

THE VIRTUAL LIBRARIAN: DESIGNING AN INFORMATION LITERACY WEBSITE

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Introduction

The Monash University Library has for many years been helping users to develop information seeking skills. However, this teaching has primarily been offered to those users able to come to a specific physical location within a limited range of hours. As more students are now taking up the off-campus education option, or are forced by other commitments to spend less time on campus, the Library has taken steps to ensure that vital lifelong learning skills can be acquired by all Monash students.

To this end library management initiated an information literacy website project. This project was conceived to provide online, 24 hour a day instruction in the steps required to find information, and in the use of various library tools. This paper details some of the challenges this project faced in attempting to fulfil these goals, and the methods implemented to meet those challenges.

The project sought to undertake the following:

- (a) To include all aspects of the information seeking process and to present it in a manner that will be accessible to students of different skill levels.
- (b) To provide sufficient flexibility so that the site can be used to answer a specific question or can guide the student through an entire process.
- (c) To be relevant to all disciplines taught at Monash and to be able to be adapted to the needs of a specific subject as a work requirement.
- (d) To give students feedback on their progress without the need for staff involvement.
- (e) To construct a site which allows efficient maintenance and updating by a variety of authors with varying programming knowledge

These challenges were addressed with a variety of tactics. A brief description of each follows.

Writing and layout style

A recent study has shown that most people don't scroll through pages when reading online (Neilson, 1997). Therefore, it was important that wherever possible each page in the site be written so that all the information can fit onto a single screen. It has also been shown that most people only scan the pages of a website, rather than read them in depth, (Neilson, 1997). This implied that pages need to be written in a style conducive to scanning, and to be able to impart the maximum amount of information with the minimum number of words.

To these ends the site utilises the "inverted pyramid" writing style, which is similar to that used by newspapers. In this style, the first paragraph of each page is designed to give a summary of all the information the page contains. Later paragraphs expand upon this information, and give more detail, making use, where possible, of dot points. This enables users to absorb the essential points in any tutorial more easily. Each tutorial is composed of segments of information (modules) which equate to approximately one PC screen at 800x600 resolution. Where relevant a link is included to other related tutorials that might be of interest.

In order to fit as much information as possible into the space available, the site makes extensive use of lists and screen dumps. Lists are ideal for the web because they allow for the transmission of a great deal of information in a minimum number of words, as well as making each screen more readable through the effective use of white space. Screens dumps are a more contentious issue. While they make for easier explanation of many of the concepts and tools of interest to users and add much needed visual stimulus, they are often large files, and can be frustratingly slow to load. Their size has been limited wherever possible, and they are used only when necessary.

To further improve readability the site uses natural language, with as little library jargon as possible. When jargon is unavoidable, it is defined in the Glossary & Index section of the site. This section also offers the user a link to tutorials in which the concept is demonstrated. The natural language style extends to the headings and titles, which are written in the manner of the user asking a question. This is intended to guide the user more easily to the material they require.

Access Issues

It is easy for the web designer using a state of the art PC to forget that many users are connecting from home on a far older model, with an older browser version, or that they are still web "newbies", unfamiliar with many of the conventions and assumptions the experienced user takes for granted.

In the interests of making the site accessible to the widest possible range of users the site does not rely on the more recent versions of HTML or advanced scripting languages like Javascript, and when these are used alternatives are provided. The use of graphics has also been kept to a minimum.

Pathways vs. free movement

Different users like to access information in different ways. Some like to be directed down a clearly defined pathway so that they feel they have completely covered the topic and not missed any vital pieces of information. Others like to pick their way through the site, reading only those pages they see as being of direct relevance. Some, of course, will use a combination of the two depending on situation or mood. In order to deal with these

differences we have created a series of tutorials dealing with a number of different information seeking skills and tools. Each tutorial has a hyperlinked contents section that allows the user to skip to whatever section they deem relevant. From each page the user can return to the contents to choose another section or can leave the current tutorial to pursue a related area of interest.

However, those users who wish to work through the tutorial systematically can do so using arrow buttons that move them from page to page in an order defined by the library staff member responsible for creation of the tutorial. The use of the inverted pyramid writing style also means that they can get an idea of the relevance of the page to their own experience, and therefore they can read only as much as they feel is necessary.

Page creation

Each page on the site is designed to be self supporting and contains a description of only one idea or concept. Apart from the usability concerns outlined previously, this has also been done to make the creation of the site easier. There are a substantial number of tools and skills that can be useful to the information seeker, with many of them forming part of wider sections of the site. For instance, instructions on how to use the library catalogue might form part of a wider tutorial on how to research an essay, but a user might equally want to know only about using that one tool.

By creating each page as an autonomous module of information we are able to combine these pages into a theoretically infinite number of tutorials, reusing the same modules wherever they are relevant. Therefore, a collection of pages describing the use of the library catalogue might appear as a tutorial solely devoted to learning how to use that tool, while also appearing within a tutorial on how to research an essay. The challenge lay in combining these pages in such a way to be able to reuse them where necessary, while making the process appear seamless to the user.

Some examination was made of the possibility of using some form of database management tool, such as **Cold Fusion** to bring the pages together. However, this was abandoned due to concerns that there might be some loss of download speed, and that it might prove complicated to maintain. Instead it was decided that the Server Side Includes (SSI) facility in the library's Apache web server be used instead.

This allows for the insertion of the different modules of information into preset templates. These templates allow the constructor of a tutorial to include links to the section contents and the previous and next pages in the tutorial series, thus constructing a clear and specific information pathway with a minimal amount of effort. They also allow for the creation of "printable" tutorials, in which all the separate modules are placed in one long page, with preset margins for printing onto a standard A4 page, thus avoiding the need to reset pages into a transportable format like PDF.

Additionally, because there is only one copy of each module of information it need be edited only once, with the correction being made automatically within every page that contains that module, thus making maintenance easier.

The header and footer bars have been inserted into the site using SSI for the same reasons.

Overall look

The other advantage of using templates and SSI is that a consistent look to the site can be maintained. In the past the various branches of the library have been responsible for their own websites which has meant that similar information has looked, and been organised, in very different ways. With the increase in courses being taught across campuses, it has become necessary to reduce the location specific nature of some of the library's publications on the web, in order to make finding help less difficult for students. Naturally some information will remain branch specific (e.g. hours, phone numbers, photocopier locations etc) but branches are being encouraged to direct their users to the project site for most information needs. This ensures that the library offers consistent, standard instructions to all users, regardless of which branch they might use as their primary study point.

Subject-based tutorials

The Library believes that the teaching of information seeking skills should be an integral part of every student's education, and continues to welcome opportunities to work with academic staff to fulfill this goal. We respect that in many courses it is difficult for sufficient time to be found for this to be taught in classes or tutorials. It is hoped therefore, that this site will provide a location to which students can be sent, on a formal or informal basis, to learn vital skills.

An area within the site has therefore been made available for subject based instruction, to ensure that skills taught and examples given are specific to a particular subject area. Relevant information sources may vary from subject to subject - for instance a business student would need to know about company reports, while an engineering student would need to know about Australian Standards, so the site reflects this. Each subject guide contains an introduction to the relevant sources in an area, links to more detailed help on using tools and acquiring skills, as well as listings, compiled by subject librarians, of relevant material available through Monash Library.

The general subject guides are composed of individual information modules, in the same form as the tutorials previously discussed. Thus, individual, course-specific guides can easily be created and posted on the site for the specific needs of any lecturer who wishes to go into partnership with the Library.

Self-assessment

Assessment or feedback is essential, even if the student is undertaking the study informally. It is not feasible for library staff to individually mark tests so the student's progress must be assessed by the site. This is done using a program called **Quizmaker**. The tests are written in an active learning style, where students are required to demonstrate that they can complete an assigned task e.g. find a book in the catalogue. It is felt that this is the best way to judge whether the student has actually been empowered by the instruction offered.

If an academic wishes, he or she can have the results of the student's work emailed to them. The results could then be used as either a part of formal assessment, or as a hurdle requirement for the course.

For those students not required to complete the tutorials formally, online testing still allows them to check their progress and gain confidence in their actions without the necessity of direct staff intervention. In this case the results of online testing are not mailed to anyone, but produce instantaneous feedback to the student.

The results of students efforts can however be used by library staff to refine the instruction in the site (e.g. if one question is being consistently answered incorrectly we have clearly not explained how to do it properly). This will serve as a part of ongoing evaluation of the site.

Conclusion

The overriding aim behind the creation this website has been to provide a better service to Monash University students and staff. In order to do so the library has sought to offer a fast, easy to use and interesting site, while simultaneously attempting to make it easy and efficient to maintain, so that it doesn't become a burden to library staff. The site has been designed to be flexible enough to accommodate different users and their needs in their search for answers to a wide variety of questions in a number of different subjects.