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**CUSTOMER-MOTIVATED WEB DESIGN
ARE WE READY FOR IT?**

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EXECUTIVE SUMMARY

The advent of the World Wide Web has spawned millions of websites – both big and small. While there are many websites accessible on the World Wide Web it is difficult to know whether they all meet their customers' expectations.

When the Website Librarian designed the Information Commons (Holmesglen Institute of TAFE library) website in 2003, she did what many web developers do - made decisions regarding information content and layout for the website on her clients' behalf.

After the site was live, the Website Planning Committee conducted a survey to find out how their clients saw the site. Despite the website being information- rich, results indicated that the available resources were not being fully utilised by clients. Why? Because the information was not presented in a manner they found compelling.

To develop a more customer focused website the Committee went back to their clients, identifying their needs and wants. Further research was also conducted, including examining commercially successful websites from around the world.

An updated site was developed as a prototype using proven project management and IT system development methodologies while maintaining a customer oriented focus. A second survey was then conducted to gather feedback. The results of this survey have been utilised to make further enhancements to the website. The prototype for the new site was trialed in October 2006 and a follow up survey in November 2006 provided further insights into user requirements.

The Information Commons' focus remains on delivering a website which meets user's needs and wants, *not* their best guess on what they want.

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1. INTRODUCTION

Holmesglen Institute of TAFE is located in Melbourne's south-eastern suburbs. It offers courses across a wide range of disciplines from the trades, health sciences, hospitality, business and the arts, and from Vocational College (for students completing year 10, or turning 16 years of age) through to degree levels.

Holmesglen has grown to be the largest TAFE Institute in Victoria, with more than 10,744,000 student contact hours in 2006.

The Holmesglen Institute of TAFE Information Commons (IC) encompasses four branches across three campuses and provides a single point of access to information literacy, learning, research and IT support. It is a learning hub which facilitates socialization as well as quiet reflection as part of the total learning experience.

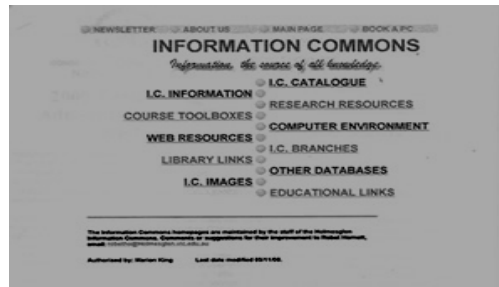
2. THE ADVENT OF THE WORLD WIDE WEB

The advent of the Internet and World Wide Web in the 1990's, coupled with technological developments and tools in preceding years have spawned millions of websites globally – both big and small. In 1992 there were only 50 Websites, (Griffiths 2002, p.13) increasing to more than 100 million in 2006 (WSS 2006, p.1). According to Tim Berners-Lee (1996) director of the World Wide Web Consortium, the web was developed to share information between man and machines. The Information Commons, has, like many other libraries, become part of this exponential increase in electronic access to information, embracing new developments in website modeling and incorporated them into its most recent redesign. Since 1999, there have been three versions of the website and this paper discusses the reasons for the 3rd version and the methodologies adopted.

3. THE EVOLUTION OF THE INFORMATION COMMONS WEBSITE

VERSION ONE

Information Commons website. 1999 (see Appendix 1 for full page version)



In 1999, the first Information Commons website was structured using frames. While it seemed to be the right approach at the outset, some of the inherent problems that exist when using frames became evident.

According to Tim Berners-Lee (1997), ' The frames of HTML unfortunately provide an interface which is less clear. The parts of the document do appear with the same window, but because within a single frame (subsection of a window) one can follow hypertext links replacing content with a separate document, it is easy to create the impression that the owner of the surrounding frames is in fact responsible for the defining document'. Accordingly frames work independently of each other, making the task of performing a search on the website difficult.

From Information Literacy classes and Information Services Desk enquiries, it became obvious that not only did IC users struggle to search the website, they also struggled to perform simple tasks such as bookmarking a page. Students often ended up mistakenly bookmarking the homepage or one frame, rather than their selected page. Even with library staff assistance, it was difficult for students to navigate the site. To help overcome this problem, many cross links to the same page were included, however staff later realized this was more a hindrance than a help.

VERSION TWO

In 2003 the decision was made to redesign the Information Commons website in order to overcome these issues and also to give the site a fresh new look. All the redesign decisions were made by a group of professional librarians and were based on their assumptions about customer behavior.

Information Commons website 2003. (see Appendix 2 for full page version)



This advisory group discussed at length both the layout and content of the website. The website banner was redesigned to include four photographs of the Information Commons branches. Vertical and horizontal menus were introduced to make navigating the site easier. All information regarding the Information Commons was regrouped under the horizontal menu headings while the left hand vertical menu allowed users to navigate to all the resources and the help services on offer.

Several databases and e-journals were also made accessible through the new website. As librarians, the group saw these items as particularly valuable repositories of information that would benefit their customers greatly. Members of the advisory group felt they had put together a website that was both aesthetically appealing and user friendly. The site was completed and uploaded to the web on July 15, 2003.

4. STUDENT FOCUS GROUPS

After investing considerable time and resources to develop and maintain the website, the group wanted to know whether users liked the features available and whether they would revisit the site.

In 2005, the IC conducted a series of Student Focus Groups across all campuses on many aspects of the Information Commons, including the website. A total of 13 classes were surveyed all with their teachers present. The results indicated that many students were unaware of the existence of the IC's resources, including the website. The Client Feedback Committee, (the group responsible for these focus groups), felt that some students may not know what the facilitators were referring to and that visual cues would help to clarify what was meant by the IC's website, databases, the Livehelp facility and the catalogue.

For the 2006 Focus Groups, large A3 images of these resources were shown to students, when they were asked if they had seen or used them. Results for the website again indicated that few students could recognize it or had utilized it in their studies. While disappointed with the feedback received, the Website Librarian realised she needed to give the website stronger visibility and to promote its use more stridently.

Two issues were identified in this regard:

- Navigation from Holmesglen's homepage to the IC's website was problematic, since there was no direct link. Users needed to click on either 'Current Student', 'Potential Student' or 'Staff Member', in order to access the IC's site. Accordingly, a request was made for the IC's website to be accessible from Holmesglen's homepage.
- Many students accessed the IC's databases via the Novell Network, thereby bypassing the Website. As a result they would not have exposure to any other electronic resources or services identified on the website. This Network access point was established for the resources which were in CD ROM

format and the databases bought without remote access. Although the status of the access was later changed to online, the resources have remained in the Novell Network as an extra access point. Some information literacy sessions still promoted this access point rather than the website.

Subsequently, all remotely accessible databases were removed from the Network, leaving only the few CD ROMs still subscribed to, so that all other users would then utilize the Website as their exclusive entry point. All Information Literacy sessions would now use the website as the students' gateway to Information Commons subscribed databases.

Evidence from the Focus groups as well as Information Literacy classes and individual reference enquires indicated that not only was access and promotion of the website a high priority, but that usability was also an issue in need of investigation.

5. THE PROCESS OF INVESTIGATION AND RESOLUTION

Since the process of investigation, analysis and implementation was rightly perceived to be a complex task, a team approach was favoured, rather than the Website Librarian having to manage the project solo. Thus, in May 2006, expressions of interest were called from IC staff and as a result, the Website Planning Committee came into being. This team of keen, committed librarians with a high level of expertise played a pivotal role in discussing, interpreting and utilizing the feedback and research data to argue strongly for a website which would best meet client needs.

The Committee's investigations were modeled on an evidence-based approach, which according to Clyde (2004, p.4) 'focuses on using evidence from professional practice and from research to resolve day-to-day problems and to plan for the future'. Another definition of evidence-based librarianship which better suited the IC's experience comes from Booth, cited by Doessel (2005, p.14) and is 'an approach to information science that promotes the collection, interpretation and integration of valid, important and applicable user-reported librarian-observed, and research-derived evidence'.

The Information Commons utilized Abbott's (2006) framework for evidence-based librarianship, in order to ensure that all stages in the process were addressed.

They are as follows:

- Specifying the problem
- Finding the evidence to answer the problem
- Appraising the evidence
- Applying the results
- Evaluating the outcome
- Redefining the problem

6. SPECIFYING THE PROBLEM

Accessibility and usability were the key areas for further research. Specifically the Committee felt that areas which needed improving were:

1. Some duplication of items on the front page
2. Some areas embedded too far down
3. The look and feel should appeal to students
4. Terminology perhaps a problem, too much 'library speak'

Because the major users of the website are students and staff, this time the Committee decided to ask them what they thought, rather than assume they understood their needs and wants.

7. FINDING THE EVIDENCE TO ANSWER THE PROBLEM

In order to find out whether the Committee was correct, an internal web-based survey was conducted in August 2006. A link to the survey inviting participation was placed on both the Staff and Student Intranet pages.

An incentive to complete the survey was offered, and respondents were invited to include their name and email address to be entered into the draw for a gift voucher. Responses to the survey were thus not anonymous in many cases, but confidentiality of the responses was assured by not publishing any material linking specific responses to student names or email addresses.

The sample of respondents collected by the survey was not representative of the Institute staff or student population and was a self-selecting sample. Any results from this survey could not be generalised to the greater Institute staff or student population and were only representative of the sample surveyed. Responses were, however, of use in considering possible changes or improvements to the website.

The survey was carried out over a four week period and the results were analysed. The results of the survey led the Website librarian to redesign the website based on user feedback.

8. APPRAISING THE EVIDENCE

USER FEEDBACK – EXPECT THE UNEXPECTED

Quality of information and website content were the most highly rated aspects, with ‘good’/‘excellent’ ratings accounting for 65.2 percent and 64.7 percent of total responses, respectively.

Overall, ‘appearance and layout’ was rated least favourably. For website navigation and website headings, over 40 percent of ratings were “average” or lower. This shows that respondents rated the quality and content of information available more highly than they rated the appearance or useability of the site.

The outcome of the survey identified three key areas which required significant and immediate, improvement.

They were:

- Layout
- Main headings and labels
- Site navigation.

In order to address these three areas the IC was required to change the look and feel of the website in its entirety. User feedback suggested that the website colours and fonts were an issue. “Colours and fonts on the front page and frame are boring and too small, as are the photos” one survey participant wrote. This sentiment was echoed by several other participants.

Survey participants also commented on the graphics of the website –“More photos of students enjoying themselves” one survey participant suggested. Another wrote “We need pictures of the students, interact with students on the site more”. The survey results also included a great deal of criticism regarding the layout of the Information Commons website – “student resource layout confusing” one student wrote. Another included a more general critique – ‘Website appearance and layout should be changed.’

The homepage and its links, in particular, came in for sharp criticism. In order to make navigation easier, in our minds at least, we had links that were repeated several times on the homepage. This, as we found through our survey, only proved to confuse the user.

As the Committee reviewed all the survey feedback they agreed there was a lot of work to be done for the next iteration of the Information Commons website.

EXTERNAL RESEARCH

External research was conducted to examine commercially successful websites from around the world such as Google, Amazon.com and IBM. The Committee also analysed State, National and International academic library websites identifying those elements that made their websites compelling. In doing this initial research, the Committee quickly realised that their success was primarily due to the simplicity of the design layout and the clarity and simplicity of the language used.

It is human nature to avoid those situations where your first experience has been a bad one. This is nowhere more true than with a website. If your users cannot

understand the language used in your website or they struggle to find what they are looking for, they will simply give up never to return to the site again.

Web usability consultant Steve Krug (2005) in his book "Don't make me think" concurs. Krug identifies the user's approach to the website as the most important factor to be considered in web design. In his book he emphasizes three facts about real-world web use.

1. Web users don't read. They scan. They are in a hurry.
2. They don't go for the best. They are satisfied with the next best solution.
3. They don't look for how things work. They muddle through.

Web usability guru Dr. Jakob Nielsen (2003) also supports these assertions. He compares web users to beasts living in the jungle. He says "The easier it is to find places with good information, the less time users will spend visiting any individual website. This is one of many conclusions that follow from analyzing how people optimize their behavior in online information systems."

9. APPLYING THE RESULTS

WEBSITE DEVELOPMENT – USING THE WSDM APPROACH

Taking the research the Committee had gathered and using proven project management and IT system development methodologies the Website Librarian set about designing the IC's new website. It was decided to move away from the current ad hoc web development methods and instead approach the web design in a much more disciplined manner. She found that there are many methodologies available on web design and after considered research and evaluation, selected WSDM (Vrije Universiteit Brussel 2004) "Website Design Method" (pronounced as wisdom) as the methodology of choice in developing the new website.

WSDM comprises of five main phases namely:

- Mission Statement
- Audience Modeling
- Conceptual Modeling

- Implementation Design
- Actual Implementation

9.1. MISSION STATEMENT

The mission statement identifies the purpose, subject and the target audience of the website. A mission statement was derived from the value statement which had already been established for the Web Planning Committee. The mission statement was:

“To use innovative technologies to enable, optimise and encourage our immediate users, staff and students of the Holmesglen Institute of TAFE access to relevant resources available in the Information Commons.”

9.2. AUDIENCE MODELLING

As an audience-driven design, WSDM emphasizes identifying the target users. If the website is not relevant to its users, the efforts put into its development are wasted. The IC's main target groups are Holmesglen students and staff, while its extended target group is the world at large.

Thanks to the data from the web survey, the Committee found that the two main user groups, students and staff had very different expectations about the Information Commons website. Students were more concerned with the appearance and colour of the graphics used. They also wanted Institute related information. Teaching and non teaching staff however, were mainly looking for subject –specific information and general information on studies.

9.3. CONCEPTUAL MODELING

The conceptual modeling phase is divided into three parts - informational, functional and navigational design.

The Web Planning Committee had regular meetings to discuss and design a paper copy of the new website. In preparing this mock up of the website they were able to re-arrange and re-label the information as required by their users. They used both the survey results and web usage statistics to guide their redesign. For example,

from web usage statistics they found that, apart from databases, 'bibliography writing', 'steps in assignment writing' and 'opening hours' were the most common pages opened. These had formerly been buried under the other pages.

The Web Planning Committee also spent many hours deliberating on the headings for the website. It tried to avoid library jargon as much as possible when creating the label for each menu item and the headings in each list. One of the major headings in the previous website "Resources", was not well received among clients. Anecdotal evidence proved that many clients had difficulty in understanding heading labels. Accordingly, all the links the IC had under the "Research guide" were spelt out, under the menu heading "How do I?" and "Services." The catalogue, E-journal gateway and all other resources were moved under the heading "Find information". The 'E-journal gateway' label was also changed to "Journals" and an explanation was provided. The Committee also decided that the new website would need a search function.

After deciding on both the informational and functional design of the website using the paper mock up, the Website Librarian's attention focused on the navigation design of the site. She decided to have all the important links for students and staff on the homepage. Her aim was to have only three clicks to open the desired page.

9.4. IMPLEMENTATION DESIGN

In this phase the Committee began to design the page layout beginning with the most crucial element – the homepage. The IC's previous website homepages hadn't rated well with users. The homepage graphics were redesigned to include images of students and brighter colours.

The site was designed with three columns. The right and left columns were used to display information gathered in the conceptual modeling stage. All the resources were gathered under the heading "Find information" while the "Services" were placed in the left hand column. The right hand column occupied the search box and information "How do I?" section.

The middle column was used for the Information Commons tag line and the remaining space was set aside for important announcements and marketing purposes. Care was taken not to include excessive amounts of text and graphics on the website. The homepage was developed with cascading style sheets using xhtml while the second and subsequent pages were developed using a template giving the whole site uniformity.

Prototype of the new simpler, clearer Information Commons website.

(see Appendix 3 for full page version)



10. EVALUATING THE OUTCOME

After developing the site, the Web Planning Committee went back to some of the respondents from the original survey to obtain feedback once again.

As hoped, student and staff opinions of the new website were very different to those of the previous site. In general student users were happy with the graphics and cleanliness of the site, however staff were still asking that more information be provided.

11. REDEFINING THE PROBLEM

We, in the Web Planning Committee accept that our website will never meet with 100% approval by our users. The website is like a living organism - it needs to evolve and change over time as the user's needs and wants also change over time. Using the customer-motivated web design approach, surveying our users for feedback on a regular basis, we intend to get as close to 100% approval as we can. Utilising ongoing user feedback, we will be able to continuously enhance the website and ensure it never becomes 'stale'. Our focus remains on delivering a website that meets our users' needs and wants *not* our best guess of what they want.

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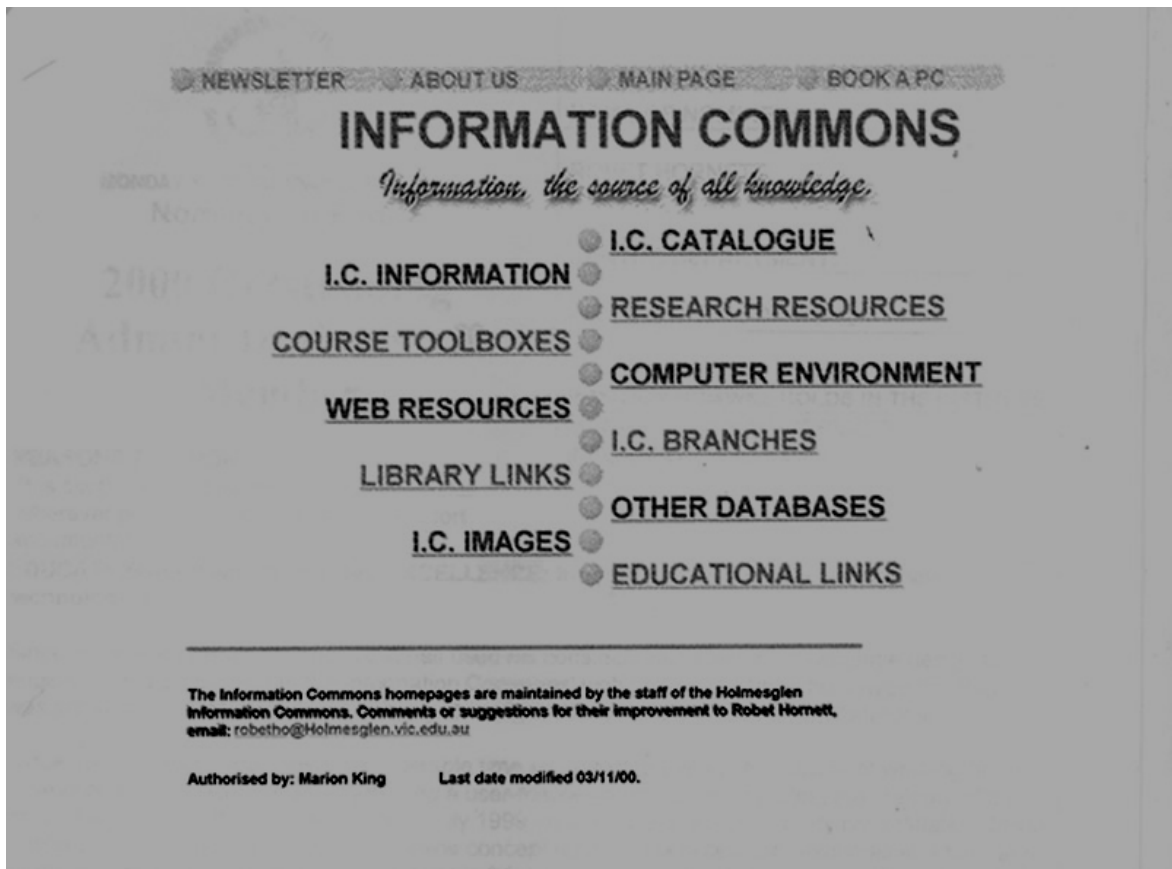
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Appendix 1: Information Commons Website 1999 (version 1)



Appendix 2: Information Commons Website 2003 (version 2)

Date: December 13, 2006

Resources

- Catalogue
- Databases
- Subject guides
- Research guides
- Web links
- Know it all!
- Virtual Tour
- Help
- Enquiries
- Staff contacts
- Live Help
- [Liaison check list](#)

Home | **About us** | **Contacts** | **Branches** | **Services** | **Facilities** | **Newsletter** | **Site map**

Search the Information Commons [Catalogue](#) [Renew](#) items

Search [Databases](#) / [eJournal Gateway](#) Databases on trial

Use the Information Commons on-line information literacy package "[Know it all!](#)" (on campus only)

Use our online Live Help reference service

[Click here for Live Help](#)

[Read LiveHelp terms of use and privacy policy](#)

Merry Christmas & Happy New year!!!

[Information Commons Christmas and New year opening hours](#)

Last modified: December 8, 2006
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Appendix 3: Information Commons Website 2007 (version 3)

The screenshot shows the Information Commons website in Microsoft Internet Explorer. The browser window title is "IC Main page - Microsoft Internet Explorer". The address bar shows "Q:\Info Comms\ic_web2006\index.html". The website has a blue header with a navigation menu: Home, Find information, Services, Ask us/Tell us, Hours/Locations, About us, How do I?. Below the header is a banner image of people looking at a computer. The main content area is divided into three columns. The left column has "Find information" with links to Catalogue, Databases, Journals, Subject guides, and Web links. Below that is "Services" with links to Lending service desk, Information services desk, Services for teachers, Computer access, Printing, photocopying and scanning, and Student Group Discussion Rooms. The middle column features the "Information Commons beyond a library.." logo and a central box titled "Information Commons opening hours December / January". This box includes images of a globe and a Christmas tree, and lists opening hours: 9.00am - 5.00pm Monday to Friday, Monday 11 December- Thursday 25 January. It also states that Chadstone Building 8 Information Commons will be open 9.00am - 6.00pm Monday to Friday, and that the only time they close is between Christmas and New Year. The right column has a search box with a Google logo and the URL "http://www.ic.holmesglen.vic.edu.au". Below the search box is "How do I?" with links to Write a bibliography, Plan an assignment, Use the catalogue help, Locate an item on the shelf, Improve my study skills, and Become an external borrower. At the bottom right is a "LIVE HELP" chat icon with the text "Chat with a librarian" and "Read LiveHelp terms of use and privacy policy". The footer contains "Site map", "Disclaimer", and "Privacy policy". Copyright information for Holmesglen Institute of TAFE is provided, along with the contact email "saramay@holmesglen.vic.edu.au". The taskbar at the bottom shows several open applications and the system clock at 10:36 AM.

IC Main page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address Q:\Info Comms\ic_web2006\index.html Go Links

Search Get IE7 now! Answers Mail Finance My Yahoo!7 News Music

Home Find information Services Ask us/Tell us Hours/Locations About us How do I?

Find information

- [Catalogue](#) - find books and other items
- [Databases](#) - access newspaper and journal articles
- [Journals](#) - electronic and print titles
- [Subject guides](#)
- [Web links](#)

Services

- [Lending service desk](#)
- [Information services desk](#)
- [Services for teachers](#)
- [Computer access](#)
- [Printing, photocopying and scanning](#)
- [Student Group Discussion Rooms](#)

Information Commons
beyond a library..

Information Commons opening hours
December / January

opening hours: 9.00am - 5.00pm Monday to Friday,
Monday 11 December- Thursday 25 January.

The Chadstone Building 8 Information Commons will be open
9.00am - 6.00pm Monday to Friday.

The only time we close is between Christmas and New Year.

Search 

http://www.ic.holmesglen.vic.edu.au
 www

How do I?

- [Write a bibliography](#)
- [Plan an assignment](#)
- [Use the catalogue help](#)
- [Locate an item on the shelf](#)
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Start Novell-del... Novell Gro... Unicorn W... 2 Firefox Microsoft ... 4 Inter... Macromed... Fireworks 10:36 AM