

Designing Information Websites

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no materials previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a university or other institution of higher learning, except where due acknowledgment is made in the acknowledgments.

Signature: _____

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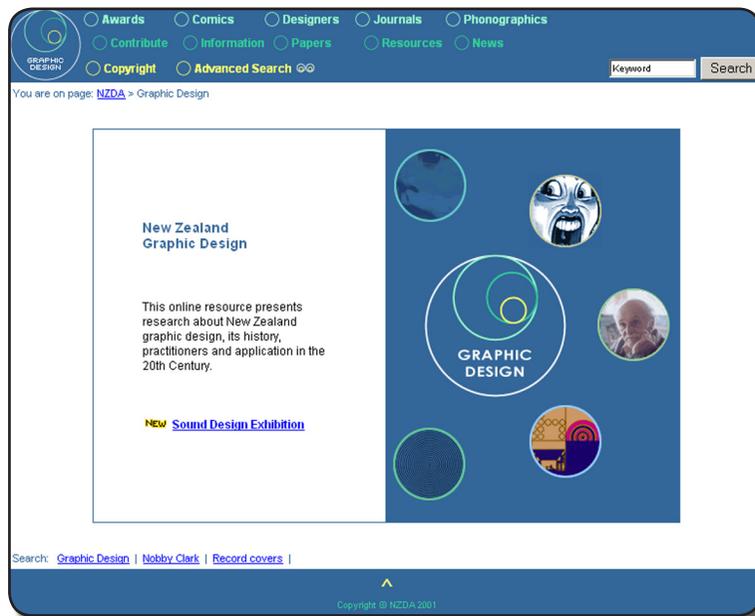
Abstract

This thesis is composed of a practical component involving the design of two websites and a written exegesis. The first site is the redesigned New Zealand Design Archive/ Graphic project, which archives and profiles historical data and research about the history of graphic design in New Zealand. The second site is the Monkey Peach Collection. This dynamic data-driven online gallery allows designers and artists build and discuss an accumulation of information about New Zealand-Chinese artists and designers. The exegesis concentrates on the implementation of information sites and considers definitions and approaches to information architecture, information design and dynamic websites with a literature review analysing some academic online resources and commercial online galleries.

Chapter 1 Introduction

1.1 Outline of structure

This exegesis articulates the implementation of two practical web projects:



*NZDA/Graphic project
Retrieved on the 28th of Oct, 2002 from
<http://www.nzda.ac.nz/graphic>*

New Zealand Design Archive/Graphic project. In this text, it is abbreviated as NZDA/Graphic.

Monkey Peach Collection project. In this text, it is abbreviated as MPC.



*MPC project
Retrieved on the 28th of Oct, 2002 from
<http://www.monkeypeach.ac.nz>*

The thesis is organized in two parts with the main emphasis on the practical web projects which makes up 80% of the thesis and this written exegesis which makes up 20%.

The exegesis describes the process and decision making behind the practical projects and contextualises them in relation to contemporary approaches to information architecture, information design and dynamic websites.

The research does not attempt to contextualise information design in relation to emerging theoretical writing about society and the internet. The projects are not focused specifically on the graphic design of web pages, but on recognizing that the graphic design of a page is integrated to its usability. Aesthetic or stylistic considerations are not the major focus of this research.

This exegesis is structured in seven chapters. This first chapter provides definitions of key terms that are important to this research. It also introduces the concepts of static

websites and dynamic websites and briefly discusses them in relation to these terms.

1.2 Definitions

Information architecture is the foundation of *information design*. Information architecture focuses more on web content as building blocks to be fitted into a site's visual design and navigation scheme. Both approaches are related to the *dynamic* process.

Information architecture:

This term appeared for the first time in the book "*The Information Architecture for the World Wide Web*" in 1998. It has been defined that information architecture:

"Determines what content and functionality the site will contain."

“Maps out how the site will accommodate change and growth over time.” (Rosenfeld, L, & Morville, P, 1998)

Information design:

Information design involves an interdisciplinary approach requiring a range of skills including graphic design, writing and editing, illustration and human factors.

“Information design is the art and the science of presenting information so that it is understandable and easy to use: effective, efficient and attractive.” (InfoDesign, 2002)

Static websites:

Static websites only publish ‘static unchanging’ information. ‘Unchanging’ has two meanings. It refers to web pages that are not interactive and with published content that cannot be modified by the visitor (In this text, the term ‘visitor’ is used to define any member of the public who accesses a website’s information). Pages can only be modified by the website’s designers or the web master. Static means that even the

website’s designer needs to completely remove the old page and upload the new one all over again if they wish to change anything.

Dynamic websites:

As web technology has developed, information sites have changed from static formats based on paper publication models to more fully digital, fluid, changeable formats.

“In computer terminology, dynamic usually means capable of action and/or change, while static means fixed.” (TechTarget, 2002)

The basic premise of a dynamic website is that rather than coding all pages individually, the pages are broken up into their constituent components and are put together on demand in response to visitor and user requests (In this text, the term ‘user’ is used to define anyone who becomes a member of a dynamic website). It stores the various page elements – such

as headers, footers, navigational elements, images and text – in separate files.

All the above definitions are important to the theoretical approach of this exegesis.

1.3 Retrieving a dynamic webpage

The process of retrieving a dynamic web page involves the following stages:

- When opening a URL address, the visitor actually sends a request to the web server to retrieve the information.
- The web server then responds to this request by sending a web page written in HTML, PHP or another script to the visitor.
- If this requested web page contains data from the database, and then the server would send a query to the database server to retrieve the data.

- Once the data is retrieved from the database, the web server combines it with the other contents of the page and then sends it to the visitor who originally requested the page.

1.4 Features of a dynamic website

An aspect that adds dynamism to the website is the addition of community features to the site. This enables authors to not only interact with other contributors, but it also allows them to update and alter the content of the site themselves. It also allows contributors to ‘meet’ and exchange ideas, an opportunity they may not have in real life.

In a dynamic website, users should be able to quickly create and organize content using standard desktop applications, as well as images and other types of media files. After content has been developed, users should be able to post it to the web using pre-built design templates for proper formatting. Creating new content or revising existing content should not require a lot of technical skill. Non-technical principal editors

should be able to keep content up-to-date and to directly post content to either a staging bay or a public web site.

A dynamic website can permit users to work from any location. It also eliminates the need to install and maintain software in remote locations. Time zone synchronization ensures that content is presented at the right time, regardless of the user's location.

Designing a dynamic site needs careful site planning and requirement analyses, navigation design and programming. It can be more time consuming and costly. but in the long run, site management and updating costs are greatly reduced. Data can be accumulated over time without the need for employed data collectors or research assistants. The results can mean a more creative design, a richer information site and more responsive users.

1.5 The process

Processes are steps taken in developing and designing a website. In this exegesis, the following stages have been identified as key steps.

- **Requirement assessment:**

This involves getting an understanding of the project requirements. It includes collecting project resources, photos, scans, interviews and document proofing, developing a rough outline of the web site and evolving a web site design strategy, aims and objectives.

- **Exploration:**

This stage involves the research of other similar sites, and an exploration of design and technical alternatives. It includes the organization of the main components that make up the web material, mapping the site flow. A concept model for the web site design is set up.

- **Site design:**

This stage involves designing the web layout, deciding on templates, choosing the basic page's colors, fonts, etc. The content and its format is developed in relation to navigation, usability and functionality.

- **Programming:**

This stage involves generating programs that will handle the transfer of data to and from the database to the website. Programming is a crucial component of dynamic information site development.

- **Testing and publishing:**

This stage involves making sure all the pages are loading correctly and quickly onto different platforms and browsers, and that any scripts are performing properly.

These processes were followed in the development of the both web projects.

Chapter 2 Literature review

This chapter reviews several academic online resources, commercial online galleries and metadata resources. This exegesis has drawn on these sites in relation to information site architecture, information design and dynamic content management. These thesis projects have also drawn on some design ideas from these sites, in relation to navigation, page layout and colour selection.

2.1 Academic online resources

Designing Britain 1945-1975, the visual experience of post-war society

Designing Britain 1945-1975, the visual experience of post-war society, presents the work of a variety of authors and examples of different approaches to online teaching modules facilitated through an image database. This project

was managed in the Faculty of Arts and Architecture at the University of Brighton. It is part of the UK's Distributed National Electronic Resource for Learning, Teaching and Research (DNER).



Design Britain
Retrieved on the 28th of Oct, 2002 from
<http://designingbritain.org>

It was funded by the Joint Information Systems Committee (JISC) which is a strategic advisory committee working on behalf of the funding bodies for further and higher education and promotes the innovative application and use of information systems and information technology in further and higher education across the UK.

It consists of 7 web-based E-Learning modules, each containing about 100 visual records. Visual source material derives from the University's expanding Design History Research Centre Archive (DHRCA) which forms a fundamental platform for distinctive research initiatives and contains a number of internationally significant collections.

The homepage of Design Britain uses big and long navigation menu bars linking to different design research projects. For an information site design, it is always difficult selecting adequate text that is clear in meaning and short in length for a menu. To avoid this dilemma, these big bars with long

passages of text present clear messages and prevent visitors from any navigation confusion.

The site design also uses site depth paths to show which level the current page is in and users can click on the path to go back up to any level. This design is very helpful for an archive project with various categories.

This site is mostly static, although "The student response bank" (which asks students to archive material) would work well as a dynamic project.

Stanford Encyclopedia of Philosophy

The Stanford Encyclopedia of Philosophy was designed from its inception as a dynamic reference work. The principal innovative feature of this dynamic encyclopedia is that authors have an ftp (file transfer protocol) account on the multi-user computer that runs the encyclopedia's web server. It not only enables the encyclopedia to become functional

quickly, but also gives the authors of the entries the ability to revise, expand, and update their entries whenever needed.



Stanford Encyclopedia of Philosophy

Edited by
Edward N. Zalta
[Editorial Information](#)



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Principal Site: U.S.A. Stanford University
Mirror site: Australia University of Sydney Library, Scholarly Electronic Text and Image Service
Mirror site: The Netherlands University of Amsterdam, Institute for Logic, Language and Computation
Mirror site: United Kingdom University of Leeds, LTSN Philosophical and Religious Studies

Stanford Encyclopedia of Philosophy
Retrieved on the 28th of Oct, 2002 from
<http://plato.stanford.edu>

Moreover, all entries and updates are refereed by the members of a distinguished editorial board before they are made public. Whenever an author uploads a new entry or modifies an existing entry, the new material is stored off-line until it is approved by the editorial board member in charge of that entry.

The site is largely text based. The design of this whole site uses one small image on the homepage only. It means this heavy information site can be accessed quickly. The designer of this site employs a minimal design style to make sure the page is not loaded more slowly than it needs to be to deliver its information.

This site is a pioneer example of an academic dynamic content generation website. Funding has been invested in system development, so that content development and editorial costs are minimised over time.

Amico

AMICO
Art Museum Image Consortium
enabling educational use of
museum multimedia

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a review by [Barbara Ripp Safford](#)
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About AMICO
The Art Museum Image Consortium (AMICO) is a not-for-profit organization of institutions with collections of art, collaborating to enable educational use of museum multimedia.

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AMN
Art Museum Network
The official website
of the world's
leading art museums

The Art Museum Image Consortium is a non-profit organization of institutions made up of museums with collections dedicated to provide educational access to and delivery of cultural heritage information by creating, maintaining and licensing a collective digital library of images and documentation of works in their collections.

The AMICO Library is a growing online collection of high-quality, digital documentation of works of art from around the world. Images, text and multimedia represent a broad range of works of art in AMICO Member collections, highlighting the creative output of cultures around the world, from prehistoric to contemporary times, and covering a complete range of expressive forms. Cultures and time periods that are represented range from contemporary art, Native American and Inuit art, to ancient Greek, Roman, and Egyptian works, along with Japanese and Chinese works.

Amico

Retrieved on the 28th of Oct, 2002 from <http://amico.org>

The page design in this site is consistent. The menu bar at the left is always available. This makes an easy-to-use interface so that visitors can easily navigate their way through the site. Even after they have clicked into the subcategories, they can quickly move into another categories without getting lost. The homepage of this site also includes three animation images which are quick links to the AMICO library. This site is not dynamic because of the way its content and images are updated.

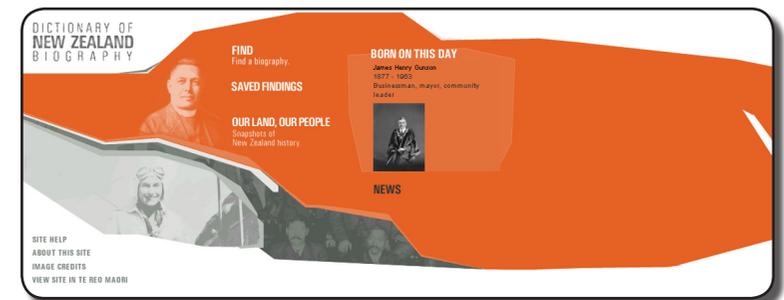
Dictionary of New Zealand Biography

This website contains over 3,000 biographies of New Zealanders who have ‘made their mark’ on this country, together with numerous portraits and snapshots of New Zealand history adapted from the New Zealand Historical Atlas. It does not include people who are alive.

The project’s aim was to produce a publication that would reflect the history of New Zealand through the lives of its

people - men and women, Māori and Pākehā, nationally famous figures and locally significant individuals. It was set up within the New Zealand Department of Internal Affairs.

People interested in history throughout New Zealand were drawn into the project. Regional and specialist working parties were set up around the country to advise on selection, and many people volunteered their time to carry out research and write biographies. The DNZB consulted widely with iwi, and the selection of Māori biographies, writers and translators has been made with the help of the DNZB Māori Working Party.



*Dictionary of New Zealand Biography
Retrieved on the 28th of Oct, 2002 from <http://dnzb.govt.nz/dnzb>*

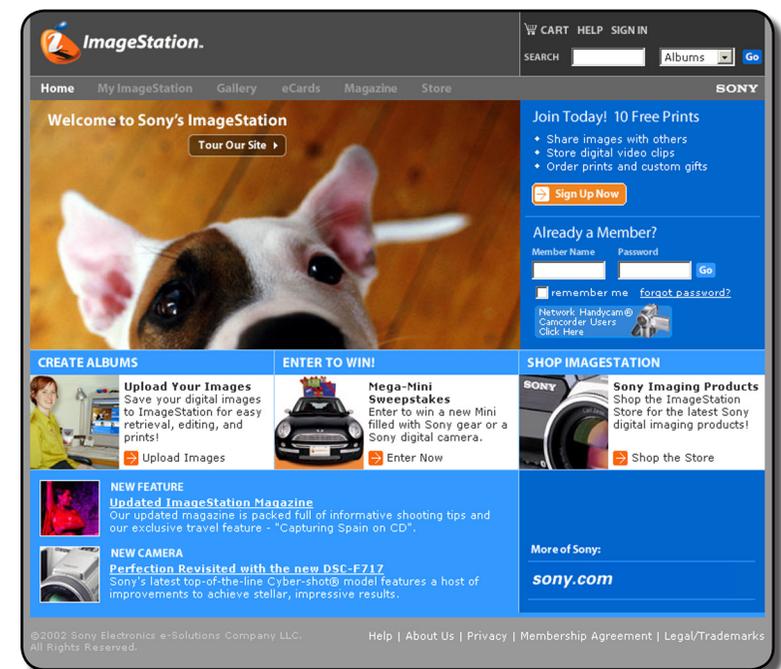
This site was designed with a strongly graphic layout. It is very enjoyable for visitors to use while researching history, because it has a lot of animation buttons, an interesting graphic design and clear sound records. The download speeds are very fast even with images, sound and animation in them, while maintaining reasonable quality. It also has many pages written in Te Reo Māori.

2.2 Commercial online galleries

Sony's ImageStation

Sony's ImageStation is a consumer digital imaging online gallery that provides members with services and products. Once members' images are uploaded onto the site, they can easily edit, crop, or enhance the images with special effects and textures, or choose fun and creative templates in multiple styles and categories using ImageStation's online tools. In addition to being able to order high-quality prints, members can also print their pictures onto different media.

ImageStation provides an imaging platform that allows members to share and store images captured from a variety of digital devices, including still cameras, camcorders, personal digital assistants (PDAs) and notebook PCs.



*Sony's ImageStation
Retrieved on the 28th of Oct, 2002 from
<http://www.imagestation.com>*

Members also can organize their photos and video clips into online albums. Other ImageStation members can comment on the images and submit images to include in the albums. These features help members stay in touch with friends by sharing images and telling stories about the important moments in their lives.

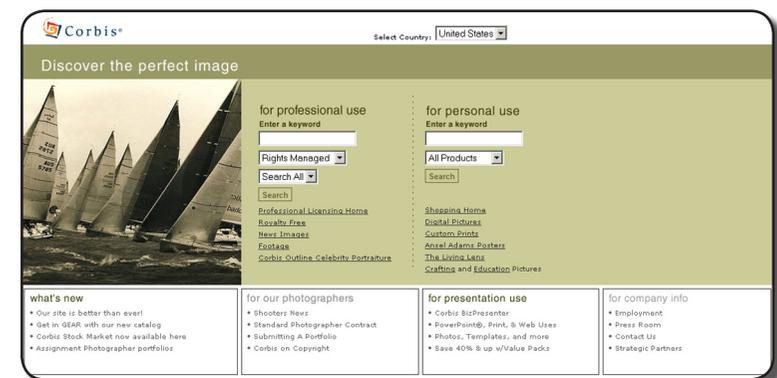
The design of this website uses a lot of vibrant photos. These professional photos make every page very attractive. Most of the menu buttons are image links rather than text links. Different colour image links are good visual labels which are guides to different content. The only disadvantage of this image link is the download time, which takes longer than text links.

Corbis collection

Corbis Collection is the largest accumulation of digital images in the world with 65 million images, of which some 2.1 million are available online for the public.

The collection includes the world's most significant photography and art from more than 3,000 of the best professional photographers, museums, cultural institutions, public and private collections in the world.

Corbis supplies fine art and photography to retailers, wholesalers, décor experts and individual consumers. It also offers high-quality photographic and fine art prints of those images, with custom framing and matting.



Corbis

Retrieved on the 28th of Oct, 2002 from <http://corbis.com>

Corbis provides creative professionals with commercial and editorial images. Their customers can access the complete Corbis Collection across a range of historical, celebrity, fine art, news and commercial content.

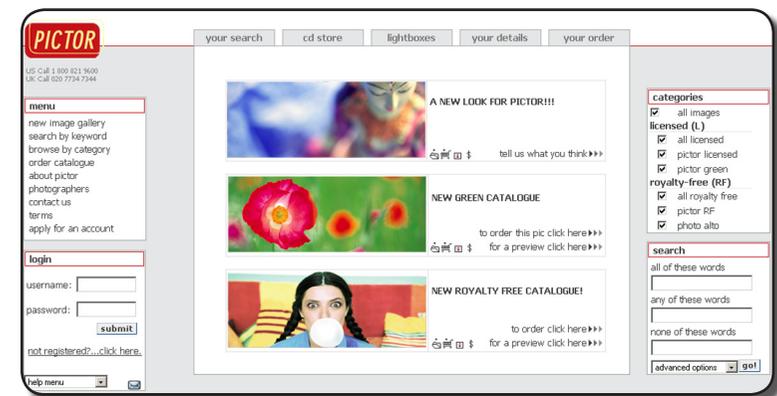
The design of the homepage uses only two shades of yellow-green on white background. The big image on the left of the page looks very dominant on the clean background. This selected image is always a different one whenever the home page is refreshed or re-entered. The search function is very important for this huge collection site, so the site's design put its two searching fields in the center of page to make them obvious.

Pictor

Pictor is a leading contemporary photographic library providing both Royalty-Free and Traditional-Licensed images. Its clients include advertising and design agencies, magazine, newspaper, book and news media publishers, broadcasters

and other organisations. Pictor supplies compelling and fresh images on business and industry, people and lifestyle, nature and the environment, health and beauty, concepts, backgrounds and typography.

In the detail of each image, users can search by any keyword to describe what they want. Users can also browse by category without using keywords. They can click on a category to display images and reveal subcategories.



Pictor

Retrieved on the 28th of Oct, 2002 from <http://pictor.com>

In the thumbnail pages, Pictor uses a square box to contain the different size images. Under the image, it uses five specially designed icons, rather than text, to represent function links. This makes the page much neater, presenting a professional graphic look without reducing download speed.

The design of the pages uses only one light gray colour. The text is gray too (although darker in shade). These gray colours form an elegant background which presents minimum distraction to the users and they can focus on its colourful image collection.

2.3 Metadata and vocabularies

Literally, metadata is 'data about data'. Metadata includes data associated with either an information system or an information object for purposes of description, administration, legal requirements, technical functionality, use and usage and preservation.

While metadata standards were not the main focus of the projects in these thesis projects, having been established previously in the original set up of the NZDA project, standards are important in ensuring consistency, accessibility and future proofing of cultural sites. Therefore, a brief overview of standards, as presented by specific data standard bodies via websites, are provided here.

Dublin Core Metadata Initiative

“The Dublin Core Metadata Initiative (DCMI) is an organization dedicated to promoting the widespread adoption of interoperable metadata standards and developing specialized metadata vocabularies for describing resources that enable more intelligent information discovery systems.” (DCMI, 2002)

Dublin core is the minimal set of metadata elements that creators can assign to information resources, regardless of the form of those resources, which can then be used for network resources discovery, especially on website.

The Dublin Core is intended to be usable by non-catalogers as well as resource description specialists. It promotes a commonly understood set of descriptors that helps to unify other data content. Additionally, it includes sufficient flexibility and extensibility to encode the structure and more elaborate semantics inherent in richer description standards.

The Dublin Core benefits from active participation and promotion in some 20 countries in North America, Europe, Australia, and Asia.

The VRA Core Categories

“The VRA Core Categories, Version 3.0 consist of a single element set that can be applied as many times as necessary to create records to describe works of visual culture as well as the images that document them.” (VRA, 2002)

The Visual Resources Association is a multi-disciplinary community of image management professionals working in educational and cultural heritage environments.

It offers a forum for issues of vital concern to the membership, including documentation and access to images of visual culture, integration of technology-based instruction and research, and intellectual property policy.

The Data Standards Committee followed the “1:1 principle,” developed by the Dublin Core community, i.e., only one object or resource may be described within a single metadata set. This makes the VRA easily mappable to the Dublin Core, allow for comparability and search ability across multimedia data bases.

AAT

“The Art & Architecture Thesaurus (AAT) is a structured vocabulary of more than 125,000 terms, scope notes, and other information for describing fine art, architecture, decorative arts, archival materials, and material culture.” (AAT, 2002)

The primary users of these Vocabularies include museums, art libraries, archives, visual resource collection catalogers, bibliographic projects concerned with art, researchers in art and art history, and the information specialists who are dealing with the needs of these users. In addition, a significant number of users of the vocabularies are students or members of the general public seeking information.

The AAT provides not only the terminology to generically name art objects and architecture, but the vocabulary necessary to describe them as well. This supporting terminology includes materials and techniques which relate to their construction and conservation, their physical attributes, terminology associated with their production and study, vocabulary indicating their style or period, and concepts relating to their history, theory, criticism, and purpose. Vocabulary standards enhance the search and retrieval of information.

Chapter 3 Context and Rationale

In this chapter, the background, rationale and aims of the two practical projects are discussed.



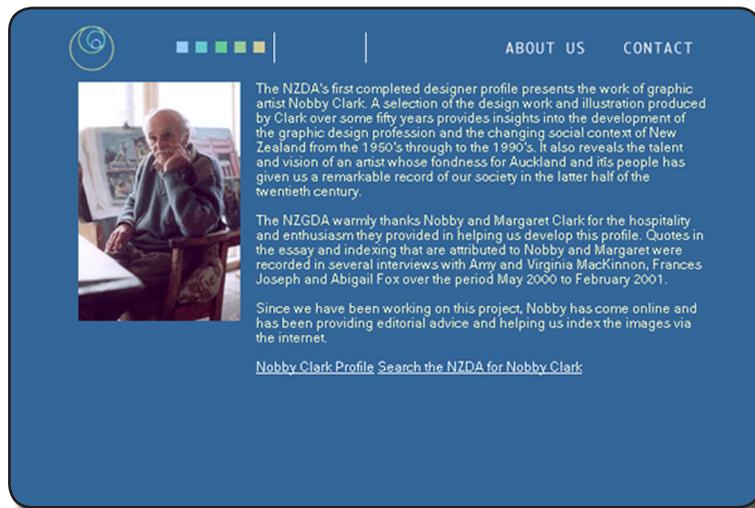
*Original NZDA/Graphics/Project
Retrieved on the 28th of Oct, 2001 from
<http://www.nzda.ac.nz/graphics>*

3.1 Re-designing the NZDA/Graphic site

The first project is the NZDA/Graphic website. It was re-designed from an existing website. This web site was first launched in 1999 introducing projects on New Zealand design history including sections on record cover design, graphic design awards and resources for graphic designers. The image collection of 466 items can be accessed on the website from an associated image database. These collections can also be accessed through five specialist 'genre' searches.

In early 2001, a pilot image database and additional web projects were launched. The project had grown organically and the database was added 'behind' the website. Some problems were very noticeable to the visitors in relation to navigation, usability and functionality. For example:

- The top menu layout in Internet Explorer on Mac computers did not properly display.
- The top menu content was not consistent and did not appear in context. Some links did not work properly.
- Some important information was in white colored text and could not be printed out



*Original NZDA/Graphics/designers
Retrieved on the 28th of Oct, 2001 from
<http://www.nzda.ac.nz/graphics>*

- The search button was not always visible.
- The Copyright page was not obvious for first time visitors.
- The site was hard to navigate, with inconsistent and idiosyncratic organization in different sections of the site.

The redesign of the navigation systems within the site were the primary concerns addressed in this project.

The graphic design of this site, while modified and applied with more stylistic consistency, was based on the site's original graphic layout.

3.2 Designing the MPC web site

The second site is the MPC web site. When this project was developed, there was very little information or public profiles for New Zealand-Chinese artists and designers. It was proposed that an online dynamic website could serve as both publication and as a point of contact for this

community. In calling this digital collection of work by New Zealand-Chinese artists and designers the 'Monkey Peach Collection', (the name referring to the 'kiwi' fruit which was originally Chinese) refers to the complex ties and flows of people, ideas, language and things between China and New Zealand. This online resource allows artists and designers, cultural historians, educators, arts professionals to access and contribute to an accumulation of knowledge about New Zealand Chinese artists and designers.

Issues of concern:

- Gathering data about an artwork is time consuming
- The artists and designers may not be in same geographical location
- It is costly to edit and research an accumulating collection if the editors or researchers are not in same geographical location or are not able to find a compatible time.

This dynamic site allows users (artists and designers) to readily prepare and upload new contribution onto a private area of the web server (Holding Bay or Staging Bay). Moreover, other users are able to make comments (or reply) to new entries, prior to publication on the web.

This site allows the site administrator to add people to the project, to identify new topics, to commission new entries, to comment on unpublished entries, to accept or reject entries and replies, and to publish entries and updates when they are ready.

My involvement was with all stages of the development of this site, from its conceptualisation to data collection, web and database design, graphic layout, site implementation and testing.

As a Chinese speaker, I was able to use my language skills to collect initial data which enabled me to develop the information structure and web design. In the multicultural

society of New Zealand, a culturally oriented web site is an important communication strategy to promote better social harmony and cultural understanding.

3.3 General aims of the two projects

- To investigate new methods for presenting cultural information via digital media, including web site and database.
- To develop two cultural projects that present different cultural content using relevant design approaches to information architecture and dynamic content management.
- To create appropriate navigation systems so that the users can move through the site without getting lost or frustrated.
- To organize the two site hierarchies in ways that are meaningful to the site visitors and users and that allow for ongoing project development and minimize the need for re-engineering.

- To study the development and maintenance of the sites as they grow and evolve.
- To research on information site design issues including design theories, methodologies and practices.

Chapter 4 Project Analyses

This chapter analyses the two different types of people who use the site – visitors and registered users, identifying their characteristics and requirements. A listing of site content and function requirements are also given.

4.1 Site visitors and site users

It was envisaged that there would be two groups of people coming to the NZDA/Graphic site and MPC site: ‘site visitors’ and ‘users’. Site visitors are people who visit or browse the web site for information. They are infrequent or occasional visitors to the site. Site users are people who use the web site more frequently and join to be a member. They contribute artwork or make comments about the site periodically.

Both sites have an overlap in term of visitors and users. But both sites also have some specific user group functions.

NZDA/Graphic site visitors

NZDA/Graphic site visitors are artists, designers, students, educators, arts professionals, design historians, musicians, printers, comic artists and journalists.

The MPC site visitors and users

The MPC site visitors and users are artists and designers, students, cultural historians, educators, arts professionals. Special users are Chinese artists and designers.

4.2 Characteristics of visitors and users

There are two levels of ability that have been generally identified in relation to web visitor and user characteristics. These two levels define the degree of interaction the visitor or user is capable of. They are:

Basic capability

To have the basic capability of web navigation such as: understanding how to access web pages, and understanding basic operations - filling out simple forms, sending feedback messages, etc.

Full capability

To have full capable of browsing web information and to have computer skills including scanning and manipulating digital pictures.

The NZDA/Graphic site does not currently have the full capability function for site users to contribute as it was not designed for this, and also has archival level information standards requiring high resolution image files and detailed image indexing, that are harder to manage through visitor contribution. It is envisaged that over the next two years some dynamic contribution capacity will be developed for the NZDA/Graphic project in relation to initial research and

information collection. The MPC site is dynamic and allows for user contribution. Image file size and metadata requirements are simpler in this site. To be able to contribute to MPC site, a user must have full capability.

4.3 Content and functionality requirements

The content and functionality requirements of the two sites overlap, but also involve specific features.

NZDA/Graphic site requirements:

- Information about the project and web site.
- News about the project and website.
- Research resources and links
- Copyright information
- Different genres based Art and Design projects
- Search function

MPC site requirements:

- Information about this project and site.
- News about this project and site.
- Links related to this project and site
- Copyright and protocols information
- List of creators (artists and designers)
- List of types
- Search function
- Ability to join as a user
- Ability to contribute works to staging bay
- Ability to comment on works in staging bay
- Ability to maintain this dynamic site

Chapter 5 System Selection

This chapter discusses the system selection including database selection, server selection, script selection and operation system selection.

NZDA/Graphic and Monkey Peach Collection are non-profit academic research projects, so there are advantages for the web sites to run on Linux (operating system) and use Apache, MySQL database and PHP script language.

All this software is “Free software” or “Open source software”. The two names have almost the same meaning. The debate on the name has been going on since 1998. In this exegesis, I will use the term ‘Free software’.

“Free software is a matter of the users’ freedom to run, copy, distribute, study, change and improve the software.” (GNU, 2002)

The code or program of free software is non-proprietary or open or free for programmers to access, use and develop.

5.1 Database selection

“The MySQL database server embodies an ingenious software architecture that maximises speed and customisability.” (MYSQLLAB, 2002)

The storage and publication of data on a dynamic website requires a relational database management system to deal with structured data. A relational database is a typical structured repository. It has tables to store data. Each of these tables has rows representing data records such as the information about a painting. Each row has columns representing data fields to describe the attributes of the painting, for example, title, creator, date, location, etc.

MySQL offers a rich and very useful set of functions. The connectivity, speed, and security make MySQL highly suited for accessing the database on the Internet.

5.2 Server selection

“Apache has been the most popular web server on the Internet since April of 1996. The May 2002 Net craft Web Server Survey found that 56% of the web sites on the Internet are using Apache, thus making it more widely used than all other web servers combined.” (Apache, 2002)

A web server is a computer that is connected to the Internet and runs a special piece of software. This software includes a component called a listener that fulfills HTTP requests made by web browsers. The Web server sends the HTML file representing the web page to the client browsers. The web server also processes server-side programs that create dynamic web pages.

5.3 Script selection

“PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML.” (ThePHPGroup, 2002)

A script is un-compiled codes that are included within an HTML web page to extend its capabilities, for example, enabling the HTML web page file to perform database queries. When the user’s browser requests a web page that contains a script, the script is interpreted and processed on the web server, and the resulting data is displayed on the web page that is returned to the user’s browser.

PHP has specific MySQL functionality built into it. The combination of Apache web server, MySQL database and PHP script language is very popular for middle size web sites.

5.4 Operation system selection

Linux is often considered to be an excellent, low-cost alternative to other more expensive operating systems, as it is integrated to free software or open source systems.

In addition to being cost-effective, it is constantly being updated and refined with the latest technologies. As Linux gains greater acceptance throughout the computing industry, more and more companies are supporting Linux via both application and hardware compatibility.

The Linux operation system was selected at the start of the NZDA project. Since then, it has been kept updated to the latest version to enable the best performance and ease of use. The current version running for the two projects is Linux Redhat 7.3. The two sites are running on a PC in the School of Art & Design of Auckland University of Technology and are easily accessible for maintenance and change.

Chapter 6 Navigation Design

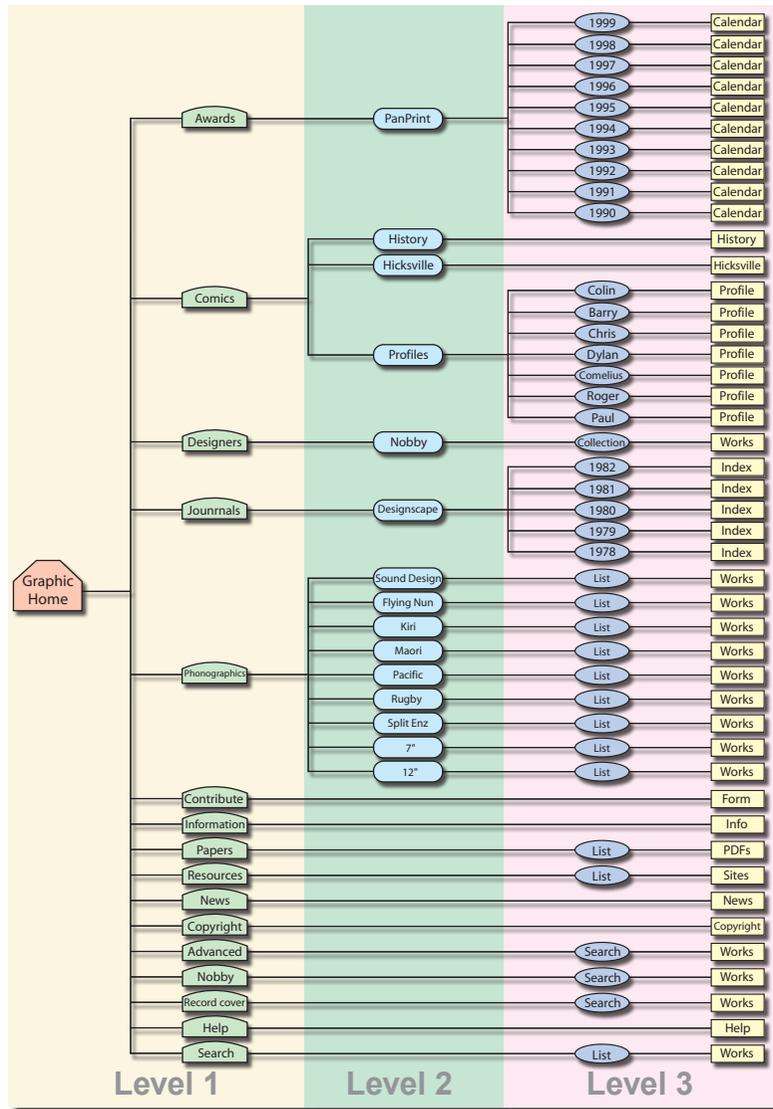
This chapter explains the navigation design of the projects through two navigation diagrams. The menu hierarchies are structured across different levels.

“The Web is a navigational system: The basic user interaction is to click on hypertext links in order to move around a huge information space with hundreds or millions of pages. Because the space is so vast, navigation is difficult, and it becomes necessary to provide users with navigational support beyond the simple “go-to” hyperlinks.” (Nielsen, J., 2000)

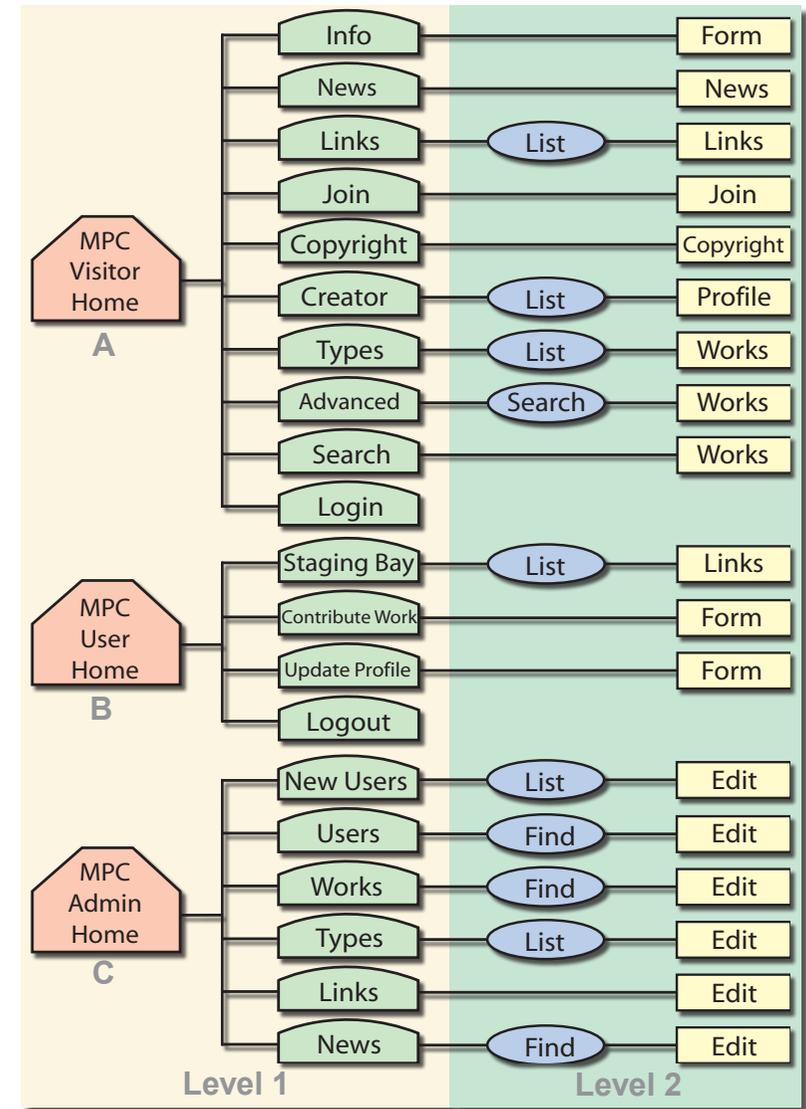
6.1 NZDA/Graphic navigation design

The NZDA/Graphic site was designed to ensure a consistency in terms of the organization of specific information levels and to facilitate ease of access by limiting the depth to 3 levels or “clicks”.

- Level 1 is the top menus and includes buttons for ‘Awards’, ‘Designers’, ‘Comics’, ‘Journals’, ‘Phonographics’, ‘Contribute’, ‘Information’, ‘Papers’, ‘Resources’, ‘News’, ‘Copyright’, ‘Advanced search’, specific search on ‘Nobby’ and ‘Record cover’, ‘Search fuzzy’ and ‘Search help’.
- Level 2 is the sub-menus for particular design genre. ‘Panprint’ is the sub-menu for ‘awards’; ‘History’, ‘Hicksville’ and ‘Profiles’ are the sub-menus for ‘Comics’; ‘Nobby’ is the sub-menu for ‘Designers’; ‘Designscape’ is the sub-menu for ‘Journals’; ‘Sound design’, ‘Flying nun’, ‘Kiri’, ‘Maori’, ‘Pacific’, ‘Rugby’, ‘Split enz’, ‘7’ and ‘12’ are the sub-menus for ‘Phonographics’.



NZDA/Graphic navigation diagram



MPC navigation diagram

- Level 3 is the item lists which are specific to each project structure. 'Panprint awards' are organized by year. 'Profiles' are organized by designers' name.

6.2 MPC site navigation design

The MPC site was designed for both public access and dynamic content management. It is structured in three sections (A, B and C in diagram). The MPC site was designed with a consistency in term of the organization of specific information levels and to facilitate ease of access by limiting the depth to 2 levels.

Public site for visitors (Section A in the diagram):

- Level 1 is the top menu including 'Info', 'News', 'Links', 'Join' to be a user, 'Login' to staging bay, 'Copyright and protocols', 'List by Types', 'List by Creators', 'Advanced search', and 'Search fuzzy'.

- Level 2 is the items list including work's details and creator's profiles.

Staging Bay for users (Section B in the diagram):

- Level 1 is the top menu including works in 'Staging bay', 'Contribute works', 'Update profile' and 'Logout'.
- Level 2 is the items list including work's details, contribution form and update profile form.

Administration area for administrator (Section C in the diagram):

- Level 1 is the top menu including 'New users', 'Users', 'Works', 'Type', 'Links' and 'News'.
- Level 2 is the edit items including forms for user editing, works editing, type editing, links and news editing.

Chapter 7 Site Content and Function

This chapter discusses the site content and function for these two projects.

7.1 NZDA/Graphic site content and function

The research information in the NZDA/Graphic project is organized into specific genre projects. These were determined by researches involved in each project and their specialist interests and research approaches. The subject content is structured into the following areas:

Awards

This section documents histories of prestigious New Zealand design awards and competitions. It contains a 10 year history of the Panprint awards (1990-1999). Descriptions are attached to every image and its zoom in detail. These images are on

the website only and are not currently available through the database.

Comics

This section contains two fully illustrated articles and seven artist profiles. These illustrations and comic collections are web accessible only and are not currently available on the database.

Designers

This section presents the work of individual New Zealand graphic designer. Currently one profile is available on the New Zealand graphic artist Nobby Clark. The website includes an illustrated essay on the designer and 94 entries in the database.

Journals

The section presents information about New Zealand design magazines. Currently it lists a five-year index of issues of Designscape magazine on the webpage only.

Phonographics

This section presents information about the history of New Zealand record cover design. It is structured around 8 categories of record cover design. Currently there are 317 record cover images on the database. A section on the “Sound Design” was added in 2002. “Sound Design” is an exhibition of music graphics from the UK and NZ presented by the British Council and the NZDA.

Contribute

This is a form for visitors to fill out and submit as an E-mail to the administrator. Then the administrator will contact this contributor for further details.

Information

This section displays site information including project aims, personnel, associations and contact information.

Papers

This section provides access to draft versions of papers and articles produced by NZDA researchers. All papers have PDF versions which are available for visitors to download.

Resources

This section displays research links related to and referenced by this site, some with short descriptions.

News

This section displays the history of this project in a time line. It contains the recent news related to NZDA/Graphic that visitors may be interested in. It covers information such as artists and designers, projects, conferences, events, publications, etc.

Copyright

This section clarifies that the Graphic Design project of the NZDA at the School of Art and Design, Auckland University of Technology is an online database of information about the history of design in New Zealand. As part of its educational commitment, AUT provides free access and use of these visual and documentary resources. Before accessing and browsing the Image Database, a visitor must agree to abide by the terms and conditions of this agreement and any future revisions.

Search

This allows the visitors to search for any word inside this database.

Advanced search

This allows the visitors to search the database through different categories.

7.2 MPC public site content and function

Info

This section displays site information including project aims, and contact information.

News

This section contains the recent news related to MPC that visitors may be interested in.

Links

This section displays research links related to and referenced by this site with short descriptions.

Join

This is a form for the visitor to fill out. When submitted, the administrator will receive an E-mail. If the administrator approves this application according to the user's qualifications, an E-mail will be sent to this new user.

Login

This section is for a current user to login to a staging bay to submit or review information.

Creators A-Z

This section is an A to Z list to display the creator's profile with an 'All' selection for a quick list. The word 'creator' is used in the website for distinguishing artists and designers from other users like editors.

Types

This is a drop down menu for different types of art and design production with an 'All' selection for a quick list.

Advanced search

This allows the visitors to search by different categories developed by this project. The categories are same field which the creators filled out in the contribution form.

Search

This allows the visitors to search any word inside this database.

Copyright and protocols

This section clarifies that all work published on the Monkey Peach Collection is for reference and research purposes only. The copyright of images remains the property of the artist. Any request made to the Archive for publication or exhibition will be forwarded to the artist concerned. A visitor must agree to abide by the terms and conditions of this agreement and any future revisions.

This section also clarifies upload protocols of content and image format for users to follow.

7.3 MPC staging bay content and function

Contribute works

This section is for users to upload images and image information. The first part of the form provides image upload protocols for the user to refer to. If the image's format and size is not appropriate, the site will show a feedback message. If the contribution is a success, the site will automatically make a thumbnail image for the index. At same time, the administrator and all other users will get an E-mail informing them that a new contribution has been posted in the staging bay. Clicking on the link inside the E-mail will take them to the new page to enable them to view or reply to it.

Update profile

This section is for users to upload their profiles. The profile information was submitted by users in the join form. Here they can update their screen name for showing under the creator list, their username and password for login, their

E-mail and homepage, their CV and comments. Also here, they can update their portrait photographs (on the joining form, no portrait photograph needs to be uploaded). The upload protocols are the same with the contributing page.

Logging out

This menu is for the user to logout from the staging bay completely to secure the user's personal information.

7.4 MPC admin content and function

New users

When a new user joins, the administrator will get an E-mail and that E-mail leads him to this section. This page is protected by a non-cache password to achieve the highest level of security. The administrator can save the user's information to the database to make it visible to public. An E-mail will be sent to this new user automatically, suggesting him/her to login to

the staging bay and upload his/her portrait photograph and to start contributing artworks to this site.

Users

This section is for the administrator to identify a current user. The administrator can list all the users and has the ability to delete a user if the user does something inappropriate to the site, for example, not following the site protocols which they should have read in the copyright and protocols page when they first joined in to be a user.

Works

In this section, the administrator can list works in the staging bay or list all works in both the public and staging bay. All new contributions in the staging bay may receive replies from other users in two weeks. The administrator is able to delete a work permanently if protocols are not followed. The administrator is able to edit information based on replies. At the end of the second week, on top of the thumbnail, an overdue mark

will appear for administrator reference only. Once checked for veracity and any proofing or minor corrections are made, the new entry will be moved from the staging bay to the public area. Where there are major editorial or verification issues regarding entries in the holding bay, the administrator will E-mail to the user or appropriate consultant experts for further discussion. The administrator is also able to delete replies if they are malicious. All of the reply history is kept for research and verification purposes, regardless of whether the image is in the public area or in the staging bay.

Types

In this section, the administrator is able to edit type names or add new types according to the user's recommendation. This is a no limit add and edit function which gives this site flexibility to expand to include new type collections. All type names should come from the Art and Architecture Thesaurus (AAT) which was reviewed in chapter 2.

Links

In this section, the administrator is able to edit, add and delete links and link descriptions.

News

In this section, the administrator is able to find news entries by the date or delete an entry permanently. The administrator is also able to edit old news entries and news dates.

Chapter 8 Conclusion

8.1 Summary

The development of dynamic websites involves some specific processes and considerations akin to most information site designs, but enables greater participation by site users and minimise data collection by project developers.

This exegesis presents some definitions regarding information architecture, information design and dynamic websites. The process of designing a website is described. Understanding these definitions and process helps designers to implement dynamic functionality which helps users to not only find the information they require but also contribute and share information with other users.

Two information site design projects discussed in this exegesis are completed and have been publicly launched.

Both sites are part of ongoing research projects at the school of Art and Design, AUT. They are accumulative repositories of information and will change and develop over time.

The two sites are NZDA/Graphic (www.nzda.ac.nz/graphic) and Monkey Peach Collection (www.monkeypeach.ac.nz).

8.2 Possible improvements

The internet is a changing 'publication medium'. Both sites will not only be updated over time, but increased functionality and content will be developed. This will include:

Staging Bay for NZDA/Graphic site:

The Staging Bay for site administrators to store and upload unfinished files, proof the work and then transfer to the public

pages. This can be done by duplicating the MPC site Staging Bay function and making it more robust.

Proofing system for MPC site:

Adding web interface for subject editors. The position of such specialists, who proof and verify material, is between the principal administrator and users. A special proofing system should be developed for these editors. This could be done by making a link to Adobe Arobat 5.0 which has a built-in proofing function.

Visitor analysis for the two sites:

A system that collects website visitor data for the two sites to provide information about how visitors browse the websites, which parts are visited more often, how long visitors spend on particular parts of the sites, where they come from, if someone is abusing the website, etc. is needed.

Site search system

Although the image database is cross searchable, the websites would be improved by adding a keyword text search function, particularly in the NZDA/Graphic site which has a lot of information in text only form.

This additional function will be added to these sites over the next year. Additional content will require site re-development and some re-design over time. However, the system functionality with the additional or the newer improved features will serve the sites as they develop over the next two to three years.

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Appendix II: Documentary on CD

Name	Size
▼ Exegesis	--
final.pdf	3.4 MB
final.indd	3.2 MB
Instructions.txt	3 KB
▶ Document fonts	--
▶ Links	--
▼ MPC	--
▼ screenshots	--
hillary.psd	5.7 MB
works.psd	3.7 MB
info.psd	2.9 MB
search.psd	1.2 MB
news.psd	774 KB
▶ website	--
▼ NZDA	--
▼ screenshots	--
nobby.psd	2.4 MB
sound.psd	2.1 MB
nzda.psd	1.5 MB
nobbypage.psd	1.3 MB
graphic.psd	1 MB
graphics.psd	765 KB
▶ website	--