to better meet their needs.

We wanted to ensure that the new website presented information resources and services in a simple but professional and inviting way that appealed to our users. We aimed to provide easy access to our resources with a minimum of clicks, and provide full functionality via the mobile devices that are now mainstream and indispensable to the current generation of users.

We believe we have achieved what we set out to do and created a website that's built not for librarians but for users.

Appendix A. Website Redevelopment Project: Work breakdown structure visual map
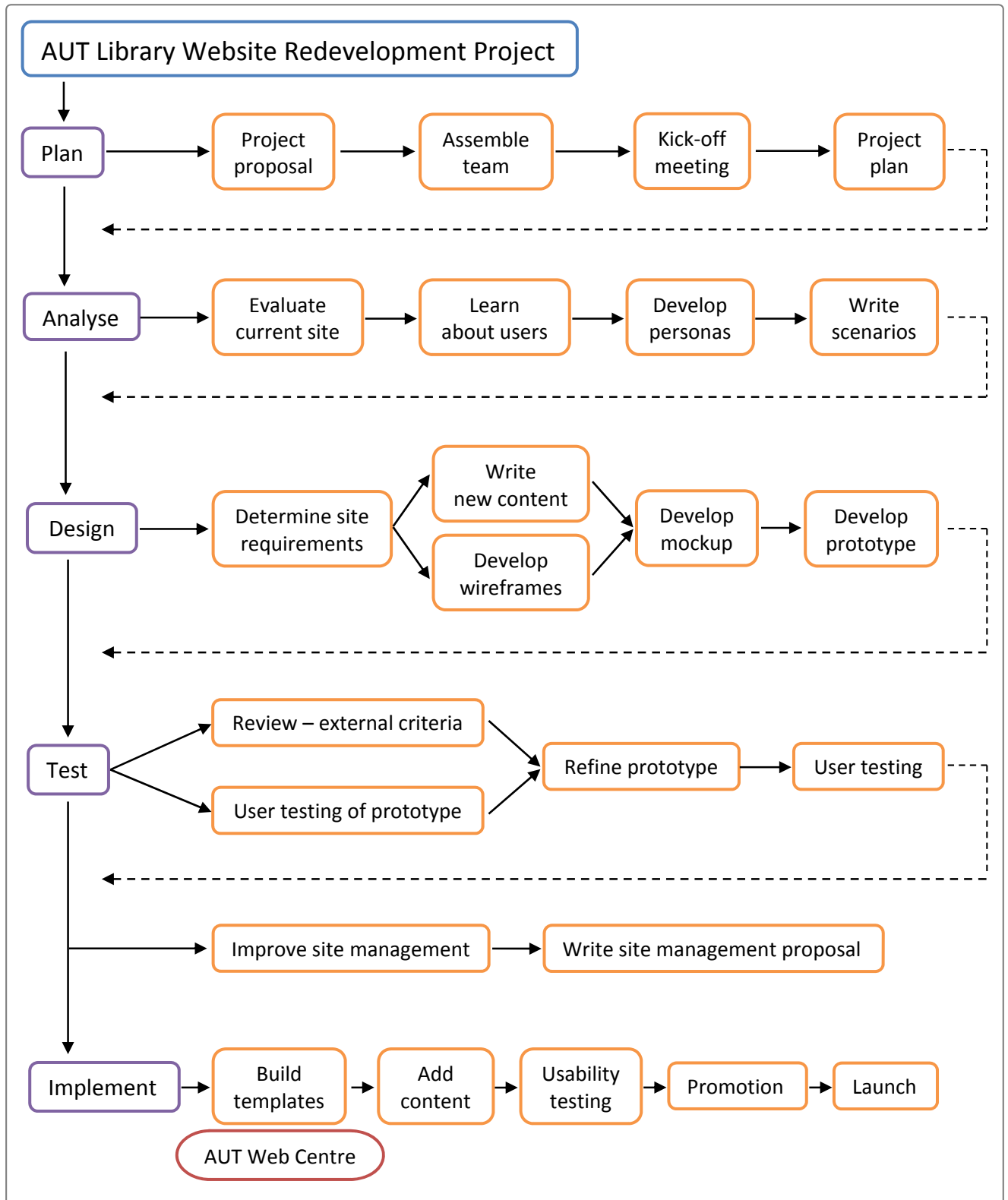
Adapted from the "Step-by-Step Visual Map" provided by Usability.gov.

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List of Websites

Consortium (Auckland based communications and brand-building agency):
www.consortium.co.nz

Influx (user-centred design for libraries):
http://weareinflux.com

Usability.gov (US government resource for user experience best practices and guidelines):
http://www.usability.gov